

NATIONAL ACCOUNTS INSTITUTE



Gross National Income
methodological inventory
BELGIUM

ESA2010 – Version 2021 – reference year 2016

Foreword

One of the own resources of the budget of the European Union is based on the Gross national income (GNI). This own resource consists of a uniform percentage levy on Member States' GNI set in each year's budget procedure and was created by Council Decision 88/376/EEC. Originally, it was only to be collected if the other own resources did not fully cover expenditure, but it now finances the bulk of the EU budget. The GNI-based resource has tripled since the late 1990s, and now makes up around 70% of own resource revenue.

This inventory of the sources and methods used to calculate GNI is written mainly as part of the European procedures to examine and verify the GNI of the different EU countries. GNI is one of the measures of economic activity that form part of the national accounts. It is estimated based on the concepts of the European System of Accounts - 2010 version.

Beyond its mandatory nature at the European level, the inventory is a very complete source of information on the sources and methods used to compile Belgium's annual national accounts. Therefore, for transparency purpose, the National Accounts Institute and the Statistics Department of the National Bank of Belgium have chosen to make this document available to all users.

It is a voluminous and detailed document. The first chapter is a summary that can be read independently of the other chapters. The latter describe the estimation processes in more depth.

The document was written in the years 2020 and 2021. The numerical examples relate to the reference year 2016. It is an update of the previous inventory published in 2016.

It is the result of the work of the entire National Accounts team of the NBB General Statistics department. We thank Béatrice Thiry for her coordination of the project and all contributors for this substantial work providing the national accounts data with transparency.

Rudi Acx,
head of General Statistics
department

Vanessa Baugnet,
head of National & Regional
accounts and
Short-term Statistics service

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CHAPTER 1

Overview of the system of accounts

1.1 INTRODUCTION

This chapter is the summary of the inventory. It is readable independently of the detailed descriptions in the following chapters. It is fully consistent with the rest of the inventory. The full inventory is publicly available on NBB website.

National accounts offer a consistent framework that can be used for macro-economic analyses. They are compiled according to the ESA 2010 definitions.

The definition of the economic territory considered in the Belgian national accounts is consistent with ESA 2010 §2.05-2.07 and with the Commission regulation 109/2005 on the definition of the economic territory of Member States for the purposes of the GNI regulation, including its annex defining the Member States' geographic territory (in line with the update proposed in GNIC/395). The geographic territory is the territory of the Kingdom of Belgium.

The national accounts are compiled under the supervisory of the National Accounts Institute (NAI). It was set up by the Law of 21 December 1994 on the reform of the Belgian statistical apparatus.

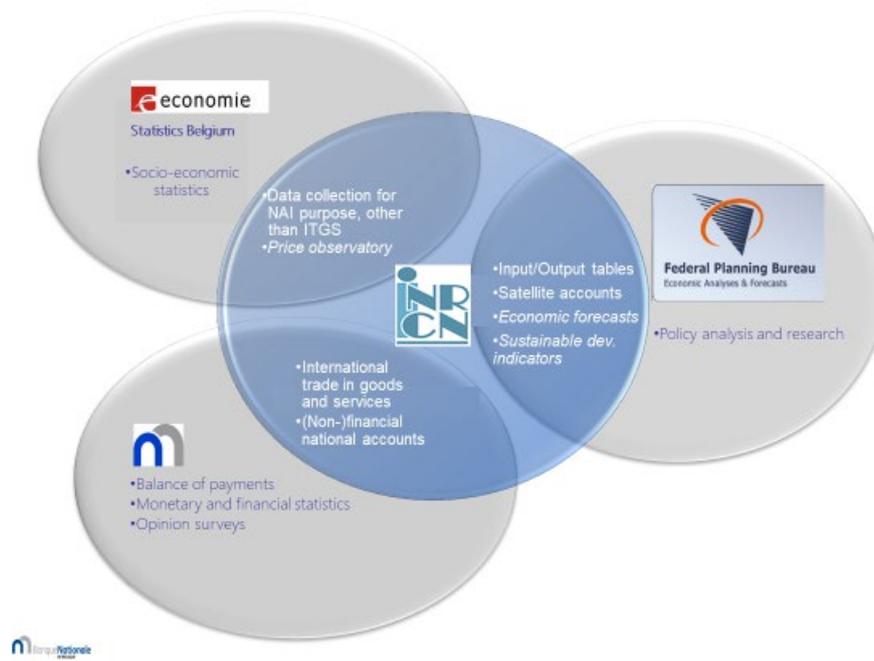
The NAI does not have its own staff or premises. The work is carried on by three associated institutions which are:

- the National Bank of Belgium (NBB)
- the Federal Planning Bureau (FPB)
- the Federal Public Service Economy, SMEs, Self-employed and Energy, in particular the Directorate for Statistics - Statbel

By law, the function of the NAI is to compile the following statistics and projections:

Domain	Institution
(a) non-financial national accounts	NBB
(b) financial national accounts	NBB
(c) annual and quarterly government accounts	NBB
(d) quarterly national accounts	NBB
(e) regional accounts	NBB
(j) excessive deficit procedure statistics	NBB
(f) international trade in goods and services, within and outside the European Union, and transit statistics	NBB
(g) the economic forecasts required for the establishment of budgets, also known as the economic budget, and the multi-annual budgetary frameworks of the various authorities	FPB
(h) input-output tables, including, where appropriate, sectoral satellite accounts	FPB
(i) price observation and analysis	FPS Economy
(k) the calculation of a series of complementary indicators to measure the quality of life, human development, social progress, and sustainability	FPB

This allocation of tasks can be represented as follows:



The NAI is managed by a Board. The members of the NAI Board and the staff of the associated authorities have the same prerogatives and are subject to the same obligations as the staff of Statbel, as regards confidentiality for example.

The Board is composed of twelve members: representatives of the three associated institutions and representatives of the Communities and Regions. The Board is assisted by four scientific committees, one for the national accounts, one for the economic projections for the budget, one for price analysis and one for the government accounts. These committees, composed of experts from inter alia the academic world and public administrations, give advice on the scientific value of the methods and sources used and approve the results. They are consulted in case of any important methodological change in their respective fields (e.g., the 2019 benchmark revision).

To sum up, in Belgium, all macro-economic non-financial and financial statistics (apart from the input-output tables) are compiled in the central bank (NBB).

In 2021, the structure of the statistics department of the National Bank was as follows:

- **Statistical Information Systems Service**

This service is responsible for publications (hard copy and via the website), distribution of statistical data within and outside the Bank, maintenance of the statistical databases and the Datashop.

- **Financial statistics service**

This service is responsible for the compilation of the financial sector accounts (on an annual and quarterly basis), the monetary and banking statistics, the financial balance of payment and the international investment position.

- **National accounts, regional accounts, and short-term indicators service**

This service is responsible for the compilation of the non-financial national accounts - including labour market statistics (on an annual and quarterly basis)-, the government finance statistics, the regional accounts, the international trade in goods and services statistics, the current account of the balance of payments and the business cycle surveys.

- **Large case unit (created in 2021)**

This unit provides proactive expert monitoring of a population of multinational groups (MNE) whose activity weighs on the macroeconomic statistics (national accounts, external statistics, and financial accounts).

The staff working on national accounts can be broken down as follows (in FTE, situation at end of 2021):

	University degree	Other	total
Statistical tools & data support	2.00	7.75	9.75
National & regional accounts (excl. GFS)	23.45	5.65	29.10
Government Finance Statistics	7.80	1.00	8.80
Total National Accounts	33.25	14.40	47.65

of which 2.1 FTE detached from the State governments (regions).

In addition, the national accounts staff can count on the cooperation of other departments within the bank, for the development of IT-applications, for example.

Commitment to quality is a constant preoccupation of NAI's partners and staff. There are several supervisory and control systems put in place to minimise risks concerning the timeliness and reliability of the statistics produced.

Data quality is first assured by the strict application of the concepts defined at European level (ESA 2010). There is no deviation from these international definitions.

The quality of the data produced is checked at all stages of the process by the statisticians in charge of the various domains. During the compilation process, national accounts undergo several kinds of quality checks, e.g., ex-ante (source statistics), ongoing (intermediate results), ex-post (results and methods used).

To reduce the risk of errors and enhance quality, some actions are taken:

- The designation of 'responsible of source'. Every source is monitored by a statistician. This guarantees that changes in contents and/or formats can be detected at an early stage.
- Validation rules set up for the annual repertory and for the different sources. A regular and comprehensive procedure to assess the quality of statistical sources entering the statistical processes is applied. A report on the quality of the business register and all linked data sources (social security, balance sheets, VAT, etc.) is produced every year. Comparisons are made with the previous versions, to spot irregularities.
- Standardised IT applications are used where possible. This approach guarantees a harmonised and transparent treatment of sources (annual accounts of companies and non-profit institutions, VAT-declarations, social security declarations, structural business survey) and an explicit view of how 'administrative' aggregates are transformed into 'national accounts' aggregates. These IT applications exist for the estimation of:
 - the production and generation of income account (by industry) for sectors S.11, S.14, S.15 and part of S.12 (S.125, S.126, S.127),
 - GFCF, consumption of fixed capital, stock of capital and stock of land
 - Employment and hours worked
 - Supply and use tables.

In addition, the estimates of exports and imports are based on IT processes developed for foreign trade statistics and balance of payments' purpose.

Wherever possible, these IT process include the regional dimension.

As regards our main IT application for calculation of P.1, P.2 and B.1g by industry, no written quality report is produced as such, but all aggregates for each activity are checked in depth by the staff members. There are lists of checks that are implemented. After these checks, if necessary, corrections are introduced in the process. User requirements specifications (URS) are updated every year, so that the compilation process is always in line with possible changes in the data sources or other changes in concepts or definitions. Finally, data produced outside the central IT application (financial activities, government data, remuneration of employees, etc.) are checked in depth by the responsible staff members.

- Successive internal controls are foreseen within the production chain (head of groups, quality manager and head of service).
- The supply-use tables and input-output analyses reinforce the quality of the data by confronting the production and expenditure approaches by industry and by product before the finalisation of the published results.
- National accounts results are also monitored before publication by evaluating the revisions compared to the previous versions or to the quarterly estimates.
- Institutional controls exist though the assessment of sources and methods by a Scientific committee. The consultation of this committee implies the need for detailed methodological descriptions and quality reports on statistical sources and products.
- Main users of national accounts aggregates (subsequent regional repartition, department "studies" within the NBB, Federal Planning Bureau, etc.) exert de facto external controls.
- Since the 2019 benchmark revision, the cooperation with BoP statisticians has been reinforced. The RoW and BoP are compiled in a more integrated way. This improves the quality of both data sets. The discrepancies with the financial accounts are also regularly monitored. The reduction of these discrepancies is an objective of the next 2024 benchmark revision.
- The methodologies used are documented. Many methodological documents (GNI Inventory, metadata, revision policy, other inventories, etc.) are available on the website ([Methodology | nbb.be](https://www.nbb.be/methodology)). More documents describing in detail the technical aspects of the different production procedures are available for internal use. They are useful for the training of new staff members.
- The results are checked and assessed when transmitted to Eurostat. In the recent years, the automated IT validation process (STRUVAL and CONVAL) have largely improved for SDMX transmissions. In addition, there is a feedback from Eurostat for all transmissions. Output quality is also monitored in the quality reports published by Eurostat. These reports do not show any major issues for the Belgian national accounts.

To reduce the risk of failure in the timely production of statistics, the following actions are taken:

- Service Level Agreements (SLA's) were set up between the NBB and 'external' suppliers - the Office of Social Security (social security declarations), Statbel (Structural Business Survey, Prodcom, HBS) and specific public authorities (input for the compilation of S.13-accounts).
- Transmission calendars exist between the NA and internal suppliers: the CBSO (annual business accounts), the external statistics service (ITG statistics and Balance of payments statistics) and the financial statistics service (financial accounts).

There is performance of NBB internal audits/reviews on the processes of collection and compilation of statistical data. Internal audits/reviews are led by the department in the NBB specifically in charge with Operational risk management. These audits are not only implemented for statistics, but for all activities in the bank.

1.2 THE REVISION POLICY AND THE TIMETABLE FOR REVISING AND FINALISING THE ESTIMATES; MAJOR REVISIONS SINCE THE LAST VERSION OF THE GNI INVENTORY

Revisions of published series are unavoidable because e.g., additional data sources become available, calculation methods are improved, or classifications change. The revisions policy must aim at the most adequate trade-off between stability and quality.

As regards revision policy, the *Harmonized European revision policy* as agreed by the CMFB in 2017 is applied. For more information, please have a look at [methodcn_en_202105.pdf \(nbb.be\)](#)

There is a distinction between **current (or routine) revisions** and **benchmark revisions**.

These **current** revisions are mainly linked to updates in the usual data sources. These revisions therefore relate to the more recent 3 or 4 years. The revised series are available at a fixed time and coincide with the publication calendar.

The reporting tables and their deadlines are defined in the transmission programme for ESA 2010¹. In time of current revisions, GDP/GNI estimates become definitive after 4 years. Then, GDP (gross domestic product) and GNI (gross national income) are final until the next benchmark revision. For example, the data for reference year 2016 is final in the 2019 version of the accounts published in October 2020.

The current revisions for the annual accounts and the quarterly accounts are synchronised. The quarters that belong to a year for which annual aggregates have already been published are revised together with the revision of the annual aggregates (October).

The publication schedule and the depth of routine revisions for the non-financial national annual accounts are shown in the next table:

¹ Annex B - *Transmission Programme of National Accounts Data* - of the Council Regulation (EC) No 549/2013 of 21 May 2013 on the European system of national and regional accounts in the Union.

DOMAIN	DATE OF RELEASE	TIME SERIES	DEPTH OF REVISION
Main aggregates and tables by industry	October Y	From 1995 to Y-1	From Y-4 to Y-2
Government accounts	April Y	From 1995 to Y-1 (first release)	From Y-4 to Y-2
	October Y	From 1995 to Y-1 (second release)	From Y-4 to Y-1
Sector accounts	October Y	From 1995 to Y-1	From Y-4 to Y-2
Capital stock and its breakdown by industry and by assets	October Y (at the latest December Y)	From 1995 to Y-1	From Y-4 to Y-2
Regional accounts (consistent with the national accounts released in October Y)	January Y+1	- aggregates by industry: from 2003 to Y-1 or Y-2 (*) - household account: from 1995 to Y-2 -	From Y-4 to Y-2 (cf. revisions in national accounts)
Supply and use tables	December Y	Year Y-3	Not revised

(*) Regional accounts for 2000-2002 are available on demand.

Work is carried out throughout the year on the production of the quarterly accounts and flash estimates and on the corresponding methodology. The production schedule for the annual accounts is as follows:

Year t	Tables per industry and P.3_S.14 by purpose	Sector accounts	Supply and use tables (SUT)	Investments and capital stock per industry and product
(a)	T3/T5	T8	T15/16	T20/22
Jan. Feb. Mar.				
Apr. May June	t-4 final t-3 and t-2 semi-final	t-4 final t-3 and t-2 semi-final	t-4 final t-3 and t-2 provisional	
July Aug. Sep. Oct. Nov. Dec.	t-1 provisional	t-1 provisional	t-2 and t-3 semi-final	t-2 provisional t-3 final

(a) Table number used in Annex B of ESA 2010 transmission programme.

Benchmark revisions originate from the introduction of new sources and methods and/or from the implementation of new concepts or recommendations by Eurostat and/or change in classifications. As a rule, benchmark revisions go back as far as possible in time to maintain long consistent series (in practice, back series are compiled from the year 1995 onwards).

In line with the Eurostat recommendations, Belgium – like most European countries – conducted a benchmark revision of its national accounts in 2019. In cases where it proved impossible to go right back to 1995 owing to the lack of relevant data, the year 2009 was chosen as the base year from which the revisions were made.

Consequently, in September 2019, new source data and estimation methods were included in the GNI-data for own resources purpose for the relevant timespan starting in 2010.

Within the framework of the 2016-2019 GNI verification cycle, the Belgian national accounts collected 11 action-points A (21 sub-points). The 2019 benchmark revision included not only these GNI action points, but also additional items. All in all, around 70 revision items were analysed. All these issues are briefly presented in chapter 2 and explained in detail in the following publication https://www.nbb.be/doc/dg/e_method/m_rev19_e.pdf.

The previous benchmark revision in Belgium was carried out in 2014/2015, reflecting the introduction of the ESA2010 national accounts methodology (ESA2010). The next benchmark revision is planned in 2024.

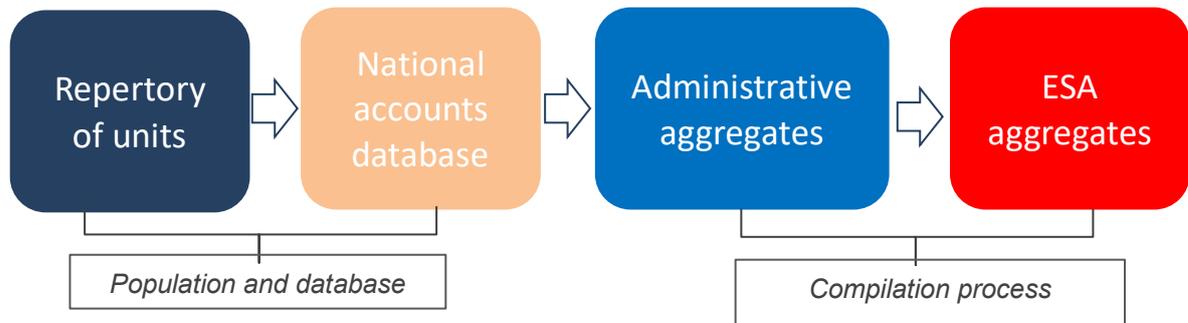
The benchmark revisions of the quarterly accounts are carried out at the same time as the benchmark revisions for the annual accounts.

1.3 OUTLINE OF THE PRODUCTION APPROACH

The production approach is considered as the predominant approach to estimate GDP and GNI, as it is mainly based on reliable exhaustive administrative data sources.

1.3.1 REFERENCE FRAMEWORK

The compilation process of the production approach can be illustrated as follows:



Step 1: compilation of the annual repertory of production units

Step 2: multiple useful data associated to each unit

Step 3: compilation process in two phases

- First phase: calculation of aggregated “administrative” data
- Second phase: from aggregated administrative data to ESA concepts

The estimate of GDP via the output side is largely based on the business register compiled by Statbel. This database includes all economic agents that are active in Belgium. The basic information for creating this register is provided by public administrations (National Register, BCE/KBO², VAT-administration, National Social Security Office), which manage partial files of units for their own purposes (respectively VAT-registered enterprises, enterprises with employees, and corporate bodies). By linking the identifiers present in these source files, Statbel creates the business register.

In a **first step**, based on this register, an **annual 'repertory of units'** is compiled, which contains identification numbers and relevant characteristics for all units (corporations, unincorporated enterprises, public bodies, NPIs³) for a given year. The coverage of this repertory is considered as exhaustive, except for illegal activities.

² BCE : “Banque carrefour des entreprises » - KBO: “Kruispuntbankondernemingen”.

³ The legal notion of *non-profit association (NPA)* is not relevant for the sector classification of ESA 2010, based on economic criteria.

The following classifications are added:

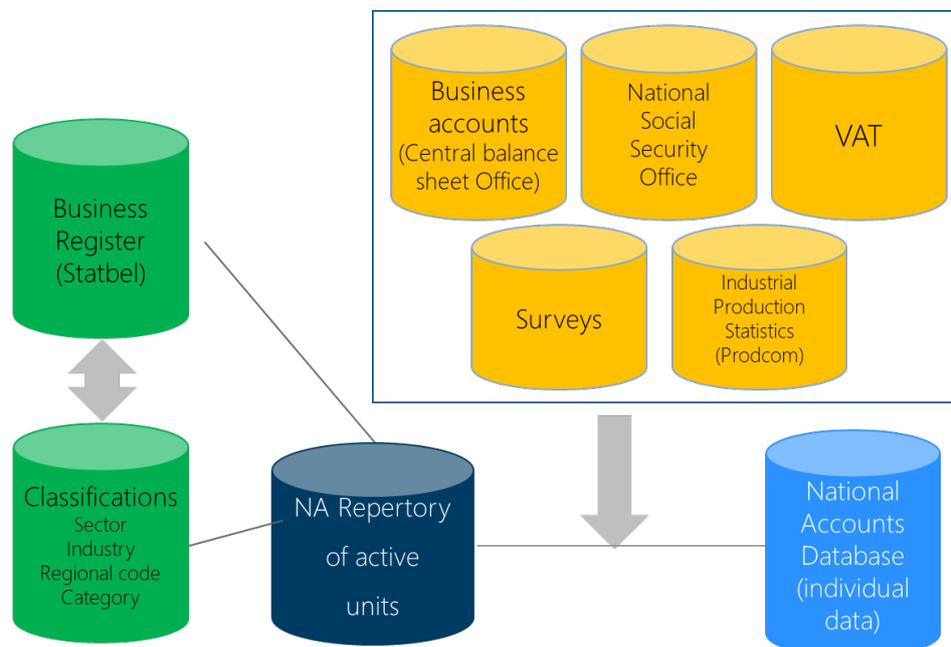
- institutional sector code (determines which institutional sector the unit belongs to)⁴
- NACE code (determines which industry the unit belongs to)
- category (determines which source⁵ is used to estimate the activity of the unit)
- region code (this information is important for the regional split-up of the value added, compensation of employees, employment, and gross fixed capital formation).

The units of the general government sector (S.13) are known from an exhaustive list that is updated annually. Since the estimate of the production in the general government sector is estimated via a sum of costs approach and is based on specific source material, the S.13-aggregates (e.g., value added) are calculated in a different way to those for market producers.

The allocation of a sector code to the units included in the repertory is largely carried out via an automated procedure. By combining the NACE code and the structure of the identification number it is possible, for the units not belonging to the general government, to define the sector code.

In a **second step**, information coming from the different data sources (business accounts, VAT, etc.) is allocated to the different individual units. This procedure results in the creation of the **national accounts directory**.

These two first steps can be illustrated as follows:



In a **third step**, the variables from different source files (cf. 1.3.2) are aggregated based on the characteristics (NACE code, sector code, district code) included in the directory. This procedure assures that the results calculated via different sources are comparable with each other.

The basic aggregates are always calculated by institutional sector, within each sector by industry and within each industry by district⁶. This ensures a fully integrated compilation (calculation, validation, and adjustment) of the value added in the national and regional accounts.

In a **final step**, these administrative aggregates are treated to match ESA2010 definitions.

⁴ ESA 2010 provides the institutional sectors: non-financial corporations (S.11), financial corporations (S.12), general government (S.13), households (S.14) and non-profit institutions (NPIs) serving households (S.15). The units belonging to S.12 and S.13 are further broken down in the repertory (S.121, S.122, S.123, S.124, S.125, S.126, S.127, S.128, S.129 resp. S.1311, S.1312, S.1313, S.1314)

⁵ cf.1.3.3.1.

⁶ Corporations that have establishments in different districts are processed as 'multi-district' (MD).

1.3.2 MAIN SOURCES

1.3.2.1 Non-financial enterprises (S.11 and S.14)

For a large corporation working in the manufacturing industry, for example, the sources cover the annual business accounts (operating income, purchases of goods and services, wages and salaries, acquisitions of tangible fixed assets, etc.), the NSSO return (compensation of employees and number of employees), the VAT return (turnover, purchases of current goods and services and purchases of investment goods), the industrial production according to the return in Prodcom survey (Community survey on industrial production), the Structural Business Survey data (which gives extra detail concerning certain variables of the annual accounts) and the import and export data for goods and services (collected for the purpose of external statistics).

The calculation method makes maximum use of administrative data. The main sources of an administrative nature are the business annual accounts filed by non-financial corporations, the VAT returns of VAT-registered enterprises and the NSSO and NSSOPLA⁷ returns submitted by employers.

SOURCE: ANNUAL BUSINESS ACCOUNTS

In Belgium, all limited liability resident **corporations** (public limited companies, private limited companies, limited partnerships, etc.) must publish their accounts by filing them in accordance with a legally established accounting model at the Central Balance Sheets Office (CBSO) of the National Bank of Belgium. The business annual accounts file is therefore the preferred source for estimating ESA 2010 aggregates for the production and generation of income account of non-financial corporations.

Large corporations⁸ must file a 'full' accounting model; small and medium sized corporations may submit an 'abridged' or micro accounting model. These reporting models are in fact data extracts from the internal financial accounting of corporations, where large corporations must provide more information than SME corporations. In total, around 390 000 abridged/micro accounts and 22 000 full accounts were filed for the 2016 financial year.

All corporations with a turnover of more than € 0.7 million must follow the 'Minimum Standardised System of Accounts'. This chart of accounts was introduced by Royal Decree in 1983. The accounting legislation defines the content and valuation of the various headings in the balance sheet (assets and liabilities) and the profit and loss account (revenue and expenditure). In this way, the model of accounts can be translated into the classification of transactions according to ESA 2010.

Not only corporations deposit annual accounts but also **non-profit institutions**, considered as very large⁹ (full model) or large (abridged model)¹⁰.

For the financial year 2016, around 1 500 full model accounts and 5 700 abridged model accounts were deposited for NPI's at the CBSO of the NBB. These units can be sectorised in S.11, S.15 or S.13. The annual accounts information for NPI's sectorised in S.11 and S.15 are used as the principal source for the compilation of the production and generation of income account in the industries in which these units are active.

The use of business annual accounts information provides clear advantages:

- the 'primary input' of the national accounts is in accordance with concepts that are relevant for, and known by, the declarant corporations (commercial accounting rules)

⁷ National Social Security Office for Provincial and Local Authorities

⁸ The Corporations Act regards a corporation as large if it exceeds more than one of the following thresholds: 1) annual average workforce: 50, 2) annual turnover (excluding VAT): € 9 000 000, 3) balance sheet total: € 4 500 000. A corporation that does not meet these criteria is classed as an SMS corporation (small and medium-sized corporation) and files an 'abridged'/micro accounting scheme.

⁹ A NPI is considered as very large if: a) its average workforce (in full time equivalents) is more than 100 or b) it exceeds more than one of the following thresholds b1) annual average workforce 50, b2) annual receipts (excl. VAT): € 6.250.000, b3) balance sheet total € 3.125.000. Are considered as large: NPI's that exceed more than one of the following thresholds (and are not considered as very large): annual average workforce 5, receipts (excl. VAT) € 250.000, balance sheet total: € 1.000.000.

¹⁰ Royal decree of 19 December 2003 concerning the accounting and publication obligations of non-profit institutions and associations. These accounts have also to be filed with the CBSO and exist from the financial year 2006 and later.

- this information is standardised and can be converted into the concepts specified by the national accounts (ESA 2010 aggregates)
- in most industries, the coverage of the annual accounts file is very large and only a small proportion of the total value added must be estimated via other sources (structural business survey, VAT turnover or NSSO wages and salaries bill)
- the 'formal' quality of the annual accounts is guaranteed, since these must comply with a range of checks determined by law. This concerns arithmetic and logical checks of the data indicated in the balance sheet, the profit and loss account and the notes (annexes to the accounts)
- the dependence on survey data for estimating the main aggregates is very limited; as a result, the administrative burden on corporations can also be reduced
- the same source is used in the output approach (estimate of value added) and in the expenditure approach (estimate of investments).

SOURCE: VAT RETURNS

The activity of most non-financial (incorporated and unincorporated) enterprises (supply of goods and provision of services) falls under the VAT system. Only a limited number of activities are exempt from VAT (medical services, leasing of real estate, etc.).

Depending on their size, all enterprises (corporations, self-employed persons, NPIs) which fall within the scope of VAT must submit a monthly (annual turnover > € 2.5 million) or a quarterly VAT return (annual turnover < € 2.5 million). Based on these declarations, the tax authorities determine their claim or debt relating to VAT for the enterprises.

From the VAT returns, the turnover (proxy for P.1), current purchases of goods and services (proxy for P.2) and acquisitions of capital goods (proxy for P.51) can be extracted. The information relating to turnover and current purchases is used to estimate the value added of VAT-registered units classified in S.14, and to estimate the value added of corporations for which no (usable) annual accounts or structural business surveys is available.

Advantages of the VAT data are broad coverage, quick availability, and reasonable quality.

SOURCE: NSSO AND NSSOPLA RETURNS

All employers established in Belgium must each quarter submit a return to the administration of the National Social Security Office (NSSO) or to the National Social Security Office for Provincial and Local Authorities (NSSOPLA)¹¹. Based on this declaration, the payable social contributions are calculated. The information given in these returns enables the compensation of employees (D.1) to be calculated.

The wages and salaries are used, in some service industries, to calculate the value added of corporations with no (usable) annual accounts or structural business survey and of small NPIs sectorised in S.11 or S.15 not providing annual business accounts.

¹¹ These two institutions are currently in a merging procedure.

1.3.2.2 Financial corporations (S.12)

Financial institutions (S.12) use specific business accounts models that are translated into the aggregates of the national accounts. The calculations are carried out by sub-sector (S.121 to S.129), due to the considerable differences in basic accounting material between the different types of institutions [central bank (S.121), deposit-taking corporations (S.122), money market funds (S.123), non-money market investment funds (S.124), insurance corporations (S.128) and pension funds (S.129)]. Most of the units belonging to the other subsectors of S.12 (S.125 other financial intermediaries, S.126 financial auxiliaries and S.127 captive financial institutions and money lenders) provide the same type of accounting models as non-financial corporations and are estimated accordingly.

The accounting information provided by the financial institutions is checked in depth by the supervisory authorities. It is of high quality and exhaustive.

1.3.2.3 General government (S.13)

For the government, the value added is estimated by sub-sector (S.1311 to S.1314).

The main data source for the central government (S.1311) and the state government (S.1312) is an *economic regrouping* of the expenditure and revenue of each of these entities. The economic regroupings are compiled by the budget departments of each body.

The local government (S.1313) in Belgium encompasses 10 provinces, 581 municipalities, 581 PSWCs¹² (providing welfare services excluding hospitals and rest homes consolidated in their accounts), 185 local police zones, 34 emergency rescue zones, the Brussels agglomeration, the polders and water boards and the other local public entities not providing market services. The NAI receives from the supervisory authorities the detailed accounts of the municipalities, CPAS/OCMW, local police zones and provinces. The supervisory authorities collect these data to make the statutory audits on the accounts of the local entities. For the local emergency rescue zones, estimates are derived from figures of the NSSO and the Six Pack reporting.

The local government sector also includes some consolidated units, like the polders and water boards and the other local public entities not providing market services, for which no data nor accounts are provided by the supervisory authorities. For these entities data can be found in the social security fund of the local government (ONSS-APL), the Central Balance Sheet Office (NBB_CBSO) and the economic grouping or other budgetary information of higher authorities enabling them to be integrated into the local government accounts.

Most of the data used to compile the accounts of social security agencies (S.1314) are from the social security economic accounts (formerly the "General Report on Social Security") published by the FPS Social Security. Economic accounts are compiled according to five social security schemes: scheme for employees, scheme for self-employed, health care scheme (since 2008, the health care schemes for employees and self-employed are merged into a new scheme), Public Service for Social Security from provincial and local government (ONSSAPL/DIBISS), and overseas social security scheme (OSSOM).

The introduction of the ESA2010, in September 2014, enlarged substantially the scope of the government perimeter. Since 2014, many additional public entities have been included in the government sector, at every level of government. As the direct information for the different entities (Federal Government, Communities and Region, Local governments, and Social security sector) provided to the NAI did not include these entities, the NAI has used the business accounts available at the central Balance Sheet Office at the National Bank of Belgium. These accounts follow business accounting rules. They allow the identification of some economic flows and the calculation of the financing balance of these entities. At the Federal Government level and the level of the Communities and the Regions, these entities are progressively integrated in the economic groupings.

1.3.2.4 NPIs serving households (S.15)

The value added of non-market NPIs is estimated via a combination of administrative data (annual business accounts, NSSO wages and salaries bill) and survey data. A specific survey is carried out among associations for the requirements of the national accounts.

¹² CPAS in French and OCMW in Dutch.

1.3.3 CALCULATION OF VALUE ADDED FOR NON-FINANCIAL CORPORATIONS (S.11) AND HOUSEHOLDS (S.14)

The calculation is carried out in two phases:

- phase 1: compilation of a production account and generation of income account by sector/ industry (NACE 2, 3, 4 or 5 digit) and district in accordance with administrative/business accounting concepts
- phase 2: adding up of national amounts to a higher aggregation level (SUT industries) and conversion into the concepts and valuation methods of the national accounts (ESA 2010).

The validation and adjustments in phase 1 are carried out by industry and by district.

It is important to stress that the production and income approaches are estimated *simultaneously and in an integrated way*. By doing this, the consistency between value added and its components (D.1, D.29, D.39 and B.2g) are already monitored from the start of the estimation process.

1.3.3.1 Calculation of 'administrative' aggregates

In the first phase, via the characteristics stored in the directory, the administrative aggregates are calculated. The checks and adjustments are performed per industry/district.

NON-FINANCIAL CORPORATIONS (S.11)

The calculation is carried out at NACE 2, 3, 4 or 5-digits level by summing the results of the underlying subpopulations (categories):

Category	Description
A1	Large corporations with annual accounts using 'full accounting model'
E1	Large corporations with no (usable) annual accounts but with S.B.S.
A2	Large corporations with no (usable) ¹³ annual accounts and without S.B.S.
B1	SMEs with abridged or micro model, turnover and purchases indicated and gross margin > 0
B2	SMEs that are not member of a VAT unit with abridged or micro model without turnover and purchases and gross margin > 0
BC	SMEs that are member of a VAT unit with abridged or micro model without turnover and purchases
C1	SMEs with abridged or micro model, turnover and purchases indicated and gross margin < 0
C2	SMEs that are not member of a VAT unit with abridged or micro model without turnover and purchases and gross margin < 0
E2	SMEs with no (usable) annual accounts but with S.B.S.
B3	SMEs with no (usable) annual accounts and without S.B.S.
BL	Members of a VAT-unit without annual accounts
H1	Very large NPI's with full accounting model
H2	Large NPI's with abridged model and operating revenue and purchases indicated
H3	Large NPI's with abridged model and operating revenue and purchases not indicated
H4	Small NPI's without annual accounts
RF	Fiscal representatives

a1) Large corporations with the 'full accounting model'

For large corporations in category A1 all relevant variables are available:

¹³ Annual accounts are regarded as 'usable' (for further statistical processing) if:
 (a) the financial year coincides with the calendar year or
 (b) the financial year covers at least ½ of the calendar year (and covers a period of 12 months) or
 (c) financial year data from successive annual accounts can be determined pro rata to provide calendar year data. In cases (a) and (b) the original book year data are used, in case (c) pro rata data (e.g., a company closing its accounts at 30/06: all the flows for financial year N will be derived by adding 50 % of the amounts occurring in the accounts closed at 30/06/N and 50 % of the amounts in the accounts closed at 30/06/N+1). Corporations with 'no usable' annual accounts are dealt with in the same way as corporations with no annual accounts.

Operating income

Annual account code	Description
70	turnover
71	change in inventory produced goods (increase +, decrease -)
72	own account production of fixed assets
74	other operating income
740	operating subsidies
741/9	miscellaneous other operating income ¹⁴
9126	interest subsidies ¹⁵

Operating costs

Annual account code	Description
60	consumed goods for resale, materials, and supplies
600/8	purchases of goods for resale, materials, and supplies
609	changes in inventories of purchased goods (increase -, decrease +)
61	services and other goods (not recorded in 600/8)
62	wages and salaries, social security contributions and pensions
64	other costs
640	operating taxes
641/8	other operating costs
8002+649+6690+6691	formation/restructuring costs ¹⁶
695	fees to administrators/directors ¹⁷

The following 'administrative'¹⁸ aggregates can be deduced from these:

Aggregate		Annual account code
production	A	70 + 71 + 72 + 74 - 740
intermediate consumption	B	60 + 61 + 641/8 + 8002 + 649 + 6690 + 6691 + 695
gross value added	C	A - B
wages and salaries	D	62
net operating taxes	E	640 - (740 + 9126)
gross operating surplus	F	C - D - E

a2) Large corporations with no (usable) annual accounts

For some of these units, a structural business survey is available (cat E1). In this case the information from the survey is used.

For large corporations for which no SBS-information is available (category A2), the turnover (and current purchases) according to the VAT returns and the wages and salaries calculated from the NSSO file¹⁹ are available. The wage and salary data are included as they stand. The other headings are computed either via the turnover

¹⁴ 741/9 means the sum of accounts 741 to 749.

¹⁵ Interest subsidies are registered in financial income (account 753) but reclassified as operating subsidies (in line with ESA2010)

¹⁶ These costs are activated in the annual accounts but must be treated as intermediate consumption in the national accounts (NA). The amount of activated formation and restructuring costs (8002) must be corrected for the capitalized current (649) and infrequent charges capitalized as restructuring costs (6690 and 6691) (649, 6690 and 6691 are negative amounts).

¹⁷ These amounts ("tantièmes") appear in the profit and loss appropriation account (part of distributed profit) but must be reclassified as intermediate consumption in the NA (payment for services rendered by administrators).

¹⁸ These are intermediate aggregates/balancing items that in this phase still comply with the conventions and valuation rules for corporate accounting as specified in the accounting legislation. For a more elaborate treatment see chapter 3.4.

¹⁹ Including the NSSOPLA wages and salaries in a limited number of industries.

(this is the case in most industries) or via the wages and salaries (this is the case in a few service industries)²⁰, using the structural information – turnover/purchases, turnover/wages, purchases/wages, value added/wages - of the units for which direct information is available for each NACE 2, 3, 4 or 5-digits category.

a3) Small and medium size (SMS) corporations

For SMS corporations, the accounting information in the abridged or micro model is not exhaustive.

Annual account code	Description
70	turnover (<i>optional information</i>)
76A	Infrequent operational revenue
60/61	600/8 + 609 + 61 = consumption of goods and services (<i>optional information</i>)
62	wages and salaries, social security contributions and pensions
640/8	640 + 641/8 (other operating costs incl. business taxes)
9900	gross margin = 70 + 71 + 72 + 74 + 76A - 60 - 61 > 0
9900	gross margin = 70 + 71 + 72 + 74 + 76A - 60 - 61 < 0

No information is available for total operational income (70+71+72+74), operating taxes (640), operating subsidies (740) and activated formation and restructuring costs (8002+649+669).

For small and medium enterprises (SME's) corporations with abridged/micro accounts in which turnover and purchases are indicated (population B1 and C1, respectively with a positive and negative gross margin), we know the main headings (the turnover and consumption of goods and services). The missing headings are deducted from the known headings or estimated based on coefficients known for large corporations from the same industry.

For SMEs that are not member of a VAT unit with abridged and micro accounts in which turnover and purchases are missing (categories B2 and C2 respectively with a positive and negative gross margin), turnover is calculated from the VAT-declarations and purchases are derived as a residual (given the gross margin). In a few industries, the information in abridged and micro models in which turnover is declared is used to estimate turnover. Purchases are derived as a residual between turnover and gross margin.

For SMEs that are member of a VAT unit with abridged and micro accounts in which turnover and purchases are missing (category BC), turnover is estimated using the turnover information of categories B1, B2, C1 and C2. Purchases are derived residually.

Note that a new survey among VAT units was launched mid-2020. When the first usable results will be available, these results will be used in the estimation process.

The data for SMEs with no (usable) annual accounts is taken from the SBS (if available: cat E2) or is estimated (cat B3). In most industries, the VAT-turnover is available, and purchases are estimated using the ratio purchases/turnover known for B1+B2+C1+C2+BC+E2. In a few industries, turnover and purchases are estimated via the wage bill, using the ratio wages/turnover and wages/purchases known for B1+B2+C1+C2+BC+E2. The wages and salaries for category B3 are known from NSSO.

Enterprises belonging to VAT-units which do not deposit annual accounts (cat BL) demand a specific treatment because the only information available for this population is the wage bill. Turnover, purchases, and value added for these units is estimated via wages.

For NPI's sectorised in S.11 (market units) exceeding certain thresholds, annual business accounts are available (cat H1, H2, H3). These accounts are very similar to the accounts of corporations (full model, abridged model)²¹. They are used in the same way. Revenue, purchases, and value added of small NPI's for which annual accounts are missing (cat H4) are estimated via NSSO-wages (using ratios available for NPI's with annual accounts).

The value added of fiscal representatives is conventionally obtained via the wages (overall these are very limited amounts because most the fiscal representatives are purely administrative units without employees).

²⁰ The structure of A1+E1 is transferred to A2 using the ratio VAT turnover A2/annual accounts turnover A1+E1, or the ratio NSSO wages and salaries A2/annual accounts wages and salaries A1+E1.

²¹ There is an additional operating revenue variable 73 "Contributions, gifts, legacies, grants".

SMS corporations represent only 26 % (€ 57 billion) of total value added (€ 216.6 billion) in business accounts (gross margin). As in other countries, large companies are still predominant in the Belgian economy (5 % of corporations account for 74 % of total value added).

UNINCORPORATED ENTERPRISES INCLUDED IN THE SECTOR HOUSEHOLDS (S.14)

These units are mainly included in category B3 (small enterprises with no annual accounts). Some larger units are included in category A2 (large corporations with no annual accounts).

Depending on the activity, different sources are used to estimate the value added (and the mixed income) of self-employed persons.

The calculations for *agriculture* use sources that are specific for these industries.

For *VAT-registered self-employed persons*, added value is estimated via the VAT returns.

For *non-VAT-registered self-employed persons* and business managers (directors and managers), personal income tax returns are used. The disadvantage of this source is that the final data only become available late (final data for income of year t become available at the end of t+2).

Dwelling services (real and imputed rent) are estimated according to a stratification method that is defined by a decision of the European Union. Multiplication of prices (rents) by quantities (dwellings per stratum) gives the total output of housing services. It is a method which combines an estimate of the quantity of housing (coming from the decennial censuses) with corresponding actual rents (coming from SILC results).

The value added of *private households with employees* (NACE 97) corresponds to the wages paid by families to domestic help, gardeners, cleaning ladies etc. Because most of these services belong to the non-observed economy, official sources cannot be used as such.

1.3.3.2 Transformation of “administrative” aggregates into national accounts aggregates

NON-FINANCIAL CORPORATIONS (S.11)

In the first phase, the administrative/business accounting aggregates are calculated by activity (NACE 2/3/4/5), category and district. Global figures in NACE 2/3/4/5 are obtained by aggregating over categories and districts. These interim results are then added to a higher aggregation level (140 SUT industries).

In the second phase, the administrative aggregates are converted into ESA 2010 aggregates for each SUT industry (and separately for S.11 and S.14). Gross value added (B.1g) and gross operating surplus (B.2g) are balancing items after adjustments/reclassifications.

<u>Economic aggregates</u>	<u>Adjustments/ reclassifications</u>	<u>Aggregates ESA 2010</u>	
70+71+72+73+74-740	=>	output	P.1
600/8 + 609 + 61 + 641/8 + other	=>	intermediate consumption	P.2
62	=>	compensation of employees	D.1
640	=>	other taxes on production	D.29
740+9126	=>	other subsidies on production	D.39

The information needed to calculate these adjustments is available either in the annual business accounts, in the structural business survey, or as exogenous data in the S.13 accounts (taxes and subsidies on products and other taxes and subsidies on products) and S.12 (nonlife insurance premiums and claims).

The amounts estimated covering the administrative aggregates, adjustments/reclassifications and ESA2010 aggregates for the year 2016 are listed in the next table.

Most adjustments and reclassifications have a counterpart; this may fall within or outside the production and income account.

Table 1.1: Initial administrative aggregates, total adjustments, and results for S.11 – 2016 in € million

	Initial	Total Adjustment	Final	ESA codes
C_70	967 699	-374 101	593 598	P.11
C_71	1 868	-682	1 186	P.11
C_72	6 848	4 028	10 877	P.12
C_73	6 207	-1 616	4 591	P.11
C_74-740	37 309	-1 206	36 104	P.11
C_A	1 019 931	-373 576	646 355	P.1
C_600/8+61	798 777	-388 573	410 204	P.2
C_609	-2 525	445	-2 080	P.2
C_641/8	6 466	-1 134	5 332	P.2
C_B	802 718	-389 262	413 456	P.2
C_62	126 088	16 321	142 409	D.1
C_640	7 452	-3 704	3 748	D.29
C_740	3 219	7 976	11 196	D.39
C_C	217 213	15 686	232 899	B1g
C_D	86 892	11 045	97 937	B2g

HOUSEHOLDS (S.14)

For unincorporated businesses, the administrative aggregates are also converted into ESA 2010 aggregates. As much less information is available for self-employed persons, only a few adjustments are calculated (goods for resale, bank charges, insurance premiums, gratuities and exhaustivity). The column 'adjustments' also incorporates the amount added for dwelling services.

Table 1.2: Initial administrative aggregates, total adjustments, and results for S.14 – 2016 in € million

	Initial	Total Adjustment	Final	ESA codes
C_70	46 543	11 740	58 283	P.11
C_71	0	0	0	P.11
C_72	309	25 302	25 611	P.12
C_73	0	0	0	P.11
C_74-740	2	0	2	P.11
C_A	46 855	37 042	83 897	P.1
C_600/8+61	19 434	4 264	23 697	P.2
C_609	0	0	0	P.2
C_641/8	0	0	0	P.2
C_B	19 434	4 264	23 697	P.2
C_62	1 451	857	2 308	D.1
C_640	154	3 590	3 743	D.29
C_740	265	153	418	D.39
C_C	27 421	32 779	60 200	B1g
C_D	26 081	28 485	54 566	B2g+B3g

1.3.4 CALCULATION OF VALUE ADDED FOR OTHER SECTORS

1.3.4.1 Financial institutions (S.12)

The specific accounting statements of monetary financial institutions (S.121+S.122+S.123) and non-money market investment funds (S.124) provide exhaustive information from which, after a few adjustments, the variables of ESA 2010 can be calculated. The adjustments are estimated based on information from the structural business survey for monetary financial institutions.

Standardised reporting schedules checked by official bodies are also available for the insurance companies (S.128) and the pension funds (S.129). Based on these reporting data and via the information from the structural survey for insurance corporations, the aggregates can be calculated in accordance with ESA 2010 concepts.

For the other subsectors S.125, S.126 and S.127, the estimation of value added is done on a detailed level of NACE. Most of the units belonging to these subsectors deposit standardised annual accounts identical to those of the non-financial corporations. Therefore, for these subsectors, the same approach is followed as for the non-financial corporations (S.11).

Table 1.3: Initial administrative aggregates, total adjustments, and results for S.125 to S.127 – 2016 in € million

	Initial	Total Adjustment	Final	ESA codes
C_70	15 670	-258	15 412	P.11
C_71	-3	0	-3	P.11
C_72	19	169	189	P.12
C_73	2	0	2	P.11
C_74-740	1 045	-79	967	P.11
C_A	16 733	-167	16 566	P.1
C_600/8+61	9 988	-908	9 080	P.2
C_609	-38	40	2	P.2
C_641/8	324	-139	185	P.2
C_B	10 274	-1 007	9 267	P.2
C_62	2 677	-131	2 546	D.1
C_640	102	0	102	D.29
C_740	2	16	17	D.39
C_C	6 459	840	7 299	B1g
C_D	3 682	987	4 668	B2g

1.3.4.2 Non-market sectors

GENERAL GOVERNMENT (S.13)

The general government sector mainly produces non-market goods and services. Its output is measured as the sum of production costs. The sector may also, secondarily, be involved in the market output of goods or services, which is valued at basic prices. The output of non-market producers is calculated as the sum of intermediate consumption (P.2) + compensation of employees (D.1) + consumption of fixed capital (P.51c) + other taxes on production (D.29) - other subsidies on production (D.39).

Output (P.1) =
 compensation of employees (D.1)
 + intermediate consumption (P.2)
 + consumption of fixed capital (P.51c)
 - other subsidies on production (D.39)

and:

Non-market output (P.13) =
 output (P.1)
 - market output (P.11)
 - output for own final use (P.12)

Other taxes on production (D.29) are deemed to be zero in the case of the output of general government, resulting in two equations:

Case where the output of an institutional unit is exclusively non-market:

- Gross value added = compensation of employees (D.1) + consumption of fixed capital (P.51c) - other subsidies on production (D.39)

Case of a local secondary kind-of-activity unit (KAU) which is a market producer:

- Gross value added = compensation of employees (D.1) + consumption of fixed capital (P.51c) + net operating surplus (B.2n)

The calculation of the compensation of employees paid (D.1) and of the intermediate consumption (P.2) is based on information from the economic classification of expenditure and income. The classifications in these government accounts follow the concepts of the national accounts as closely as possible. As a result, the variables of ESA 2010 can be calculated from the source data in a standardised way.

The calculation of consumption of fixed capital (P.51c) is a 'permanent inventory model' based estimate.

The State and local governments receive subsidies (D.39) on production from the federal level and the social security sector. It concerns the reductions of employer social contributions for specific groups of employees and reductions on the withholding tax for researchers. It concerns the branches administration and education at the State level and the branch administration at the local level. The calculation of the total subsidies received by these subsectors and the allocation by industry are based on data from the ONSS and ONSAPPL and the FPS Finance.

For public entities that have been included in the government sector and that have not been integrated in the economic groupings yet, the business accounts available at the central Balance Sheet Office at the National Bank of Belgium are used

NON-PROFIT INSTITUTIONS SERVING HOUSEHOLDS (S.15)

The calculation of value added for the industries belonging to this sector is carried out by combining administrative data (annual accounts and compensation of employees) with data from the structure business survey for associations. As in the case of S.11, a two-step procedure is followed: estimation of "administrative" aggregates that afterwards are transformed into ESA2010 aggregates.

Table 1.4: Initial administrative aggregates, total adjustments, and results for S.15 – 2016 in € million

	Initial	Total Adjustment	Final	ESA codes
C_70	572	-138	435	P.11
C_71	0	0	0	P.11
C_72	0	25	25	P.12
C_73	5 037	-528	4 509	P.11
C_74-740	239	-170	69	P.11
C_A	5 849	-811	5 038	P.1
C_600/8+61	2 127	-462	1 665	P.2
C_609	1	0	1	P.2
C_641/8	408	-408	0	P.2
C_B	2 536	-870	1 666	P.2
C_62	2 901	198	3 099	D.1
C_640	132	0	132	D.29
C_740	0	126	126	D.39
C_C	3 313	59	3 373	B1g
C_D	280	-13	267	B2g

1.3.5 EXHAUSTIVENESS AND CONCLUSION

The output approach is largely based on direct estimation methods in view of the ample availability of information of an accounting and fiscal nature.

The calculations are carried out directly based on data sources, except for the production of dwelling services. It is estimated according to a "price x quantity" approach, i.e., a method which combines an estimate of the quantity of housing (coming from the decennial censuses) with corresponding actual rents (coming from SILC results).

Exhaustiveness of GDP is obtained by correctly applying ESA 2010 definitions. In the output approach, this is achieved by a detailed estimate of all transitional components between the administrative aggregates and the aggregates according to ESA 2010.

The exhaustiveness is also assured by using an exhaustive business register including all (officially registered) units – corporations, NPIs, self-employed persons.

However, for the production approach, some adjustments are dedicated to enhancing the exhaustiveness of GDP/GNI. Using the N1-N7 taxonomy, the following adjustments are applied:

- Undeclared wages paid by households for employing domestic personnel (N1)
- Illegal activities (N2): production and traffic of drugs, smuggling of tobacco, and prostitution services
- Growing of vegetables by households in their own garden for own consumption (N3)
- Correction for fiscal fraud/under-reporting of producers (N6). All industries in S.11 and S.14 are impacted, with high adjustments for construction, trade and repair of motor vehicles, and accommodation and food service activities
- adjustments for tips and wages in kind (N7), that appear in a limited number of industries (taxis, hotels and restaurants, hairdressers).

Table 1.5: exhaustiveness adjustments and final estimate for GDP according to the output approach (2016 in € million)

Compilation of GNI	Adjustments								Final estimate
	Exhaustiveness								
	N1	N2	N3	N4	N5	N6	N7	Total exhaustiveness	
GDP PRODUCTION APPROACH									
Output of goods and services (at basic prices)	457	2 233	197	0	0	25 592	690	29 168	865 621
Intermediate consumption (at purchasers' prices)	0	292	73	0	0	11 265	-2 496	9 134	481 588
Gross value added (at basic prices)	457	1 942	124	0	0	14 327	3 185	20 035	384 033
Taxes on products								0	50 136
Subsidies on products								0	4 083
Gross domestic product	457	1 942	124	0	0	14 327	3 185	20 035	430 085

1.4 OUTLINE OF THE INCOME APPROACH

1.4.1 REFERENCE FRAMEWORK AND MAIN DATA SOURCES

In Belgium, no independent estimate is made for GDP according to the income approach. The estimate of value added in basic prices and its components - compensation of employees (D.1), net other taxes (D.2-D.3), gross operating surplus/mixed income (B.2g/B.3g) are compiled simultaneously. B.2g+B.3g is obtained as a residual item.

The compensation of employees (D.1) is estimated based on the combined use of business accounting information (annual business accounts and social balance sheets, specific accounting statements for the financial sector, general government accounts) and information relating to social contributions paid (NSSO and NSSOPLA data).

The totals for D.2 and D.3 are known via the general government account and the rest of the world account. These totals are apportioned over sectors and industries considering the nature of the taxes and subsidies and some information available in the annual business accounts.

1.4.2 CALCULATION

1.4.2.1 Compensation of employees (D.1)

The total compensation of employees (D.1) is first calculated using various administrative data sources. In a second step, the breakdown into wages and salaries (D.11), employers' actual social contributions (D.121) and employers imputed social contributions (D.122) are derived, partially via other sources.

The compensation of employees (D.1) includes the total remuneration, in money or in kind, that is payable by an employer to an employee for the work carried out during the accounting period.

The total compensation of employees is calculated by sector and within each sector by industry (and by district). The procedure may differ slightly according to the sector. All the apportionments are made at SUT industry level.

The annual business accounts and the social balance sheets (for sectors S.11, S.15 and S.125 to S.127), the accounting statements of financial institutions (S.121, S.122, S.128) and NSSO/NSSOPL data (all sectors) are the

starting point to estimate the compensation according to ESA 2010. For the general government sector (S.13), the budgets of the various government levels are the basic source.

a) Non-financial corporations (S.11)²²

For corporations filing business annual accounts whose financial year coincides with the calendar year and for which a social balance sheet is also available, the social balance sheet is used as the source for the compensation of employees according to ESA 2010 (D.1).

For corporations filing annual accounts whose financial year does not coincide with the calendar year, or not filing annual accounts/social balance sheet, the NSSO data is the privileged source to estimate D.1.

The NSSO provides information on the wages and salaries bill by enterprise. This includes all the components of the gross wages and salaries on which social contributions are paid as well as the social contributions themselves (broken down by employees' contributions – which are already included in the gross wages and salaries – and employers' contributions). However, no social contributions are payable on a few components of the compensation. The wages and salaries bill according to the NSSO is hence incomplete from the point of view of the national accounts and must be grossed up.

By comparing the wages and salaries bill according to the NSSO on the one hand, and according to the social balance sheet on the other hand, for corporations that appear in both sources, grossing-up coefficients are calculated by industry. These coefficients are used to increase the NSSO wages and salaries bill. Separate coefficients are calculated depending on whether these are large or small corporations. The mark-up is then carried out by corporation. Grouping the wages and salaries bill of all corporations within the same activity gives the compensation of employees by industry.

In a final step, the following elements, that are not included in the wages and salaries bill according to the NSSO or the annual business accounts, are added:

- the wages and salaries bill of seafarers (who are members respectively of the Seafarers' Relief and Contingency Fund)
- the compensation of prisoners according to the budgets of the Prison Labour Authority
- the compensation of corporations affiliated to the NSSOPLA (National Social Security Office for Provincial and Local Authorities)
- wages and salaries in kind
- the personal use of a company car
- tips and gratuities
- the profit share of employees
- wages and salaries paid out in the non-observed economy.

b) Financial institutions (S.12)

For monetary financial institutions (S.121 and S.122) and for insurance corporations (S.128) and pension funds (S.129), the compensation of employees is calculated based on annual business accounts information.

There is no compensation of employees in sub-sectors S.123 and S.124 (investment funds).

c) General government (S.13)

The compensation of employees is calculated using information from the government accounts and budgets. For the wages and salaries bill of employees in universities, the NSSO wages and salaries bill is used. There is a breakdown by subsector, and within each subsector, by industry.

d) Households (S.14)

A few unincorporated enterprises categorized in S.14 are employers and pay wages and salaries. The main sources are wages according to the NSSO. The following elements are added to it: premiums for industrial accidents (based on percentages by industry deducted from the quadrennial Statbel labour costs survey), gratuities (calculated as a percentage of turnover in some industries), the compensation of employees for NACE

²² The same approach is also followed for the sub-sectors S.125, S.126 and S.127.

97 "households as employers of domestic personnel" (only partially reported by the NSSO) and wages and salaries paid in the non-observed economy.

e) Non-profit institutions serving households (S.15)

The wages and salaries bill in S.15 is estimated via a combination of accounting information (for units depositing annual accounts) and NSSO information.

Breakdown into wages and salaries (D.11) and social contributions (D.12)

The totals for actual social contributions (D.121) are based on inputs from the accounts of general government (S.13) and insurance corporations and pension funds (S.128+S.129). Imputed social contributions (D.122) are calculated from the results of the EEC four-yearly survey on the level and structure of labour costs.

Once the employers' social contributions (D.12= D.121 + D.122) are calculated, wages and salaries (D.11) are derived as the difference between compensation of employees (D.1) and employers' social contributions (D.12).

1.4.2.2 Taxes on production and imports and subsidies (D.2/D.3)

These taxes on the production and imports of goods and services or the use of production factors are payable irrespective of whether profits are made.

The source reflects cash receipts. The recording method is that of "time-adjusted cash registration" whereby cash receipts are adjusted over time, which ensures that the amounts in question are allocated to the period in which the activity giving rise to the tax charge took place. This adjustment is based on the statutory time lag between the date of payment and the period in respect of which the payment is made.

Taxes on production and imports paid to EU institutions (S.212) are also included, even though they do not pass through the accounts of general government (S.13).

Subsidies are non-contractual transfers granted mainly to market branches of activity by the general government (S.13) or by EU institutions (S.212). They may be subsidies on products (D.31), granted to reduce their market price or other subsidies on production (D.39) to support employment. Coverage of annual losses is also treated as subsidy payment.

Subsidies are equivalent to negative taxes on production insofar as they negatively impact the operating surplus.

Taxes and subsidies are calculated based on Government data sources and data from the balance of payments of the European institutions.

1.4.2.3 Consumption of fixed capital (P.51c)

The consumption of fixed capital is estimated via a permanent inventory method (PIM), i.e., by a depreciation function based on average service lives. This method is described in section 4.12.

ESA 2010 advises to estimate the consumption of fixed capital based on the stock of fixed assets and the probable average economic life of the different types of goods. Because there is no direct information on the stock of fixed assets, the stock of fixed assets is estimated via the PIM as the sum of gross capital formation from the past that is still being used in the present period. By applying depreciation functions by type of fixed asset, the consumption of fixed capital can be calculated.

1.4.3 EXHAUSTIVENESS AND CONCLUSION

In the income approach, the gross operating surplus/gross mixed income by industry is calculated as a residual item. The calculation of compensation of employees, taxes on production and imports, and subsidies is based primarily on direct estimation methods in view of the ample availability of information in administrative sources and accounting statements.

As the income approach is not estimated independently, the impact of exhaustiveness adjustment by category is the same as in the output approach. The value added linked to exhaustiveness adjustments is spread among operating surplus, mixed income, and compensation of employees.

Exhaustiveness adjustments are added for wages and salaries paid to domestic staff (N1), illegal activities (N2), growing of vegetables by households in their own garden for own consumption (N3), undeclared activities (N6), and wages and salaries / mixed income paid out in kind (N7).

Compilation of GNI	Adjustments								Final estimate
	Exhaustiveness								
	N1	N2	N3	N4	N5	N6	N7	Total exhaustiveness	
GDP INCOME APPROACH									
Compensation of employees	457	8	0	0	0	2 651	3 122	6 238	211 813
Gross operating surplus (1)	0	705	0	0	0	7 999	0	8 704	145 063
Mixed income		1 228	124	0	0	3 676	64	5 092	30 145
Taxes on production and imports								0	59 728
Subsidies								0	16 663
Gross domestic product	457	1 942	124	0	0	14 326	3 185	20 035	430 085

1.5 OUTLINE OF THE EXPENDITURE APPROACH

1.5.1 REFERENCE FRAMEWORK AND MAIN DATA SOURCES

The final consumption expenditure by households is mainly based on the household budget survey (biannual since 2010), administrative data and specific surveys. Consumption expenditure by the general government is based on administrative data sources.

To estimate gross fixed capital formation, three main sources are used: the annual business accounts, VAT returns and structural business surveys.

Exports of goods and services are mainly derived from the balance of payments and international trade statistics.

1.5.2 CALCULATION

1.5.2.1 Household final consumption expenditure (HFCE)

Estimates of final consumption expenditure of households by COICOP group are based on different data sources, namely the household budget survey, various administrative sources, and specific surveys (for example general government data, information from professional federations, and balance of payments). The following table gives an overview of the main sources/methods used for the different product categories (COICOP nomenclature).

COICOP		MAIN METHOD
01	FOOD AND NON-ALCOHOLIC BEVERAGES	HBS
02	ALCOHOLIC BEVERAGES, TOBACCO AND NARCOTICS	Administrative data
03	CLOTHING AND FOOTWEAR	HBS
04	HOUSING	Specific method
04	WATER, ELECTRICITY, GAS AND OTHER FUELS	HBS
05	FURNISHINGS, HOUSEHOLD EQUIPMENT AND ROUTINE HOUSEHOLD MAINTENANCE	HBS
06	HEALTH	Administrative data and commodity flow
07	TRANSPORT	HBS
08	COMMUNICATION	HBS
09	RECREATION AND CULTURE	HBS
10	EDUCATION	Administrative data and commodity flow
11	RESTAURANTS AND HOTELS	HBS
12	MISCELLANEOUS GOODS AND SERVICES	HBS
P.33-P.34	Resident consumption abroad and non-resident consumption in Belgium	Balance of payments

The Household Budget Survey (HBS) is the main data source used to estimate the households' final consumption expenditure (P.3_S.14). The raw data provided by Statbel are processed through various steps for national accounts purposes. Adjustments are made for differences in population, concepts, definitions, and classifications between HBS and national accounts. The average expenditure by product by household reported in the HBS is extrapolated to the total population. The expenditure of people living in communities (retirement homes, prisons, religious orders, etc.) is added.

The HBS provides data based on the "national" concept (final consumption by resident households). As the supply and use table (SUT) is compiled on territorial basis, the results are converted from the national to the domestic concept of final consumption (final consumption by households on the Belgian territory), using balance of payments data. Expenditure abroad by resident households is excluded, whereas the final consumption expenditure by non-residents in Belgium is added.

The HBS based estimates are regularly checked and compared with other data sources. When available, exhaustive administrative data sources are preferred to HBS. Administrative data are mainly used to estimate the consumption of alcoholic beverages and tobacco products, purchases of cars and spending on health care. The administrative data used are for example:

- Excise duties on purchases of beverages and tobacco (FPS Finance)
- Statistics supplied by Ministries: vehicle registrations, transport by air and sea (FPS Mobility and Transport), hotel overnight stays and other short-duration accommodation, energy consumption (FPS Economy)
- Statistics supplied by professional federations: gas, electricity, petroleum and water producers and distributors, Belgian Automotive and Cycle Industry Federation (FEBIAC), Belgian Tour Operators Association (ABPTO)
- Statistics from supervisory bodies such as the Belgian Institute of Posts and Telecommunications (IBPT), the Gaming Commission, and the National Bank of Belgium (NBB)

- Consumer price indices, and related average prices, per COICOP-BE calculated by the FPS Economy
- Etc.

Within the 2019 benchmark revision, some improvements were brought to the compilation of HFCE. For example, the estimate of **on-line purchases** was refined by means of detailed bank card and/or credit card payment statistics. This new source was used to distinguish between on-site and on-line purchases, and to ascertain whether a business or personal payment card was used. This implies a more accurate estimate of foreign on-line purchases by resident households.

The commodity flow method is used for specific products like dwellings, some health services or life insurance services.

Whatever the source of information, the first estimates are integrated in a supply and use analysis, which makes checks and adjustments possible, depending on the reliability of the original result.

1.5.2.2 Government final consumption expenditure (GFCE)

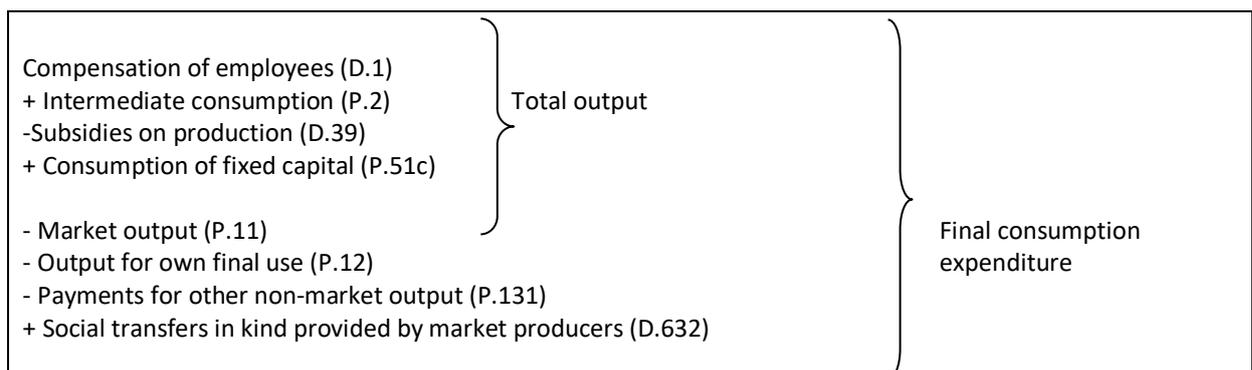
According to ESA2010 definitions, the final consumption expenditure of the general government (P.3_S.13) is equal to its output (measured as the sum of production costs) minus

- market output,
- output for own final use,
- payments in respect of other non-market output,

and plus, social benefits in kind provided by market producers.

So, final consumption expenditure includes general government expenditure on goods and services provided by market producers that supply them (without processing) to households as social transfers in kind (D.632). In Belgium, the latter are particularly important, since all hospitals, retirement homes, and centres for the disabled, whether privately or publicly owned, are market producers.

The following flowchart applies:



The main sources are accounting data from budgets, which may differ from one sub-sector to another: payment orders in the case of the Central Government (S.1311) and the Communities and Regions (S.1312), spending commitments for local authorities (S.1313) and economic charges borne by social security agencies (S.1314). The distinction between individual consumption expenditure (P.31_S.13) and collective consumption expenditure (P.32_S.13) is made when compiling the final tables of expenditure of general government by function and transaction.

1.5.2.3 NPISH final consumption expenditure

The final consumption expenditure of NPISHs is equal to their non-market output (P.13). The value of NPISH total output (P.1) is calculated by branch of activity as the sum of production costs, i.e., the sum of compensation of employees (D.1), intermediate consumption (P.2), fixed capital consumption (P.51c) and other taxes on production less other subsidies on production (D.29-D.39).

1.5.2.4 Gross fixed capital formation (GFCF)

To estimate P.51g, three main data sources are used: the annual business accounts, the VAT returns, and the results of the structural business surveys (SBS). It is only for a few 'special' estimates such as GFCF in residential buildings, software, R&D, and originals that other sources are also used.

Non-financial corporations (S.11)

To estimate P.51g in sector S.11, the annual accounts and VAT returns are used. The annual accounts are the preferred source. In the absence of (usable) annual accounts, the VAT returns are used. Adjustments are applied to these administrative data to comply to ESA2010 definitions. A specific survey capturing R&D-activity is used to derive GFCF in R&D.

Financial institutions (S.12)

The GFCF of sector S.12 is estimated using annual business accounts information (S.121, S.125_S.127) or SBS information (S.122, S.128).

General government (S.13)

For the general government sector, the detailed government accounts (budgets) are taken as the main source to estimate GFCF.

Households (S.14)

To estimate the GFCF of unincorporated businesses belonging to sector S.14, two sources are used, depending on whether the units in these sectors submit a VAT return. In industries with VAT-registered units, the estimate is based on the VAT returns; in industries for which no VAT returns are available, the structural business survey is used as a source. GFCF in residential buildings is estimated via specific sources (price*quantity approach).

Non-profit institutions serving households (S15)

Sector S.15 investments are mainly estimated based on the annual business accounts.

Residential buildings

The estimate of investments in dwellings is based mainly on two data sources: the statistics on the number of building permits issued and a specific survey among construction corporations (price information by type of dwellings). By combining the quantity statistics (building permits and derived buildings started) with the price data from the survey among construction corporations, an estimate of the total investments in residential buildings is obtained.

Software

Investments in software consist of two items: purchased software and software for own account.

To estimate investments in purchased software, the data from the SBS are used. To estimate software produced on own account, two types of data are used: the labour force survey and wage and salary data for IT personnel. The investments are then estimated by multiplying the number of people engaged in IT activities (or related activity) by the average wage cost for IT personnel. This result is then multiplied by 0.5 (IT personnel is assumed to spend half of their time on developing new programs/applications). Intermediate consumption and operating surplus are added to obtain an estimate of own account production of software at basic prices.

Entertainment, literary or artistic originals

Two methods of estimation are adopted, depending on the existence or absence of royalty flows associated with these originals and managed by copyright management societies. Where copyright and related rights generated by a work are collected mainly via management societies, the output of original works is estimated based on the royalties paid by all the Belgian management societies to Belgian recipients. Where copyright or related rights are managed only partly or not at all by management societies, the output of original works is estimated based on creation costs plus a net operating surplus.

1.5.2.5 Changes in inventories

Changes in inventories are estimated via annual business accounts information.

For a valuation in accordance with ESA 2010, an estimate of valuation differences regarding stocks is done. Outstanding amounts (AN.12) and transactions (P.52) are estimated simultaneously.

1.5.2.6 Net exports of goods and services

International trade statistics on imports and exports of goods are incorporated in the balance of payments (BoP) statistic. Intra-EU flows are derived from the Intrastat survey, extra-EU flows are derived from customs declarations (Extrastat). Flows in “community concept” are transformed to flows in “national concept” to eliminate transit flows.

External trade in services is estimated based on specific surveys organised for BoP purposes.

The balance of payments has the following main headings for services:

- manufacturing services on physical inputs owned by others (international processing)
- maintenance and repair services
- transport services
- travel services
- construction services
- insurance and pension services
- financial services
- telecommunications, computer, and information services
- other business services
- personal, cultural, and recreational services
- government goods and services n.e.c.
- charges for the use of intellectual property
- not allocated services.

1.5.3 EXHAUSTIVENESS AND CONCLUSION

For the various expenditure components, all the available data sources are used as much as possible via a direct method. Due to the nature of the data sources and of the items to be estimated, extrapolation and modelling are more used than for estimating the output/income approach.

In the expenditure approach, the main following exhaustiveness adjustments are considered:

- Expenditure in illegal products (N2)
- Level up of final consumption expenditure by households to include (i) extrapolation from the benchmark year, (ii) collective households and (iii) disposable income of households as estimated in national accounts instead of disposable income of households as estimated in the household budget survey (N4)
- Extrapolation for investment in purchased software for units that did not fill any survey (N4)
- Level up of final consumption expenditure by households derived from a supply/use analysis (N7).

Compilation of GNI	Adjustments								Final estimate
	Exhaustiveness								
	N1	N2	N3	N4	N5	N6	N7	Total exhaustiveness	
GDP EXPENDITURE APPROACH									
Total final consumption expenditure	457	1 503	0	7 344	0	0	1 921	11 225	320 644
Household final consumption expenditure	457	1 503	0	7 344	0	0	1 921	11 225	216 088
NPISH final consumption expenditure								0	4 509
General government final consumption expenditure								0	100 047
Gross fixed capital formation	0	0	0	512	0	0	0	512	100 114
Changes in inventories	0	0	0	0	0	0	0	0	4 177
Acquisitions less disposals of valuables								0	14
Exports of goods and services		773					0	773	341 615
Imports of goods and services		334					0	334	336 479

1.6 THE BALANCING OR INTEGRATION PROCEDURE, AND MAIN APPROACHES TO VALIDATION

In Belgium, separate estimates are compiled for the production approach and the expenditure approach. These estimations are made independently from each other. As regards the income approach, as already mentioned, compensation of employees and net other taxes on production and imports are estimated independently, but gross operating surplus/mixed income is calculated as balance.

An integrated calculation of GDP according to the output, expenditure and income approach is carried out within the framework of the supply and use tables (SUT).

As regards the integration of information from various sources, the SUT analysis is the most appropriate method to reach an exhaustive estimate of GDP.

The SUT are fully integrated into the annual compilation process of the accounts. Consequently, they can be revised for the years of routine revisions. The SUT table for the year 2016 was revised for the last time in 2020, together with the global compilation process.

For the years up to T-3²³, the balancing process between the production and the expenditure approaches is made within annual supply & use tables (SUT) before the closure of the accounts, giving the opportunity to amend all aggregates. So, the SUT are used to determine the final level of GDP.

1.6.1 STRUCTURE OF THE SUPPLY AND USE TABLE

The work format of the SUT provides far more industries and products than the format in which the SUT must be transmitted to Eurostat. This allows a detailed analysis and an adjustment of the statistical differences between supply and use to be carried out.

The reporting format provides for 64 *industries* (A64 which corresponds to a grouping of 88 NACE rev2 divisions (2 digits industries)). 139 industries are used in the work format of the SUT.

The reporting format provides for 64 *products* (P64) that correspond with the 2-digit CPA classification. The number of products in the work format is 354.

The goods in the SUT are usually defined in terms of CPA 2008 4-digit, and the services according to CPA 2008 3-digit. Exceptions are sometimes made to this rule depending on the relevance of the products for the Belgian economy, or for various technical reasons.

32 % of the number of products relate to services. The percentage share of the service industries in the total number of industries is 47 %.

²³ It is foreseen to use a SUT balancing process for the years up to T-2 (for example for reference year 2019 in publication 2021) in the future.

On the supply side, in addition to production by industry/product, there are also columns for imports, margins, and taxes less subsidies on products.

On the use side, in addition to intermediate consumption by industry/product, there are columns for final consumption expenditure:

- P.3_S.14 consumption expenditure by households
- P.31_S.13 individual consumption expenditure by general government
- P.32_S.13 collective consumption expenditure by general government
- P.3_S.15 (individual) consumption expenditure by NPISHs.

There are also columns for capital formation (P.51g gross fixed capital formation (GFCF), P.52 changes in inventories, P.53 acquisitions less disposals of valuables) and exports.

Finally, the SUT shows gross value added broken down into:

- Compensation of employees (D.1)
 - of which wages and salaries (D.11), employers' actual social contributions (D.121) and employers' imputed social contributions (D.122)
- Other taxes on production (D.29) and other subsidies on production (D.39)
- Consumption of fixed capital (P.51c)
- Net operating surplus (B.2n) and mixed income (B.3n)
- Gross operating surplus (B.2g) and gross mixed income (B.3g)

1.6.2 DATA SOURCES AND INITIALISATION

OUTPUT AND INTERMEDIATE CONSUMPTION

ESA 2010 output (P.1) and its components (P.11: market output - sales and changes in inventories of produced goods -, P.12 output for own final use, P.13 non-market output) are not available as such in administrative or survey data. They can be derived once several adjustments have been made (see section 1.3). The same applies to intermediate consumption (P.2) and its components (purchases for intermediate consumption and changes in inventory of materials and supplies).

For the various components of output and intermediate consumption, distribution keys per product are calculated at a very detailed level. These allocation keys are calculated based on all usable information (structural business survey, Prodcom, external trade statistics). The main data source is the annex to the structural business survey (SBS) asking for detailed product information for turnover and purchases²⁴.

The calculation is done in various steps and is standardised for most industries. Specific calculations are made for general government, agriculture, health care (hospitals), financial institutions and insurance companies.

OTHER ELEMENTS

The imports and exports of goods and services and the apportionment keys by product are defined based on detailed data from the balance of payments and external trade statistics.

To calculate the trade and transport margins, information from annual business accounts and surveys is used.

Information on taxes and subsidies on products comes mainly from the general government accounts.

The initial estimates of consumption expenditure by households (P.3_S.14), NPIs (P.3_S.15) and general government (P.3_S.13) come mainly from respectively the household budget survey, specific surveys, and government accounts (see section 1.5).

The information for calculating the initial estimate of GFCF comes mainly from the annual business accounts (aggregates and apportionment by large categories) and from VAT returns (aggregates). The apportionment of aggregates by SUT product is carried out based on the SBS.

²⁴ Available every five years starting from 1995 onwards.

To be able to integrate the SUT in prices excluding VAT, the VAT legislation is translated into percentages of non-deductible VAT per SUT product.

1.6.3 BALANCING

Some imbalances between the supply and use of individual products remain after the initial integration of all data in the SUT framework.

These imbalances are analysed and corrected during the balancing phase. This means that the initial estimates of aggregates can be changed. During this balancing phase, the expertise of the statisticians is used to investigate and explain inconsistencies and correct them accordingly.

Small remaining differences between supply and use are eliminated in a final phase with an automated method.

An in-house produced software (ASUT) is used to implement this whole balancing process.

1.6.4 OTHER APPROACHES USED TO VALIDATE GDP

The main aggregates (by industry/products) of the national accounts are compiled in an integrated way with sector accounts. By construction, all dimensions of the non-financial national accounts are fully consistent with each other.

The annual national accounts are further checked and validated when compiling the regional accounts or benchmarking the quarterly estimates on the annual accounts.

The rest of the world accounts and BoP data are fully integrated, giving more quality assurances to all variables of the rest of the world account.

National accounts results are compared with employment data, by evaluating value added by employee and/or self-employed person or by hours worked. This productivity analysis is very useful. Until now, no inconsistency has been found through this analysis.

Some key indicators derived from the sector accounts are closely monitored: the household savings rate, the household investment rate, the profit margin, and the investment rate of non-financial corporations. The development of the series underlying these indicators are carefully analysed.

All statistics related to general government are also particularly scrutinised, in particular deficit and debt. This ensures that the input for the national accounts coming from government data is fully reliable.

The national accounts staff follows the Belgian economic developments in the various industries or sectors. There are contacts with the professional unions, economic analysts, etc. The developments in economic or accountancy laws are also closely monitored. This way, the adequacy of our data sources and results are checked and monitored.

In a nutshell, given the importance of national accounts for economic analyses and policy purposes, the results of the different estimates of the national accounts series are carefully controlled, verified, and cross-checked before any release.

LCU approach

In May 2021, a separate Large Cases Unit (LCU) was created in the statistics department. The LCU provides expert monitoring of a population of multinational groups (MNE) whose activity weighs on the macroeconomic statistics (national accounts, external statistics, and financial accounts). The input from the LCU analysis will certainly enhance the quality of the GDP/GNI estimates by a better valuation of globalisation. The overall coherence between national accounts, external statistics and financial accounts is also expected to further increase

1.7 OVERVIEW OF THE ALLOWANCES FOR EXHAUSTIVENESS

Exhaustiveness of the GDP is obtained by extrapolating the results of surveys as correctly as possible to the population using registers, applying the definitions of ESA 2010 as accurately as possible, and more specifically including the underground economy in the calculation methods.

An important aspect for obtaining an exhaustive GDP is the use of an exhaustive register of production units. Each year, a directory is compiled based on the Statbel business register, in which at present only non-VAT registered enterprises which are unincorporated *and* have no staff are missing. The aggregates for these enterprises are calculated via another register, namely the personal income tax return files.

It can therefore be stated that the calculation of GDP via the output approach is based on an exhaustive database.

The underground economy consists of the non-observed (black) economy plus the illegal economy. The black economy consists of clandestine corporations plus unreported or underreported activities. The illegal economy includes activities which, according to the concepts of the national accounts, fall within the production boundary but are not legally permitted. Some estimates are made for the production and traffic of drugs, prostitution and smuggling of tobacco.

One of the transitional adjustments of the administrative aggregates to ESA 2010 aggregates concerns the extrapolation for the non-observed economy. An overall adjustment by SUT category/sector is calculated by applying percentages to turnover and purchases for S.11 corporations and S.14 unincorporated businesses separately. This is done for SUT industries considered relevant, with a differentiated adjustment by activity.

As in most other European countries, the non-observed economy is predominant in industries that supply most of their production to households. This applies among other things to the construction industry (building installation and building completion), the retail trade, the maintenance and repair of motor vehicles, hotels and restaurants, and other services to persons.

As regards the level up of the added value for exhaustiveness, other numerically less important adjustments are also included, such as tipping or remuneration in kind.

As the income approach is not estimated independently, the impact of exhaustiveness adjustment by category is the same as in the output approach. The value added linked to exhaustiveness adjustments appears as operating surplus, in mixed income, and in compensation of employees.

In the expenditure approach, the following main exhaustiveness adjustments are considered:

- Expenditure in illegal products
- Level up of final consumption expenditure by households to include (i) extrapolation from the benchmark year, (ii) collective households and (iii) disposable income of households as estimated in national accounts instead of disposable income of households as estimated in the household budget survey
- Extrapolation for investment in purchased software for units that did not fill any survey
- Level up of final consumption expenditure by households derived from a supply/use analysis.

Exhaustiveness estimates for the expenditure approach are made explicitly and independently from the output/income approaches. To check whether these estimates are valid and realistic, exhaustiveness adjustments are put together in the supply and use tables (SUT) framework. This SUT framework is used for its statistical purpose: identifying data gaps and ensuring the consistency and coherence of the approaches used in determining GDP.

1.8 TRANSITION FROM GDP TO GNI

The estimation of the transition items from GDP to gross national income (GNI) is based on different data sources.

The main sources used to identify the compensation of employees (D.1) of outgoing and incoming cross-border workers are administrative and statistical sources. There is an established exchange of data with Luxembourg, which is the main partner country for Belgian outgoing cross-border workers. For the other neighbour cross-

border workers, the calculation process is the following. The number of in and out cross-border workers by country is multiplied by the average compensation of employee per capita of the corresponding country. For resident employees working for the international institutions located in Belgium (EUI, NATO/SHAPE, Eurocontrol, etc.), information coming from the balance of payments of the EUI is used, as well as data from the payroll of these institutions. There is an estimation for the wages of embassy staff.

Taxes on production and imports (D.2) paid to the Institutions of the EU come from statistics established by the FPS Finance (Ministry of Finance).

The data on subsidies granted by the institutions of the EU (D.3) are provided via the balance of payments of the European institutions.

As a rule, interest flows (D.41) are estimated by combining financial stocks with interest rates, while taking account of certain constraints where direct information on these flows are known.

The dividends (D.42), reinvested earnings on FDI (D.43) and other property income (D.44) paid to and received from the rest of the world are estimated by combining data from the national accounts (for resident corporations) with data from the balance of payments (for non-resident corporations), and more specifically data from the survey on foreign direct investments.

There is full consistency between BoP and national accounts for all reference years from 2009 onwards for all transition items, although minor discrepancies might appear, due to vintage and different revision policies between national accounts and BoP.

1.9 MAIN CLASSIFICATIONS USED

The main classifications used in the (non-financial) national accounts compiled according to ESA2010 are:

- the classification of institutional sectors (for corporations, no distinction is made between public, national private and foreign controlled units; for households, no distinction is made between employers, own account workers, employees and recipients of property and transfer income; the sub-sectorisation for S.12 and S.13 is available)
- the classification of transactions and other flows (transactions in products and distributive transactions)
- the classification of (non-financial) assets
- the classification of activities (NACE rev2) and underlying aggregation levels (A*10, A*21, A*38, A*64, A*SUT)
- the classification of products (CPA 2008) and underlying aggregation levels (P*3, P*10, P*21, P*38, P*64, P*SUT)
- the classification of the functions of the government (COFOG)
- the classification of individual consumption by purpose (COICOP)
- the classification of purposes of non-profit institutions serving households (COPNI).

The most detailed level used for the compilation of the supply and use tables and the main components of the national accounts are A*SUT (139 industries) and P*SUT (354 products). The results are published according to the detail required in the ESA2010 transmission programme.

1.10 MAIN DATA SOURCES USED

The compilation of the Belgian non-financial national accounts relies mainly on exhaustive administrative data sources, especially for the production approach. The main data sources used are:

- business register/repertory
- annual business accounts (corporations and non-profit institutions)
- NSSO and NSSO-APL declarations (employers)
- VAT-declarations
- personal income tax declarations
- structural business survey (for corporations, self-employed and NPI's)
- Prodcom survey (manufacturing industry)
- household budget survey
- government budgetary information
- balance of payments and international trade statistics
- specific survey on R&D activity.

CHAPTER 2

The revision policy and the timetable for revising and finalising the estimates; major revisions since the last version of the GNI inventory

2.1. THE REVISION POLICY AND TIMETABLE FOR REVISING AND FINALISING THE ESTIMATES

In time of current revisions, GDP/GNI estimates become definitive after 4 years. For example, the data for reference year 2016 is final in the 2019 version of the accounts published in October 2020.

The next table shows the different versions of the annual accounts (first block) as well as the main source material used in the successive versions of the accounts (second block).

Consecutive estimates of GDP/GNI for year T

T+1m	QNA	Provisional quarterly growth volume estimate of GDP (according to the production approach)
T+2m	QNA	First yearly estimate of GDP (3 approaches) resulting from the quarterly national accounts
T+9m	YNA	Provisional estimate of GDP/GNI
T+21m	YNA	Half-final estimate of GDP/GNI
T+33m	YNA	Nearly final estimate of GDP/GNI, including SUT
T+45m	YNA	Final estimate of GDP/GNI, including last minor corrections and EDP changes

Sources used in different estimates of GDP/GNI for year T

T+2m	QNA	VAT data, industrial production indices and provisional figures for S.13
T+9m	YNA	More definitive figures for S.13 (e.g., S.1313), final (accounting) information for S.121, S.122, S.128, S.129, semi-final information for BOP and definitive ONSS wages and employment.
T+21m	YNA	Estimate based on repertory for T (compiled in T+14m) and use of annual accounts for S.11, S.125_S.127, S.15. Final information for ROW and property income flows to/from ROW. Balancing via a provisional SUT analysis.
T+33m	YNA	Integration of definitive personal income tax information data (S.14), definitive information for S.13 and compilation of a final SUT for T.
T+45m	YNA	Integration of very few late information and EDP changes

The first annual estimate (in t+2m) results from sources (monthly VAT-turnover and industrial production series) and (econometric) methods used in the quarterly national accounts.

The second estimate (T+9m) is still largely based on the QNA value added estimate and on partial information from the annual business accounts for the non-financial enterprises (S.11+.S14). It is based on more final figures for the public sector, part of the financial sector, imports/exports and ONSS wages and employment information.

The third estimate (T+21m) is a semi-final version based on the repertory compiled for year T. It includes the annual business accounts information (and SBS-information) for S.11, part of S.12 and S.15. The transformation from 'administrative' to ESA2010 aggregates (as described in this inventory) is introduced in this version of the accounts (output approach). Nearly final data sources are available on the expenditure side. The property income flows to/from the ROW are established using more recent sources and methods.

The nearly final estimate (T+33m) provides a final version based on a final SUT approach after the introduction of all final source material (e.g., for S.14), nearly final S.13 version based on the latest EDP agreements and final other adjustments or corrections.

The final estimate (T+45m) includes late source information and the last version of EDP figures. This last revision is usually negligible.

As regards revision policy in general, the *Harmonized European revision policy (HERP)* as agreed by the CMFB in 2016 is applied. For more information, please have a look on https://www.nbb.be/doc/dq/e_method/methodcn_en_201709.pdf.

There is no major revision planned to be implemented outside the agreed schedule in the HERP, i.e., before 2024. The transversal reservations other than globalisation received by Belgium from the 2016-2019 revision cycle have no significant impact on the GDP/GNI. The transversal reservation on globalisation will be integrated from reference year 2018 and will be included in a routine revision process.

The revision policy allows the inclusion of estimates based on new sources and/or estimation methods. If these changes have a long backward impact on the series, they are preferably implemented in a benchmark revision. However, when a new data source replaces or is better than an existent one, it is used for the current revision process.

The survey results used in the GNI compilation are usually collected on an annual or even a quarterly basis. However, there are some exceptions:

- The survey on R&D organised by BELSPO every two years
- The survey among general building contractors organised by the NBB every two years
- The detailed survey on turnover and purchases by product for a sample of companies, organised every five years by Statbel. This is a more in-depth part of the structural business survey organised for the needs of the input/output and supply/use tables.

The household budget survey is organised by Statbel (FPS Economy) since 1995. It was a yearly survey until 2010, after which the survey became biannual. The latest reference year of HBS that is currently used for national accounts purpose is 2010. It was decided not to integrate the 2014-2015 HBS results because of quality problems in the coverage of the survey. In January 2020, the household budget survey was reviewed by Statbel in collaboration with the NAI (more details in the products and more links to the economic reality). The results of this revised survey will be integrated in the national accounts within the 2024 benchmark revision.

The decennial census is used in the estimation related to dwellings. The benchmark years currently available are 2001 and 2011. The results of the 2021 census (provided by Statbel) will be integrated in the 2024 benchmark revision.

2.2. MAJOR REVISIONS SINCE THE LAST VERSION OF THE GNI INVENTORY

2.2.1. THE 2019 BENCHMARK REVISION

In line with the Eurostat recommendations, Belgium – like most European countries – conducted a benchmark revision of its national accounts in 2019.

As far as possible and in order to ensure the temporal uniformity of the series, revisions need to be made from 1995 onwards. In cases where it proved impossible to go right back to 1995 owing to the lack of relevant data, the year 2009 was chosen as the base year from which the revisions were made. Consequently, new source data and estimation methods were included in the GNI figures for the relevant timespan starting in 2010.

The Belgian national accounts collected 11 action-points A (21 sub-points) in the framework of the 2016-2019 GNI verification cycle. The 2019 benchmark revision included not only these GNI action points, but also additional items. All in all, around 70 revision items were analysed. All these points are explained in detail in the following publication https://www.nbb.be/doc/dq/e_method/m_rev19_e.pdf. The main points having an impact on GDP or GNI are briefly described below.

1. Dwelling services (action points A1A and A11)

The estimation of the dwelling services was revised in depth for the whole timespan 1995-2017. See section 3.18.3 for a full description of the revised methodology.

2. Insurance and pension funds services (action point A1B)

The revisions concern mainly the estimation of life insurance output. The analysis showed that insurance company allocations to the supplementary life insurance reserve (also known as the “flashing-light reserve”) - to be established by insurance companies where the guaranteed interest rate on premiums exceeds the threshold statutory threshold – had hitherto been wrongly included in the sequence for estimating the value of the service produced. Consequently, these flashing-light reserves were excluded from the estimate. This revision considerably reduces the volatility of the value of life insurance output over the period 2012-2016. There was also some revision in the estimates for non-life insurance and pension funds. See section 3.17.2.6 for a description of the revised methodology.

3. Market/non-market test for NPISH and other change in sector classification (action point A1C)

This revision aimed to implement more clear criteria allowing to distinguish non-profit associations being non-market units according to ESA 2010 from the market associations. This was done based on more recent information data from the Central balance sheet office. See section 3.17.2.6 for a description of the revised methodology.

4. Added value for self-employed company administrators (action point A1D)

The method used to estimate the output, intermediate consumption and value added of self-employed company administrators was revised due to the use of more detailed source data from the FPS Finance. See section 3.17.2.6 for a description of the revised methodology.

5. Allocation of D.29/D.39 across industries (action point A1E)

This revision aimed to better allocate taxes and subsidies by domestic sector and by *nace* industry. This was done based on more detailed information coming from the general government data sources. See section 3.4.2, adjustments (aa), (n), (a1), (a2), (h2) for more explanations.

6. Exports and imports of goods and services for non-residents (action point A1F)

As recommended in the “*Manual on foreign trade reported by non-residents*”, the following ESA 2010-inconsistencies in the calculation of the cross-border flows of goods by non-residents were revised:

- Transactions declared under transaction code 9 were eliminated from the national concept if after research, it can be decided that they correspond to transactions without a change of ownership between a Belgian resident and a non-resident.
- Transactions between non-residents on Belgian territory were eliminated from the imports and exports of goods by non-residents in national concept.

See sections 5.13 and 5.14 for a description of the revised methodology.

7. Acquisitions less disposals of valuables (action point A1G)

The methodology of the estimation of variable P.53 is fully described under section 5.12. This methodology is mainly based on a commodity flow analysis. Under the transmission programme Regulation, Belgium obtained derogation until 2017 for the transmission of data on acquisitions less disposals of valuables (P.53). Consequently, an estimate of this operation was introduced in the accounts published in September 2017. This process was finalised in the 2019 revision.

8. Cost of ownership of land (action point A2)

Costs of ownership transfer of land were included in asset category AN.1123, but this had no impact on GDP/GNI. However, the update in the total amounts of registration rights has well an impact on GFCF.

9. Service life of some assets (action point A3)

After analysis, the service life of assets was not revised.

10. Alternative sources for agriculture (action point A4)

All the contacted sources confirmed that they do not dispose of supplementary information data on agriculture activities. Moreover, agriculture represents only 0,7%²⁵ of the Belgian GDP. Consequently, this item was not revised.

11. Holding gains and losses in inventories (action point A4)

For years 2009 to 2012, the holding gains/losses for agriculture (industries 01, 02 and 03) were not properly included in the compilation process. This item was correctly taken on board. The impact of this correction is negligible (about 1 million EUR) and non-material for GNI-OR purpose.

12. Price for holding gains and losses in inventories (action point A4c)

Some changes were brought in the methodology to ensure that an average year price is used to value the holding gains/losses for changes in inventories. See section 5.11.4.2 for a description of the revised methodology.

²⁵ In 2017.

13. Output for own final use (action point A5A)

From the descriptions in the Inventory, it was not clear if net other taxes on production are included in the sum of costs. This point was investigated and led to the conclusion that these net taxes were well included.

14. Work in progress (action point A5B)

It was checked that the calculation to ensure valuation in proportion to the estimated current basic price of the finished product for work in progress was correct. The conclusion was that it was the case.

15. R&D (action point A6)

Some improvements were included in the treatment of R&D in the production and expenditure approach of GDP. For more information, see sections 3.19 and 5.10.4.1

16. Reinvested earnings from FDI – income from indirectly owned companies (action point A7)

The income from indirectly owned enterprises (within big company groups - multinationals) in the cross-border flows of reinvested earnings was included in the estimate of these flows for the 60 largest companies/groups. See section 8.4.3 for a description of the methodology.

17. Cif/Fob adjustment (action point A8)

So far, Cif/fob adjustments had not been identified separately in imports/exports of goods neither in national accounts nor in the balance of payments. This was done within the 2019 benchmark revision. See section 5.14 and section 5.13.1.4. for a description of the methodology.

18. Non-collected VAT because of insolvencies/ bankruptcies and MOSS (action point A9)

The non-collected VAT was calculated based on data from the FPS Finance, who provided backward series. These estimates were added in the total amount for VAT. Collected VAT through the MOSS procedure were also included in D.21. The remuneration for the Belgian government is recorded in D.74 received. These items were also monitored in the framework of the EDP procedure. See section 3.27.4 for a description of the revised methodology.

19. Compensation of employees for embassies (action point A10)

Compensation of employees for local staff working for Belgian embassies abroad, and resident staff working for foreign embassies located in Belgium were added in the national accounts, although the numbers are negligible. See section 8.1 for a description of the methodology.

20. Added value in human health and social work activities

The added value of hospitals, childcare activity and corporations for disabled people (*entreprises de travail adapté ETAs*) (nace 88995_S.11) was revised due the use of updated data sources. See section 3.23 for a description of the revised methodology.

21. Services from investment funds

The production and intermediate consumption of the investment funds sectors were slightly revised, due to a better inclusion of expenses linked to the holding of investment fund shares. See section 3.17.2.4 for a detailed description of the revised methodology

22. Fisim

The methodology related to the estimation of the interest matrix by institutional sector and to FISIM was not modified due to the benchmark revision. However, some of the inputs to the matrix /FISIM calculation were updated for timespan 2011-2017, leading to some changes in the calculated flows.

23. Production of electricity by households

In the Belgian national accounts, the production of electricity by households was not yet fully considered in the estimates of the value added nor in the private consumption of households or in other variables.

Since 2009, the production of electricity by households has become of material importance, partly due to the incentives given by the government. The benchmark revision 2019 allowed us to integrate the estimated in a coherent way in all approaches and for the whole period from 2009 on. See section 3.10 for a detailed description of the methodology.

24. Changes in the government sector

The revisions in the Government sectors are linked to the following items:

- Reclassification of units in the population of S.13 for 2009-2014; this is the consequences of some reclassifications of units due to EDP procedure that could not be integrated for the past years in a current revision process. In particular, the inclusion of the Belgian railways infrastructure company (Infrabel) in the population of the government sector has a large impact on P.1, P.2, B1.g, D.1, P.3 and P.51 of this sector
- The improvement in the estimation for municipal forests (impact on P.13 and P.52)
- The inclusion of some employment subsidies (D.29) for units belonging to the population of S.13. This leads to an increase of the production (sum of costs) of this sector (impact on D.39 received, D.1, P.1, B1.G and P.3)
- The changes in R&D recording, with a negative impact on added value
- Some correction in the recording of the teaching activities in the Flemish region and of the municipal waste treatment
- Some other smaller corrections and current revisions for the most recent years.

All these updates were included in accordance with EDP procedure recommendations. See sections 3.21, 3.22 and 5.9 for a detailed description of the revised methodology.

25. Final consumption expenditure by households

There were two types of revisions: (i) those derived from revisions to other aggregates, especially production, and affecting private consumption and (ii) those specific to the estimation of household final consumption. Some elements of revisions on the production side had a direct impact on the estimation of household final consumption expenditure, like revisions to production for own final use for dwelling services and for own electricity production.

As regards specific revisions to the estimation of household final consumption, a first one concerned the link between NACE codes and expenditure categories. The estimation of household final consumption is largely based on the results of the Household Budget Survey (HBS). The adequacy of NACE codes by category of expenditure was revised and, if necessary, improved, leading to limited adjustments from 2009 onwards.

A second specific revision concerned the intermediate and final consumption for the maintenance and repair of dwellings. An analysis of the breakdown of housing maintenance and repair expenditures was conducted. A new method was developed. It is based on the results of the Household Budget Survey (HBS), both to estimate intermediate consumption and to estimate final consumption.

Thirdly, the expenditure of Belgian residents abroad and non-residents in Belgium was revised.

- Balance of payments data on travel was revised to include statistics on payments by credit cards and/or bank cards.
- The method for isolating imported intermediate consumption from tour operators was revised. Tour operators sell an all-inclusive' service, whose total val.

All in all, the final consumption of residents (P.33) and non-residents in Belgium (P.34) was revised downwards.

Finally, the estimation of e-commerce was improved. New sources available from foreign trade statistics on payment cards provide a clearer picture of Belgian households' online purchases abroad.

See section 5.7 for a detailed description of the revised methodology.

26. Gross Fixed capital formation

There were four types of revisions in gross fixed capital formation: (i) revisions in R&D estimates; (ii) revisions derived from the government accounts; (iii) revisions in the way registration fees are booked and (iv) finally revisions in the way investments made by small and median-sized enterprises are recorded. See section 5.10 for a detailed description of the updated methodology.

27. Other revisions in exports and imports

Besides the estimate of exports and imports by non-resident units, and the addition of the Cif-fob adjustment, other changes were brought to the estimates of exports and imports.

First, the net exports of Fisim were revised, due to the general revision of the Fisim matrix.

Second, the increase in the estimate of the services produced by self-employed administrators led to an increase of the exports of these services for administrators located in Belgium but having activities in non-resident companies.

Third, balance of payments data on travel was revised to include statistics on payments by credit cards and/or bank cards. This has a quite large positive impact on net exports.

Fourth, exports and imports of goods were revised for internet sales. So far, the internet sales were not entirely integrated in the statistics of imports and exports of goods. Due to new information on payments by

credit cards, exports and imports via internet sales were revised in the balance of payments. This had a negative impact on net exports.

Finally, other changes included current revisions in BoP data for years 2015-2018, and balancing. Note that for years 2015-2018, due to an intense cooperation between BoP and NA compilers, the exports and imports of goods and services will be equal in RoW account and BoP. This assures a better quality of the series in both datasets.

28. Balancing procedure

According to our compilation methodology, in a first stage, we estimate the production approach and the expenditure approach of the GDP independently. Then we compare the two results and try to remove the discrepancies.

A new SUT approach was developed, in order to analyse in depth these discrepancies by product/activity. This procedure was applied for the first time on the reference year 2015. This procedure led to a far more detailed manner of solving discrepancies in our accounts. This procedure is now systematically used. That means that the SU tables will be compiled together with the compilation of aggregates. See section 6.1.3 for a detailed description of the updated methodology.

29. Compensation of employees vis-à-vis RoW

Further to the revision concerning embassies, it was decided to profit by the benchmark revision to add estimates for cross border-workers working for international organisations other than EUI and NATO/SHAPE. In Brussels, there are a lot of smaller international organisations, like Eurocontrol, the World Customs Organisation, etc. Staff working for these organisations were not included in the domestic employment or compensation of employees. See section 8.1 for more details.

30. Property income (except action point A7)

For interest (D.41), some of the inputs to the matrix /FISIM calculation were updated for timespan 2011-2017, leading to some changes in the calculated flows.

As regards dividends (D.421), the use of new data sources in financial accounts (new IIP outstanding amounts, third party holdings) led to updates in the income. Moreover, the correction for super dividends was extended to the financial sector.

For investment income attributable to policy holders (D.441), corrections were applied to the own funds ratio for “mixed insurance companies” (i.e., active in both life and non-life insurance business). Consequently, some small revisions were recorded the amounts payable to the rest of the world.

Over the last few years, some pension funds (IORP: institutions for occupational retirement provision) with non-resident affiliates have been established in Belgium. Hence, a flow of investment income payable on pension entitlements payable to the rest of the world (D.442) is recorded from 2016 onwards.

Some minor corrections were also included in the calculation of investment income attributable to collective investment fund shareholders (D.443). See section 8.4 for more details.

The impact of all revisions is summed up in the next table.

Table 2.1: 2019 benchmark revision - revisions in GNI for Own Resources purpose

Please note that for reference years 2016 and 2017, the amounts mentioned in the table might have been revised between their publication in October 2019 and the present version of the accounts. It is not possible to update table 2.1, as current revisions were mixed with the benchmark revision after 2019.

Impact of revisions on GDP / GNI (in mil. EUR)	2010	2011	2012	2013	2014	2015	2016	2017
GDP September 2018	365 101	379 106	387 500	392 340	400 087	411 010	424 660	439 052
GNI September 2018	376 608	382 929	396 983	398 808	402 848	408 777	425 083	444 349
GNI September 2018 for OR purpose	369 367	374 451	387 023	389 187	402 848	408 777	425 083	444 349
Revisions due to action points								
Action point A1a <i>Dwellings (see point 11)</i>	0	0	0	0	0	0	0	0
Action point A1b <i>Insurance (*) - added value S12</i>	273	-754	-350	739	1 174	1 812	88	648
Action point A1c <i>Market test - added value S11</i>	-393	-487	-124	-431	-352	153	141	341
<i>Market test - added value S13</i>	-363	-414	-100	-257	-1 680	-1 329	-1 343	-1 225
<i>Market test - added value S15</i>	150	157	175	37	1 425	1 444	1 422	1 462
<i>Market test - added value S15</i>	-180	-231	-199	-210	-97	38	61	104
Action point A1d <i>Administrators S11</i>	1 493	1 465	1 487	1 635	1 760	1 792	1 998	2 044
<i>Administrators S14</i>	-334	-361	-398	-404	-421	-458	-488	-500
<i>Administrators S14</i>	1 827	1 825	1 885	2 038	2 182	2 250	2 486	2 544
Action point A1e <i>D29-D39 S13</i>	176	222	197	439	581	465	1 172	1 306
<i>D29-D39 S11</i>	-122	-172	-200	-202	-202	-199	-193	-195
<i>D29-D39 S11</i>	298	394	397	641	783	663	1 365	1 500
Action point A1f <i>X and M by non-residents</i>	-2 740	-1 794	-1 632	-2 635	-3 637	-2 892	-3 994	-4 685
Action point A1g <i>P. 53</i>	0	0	0	0	0	0	0	0
Action point A2	0	0	0	0	0	0	0	0
Action point A3	0	0	0	0	0	0	0	0
Action point A4a	0	0	0	0	0	0	0	0
Action point A4b	0	0	0	0	0	0	0	0
Action point A4c	35	-59	-73	46	37	35	-36	-37
Action point A5a	0	0	0	0	0	0	0	0
Action point A5b <i>Inventories</i>	0	0	0	0	0	0	0	0
Action point A6 <i>R&D</i>	0	0	0	0	0	0	0	0
Action point A8 <i>Cif-Fob adjustment</i>	-453	-496	-496	-489	-491	-472	-514	-513
Action point A9 <i>Non collected VAT</i>	367	526	576	488	287	357	429	492
Action point A11 <i>Dwelling services - added value S14</i>	-1 551	-462	621	1 168	722	799	760	1 354
Total impact of action points on GDP <i>(In % of 2018 GNI)</i>	400 <i>0</i>	450 <i>0</i>	2 334 <i>0</i>	4 084 <i>0</i>	4 208 <i>0</i>	5 413 <i>0</i>	4 551 <i>0</i>	6 147 <i>0</i>
Action point A7 <i>Indirect D43</i>	1 277	1 336	6 334	4 887	3 855	6 144	2 850	8 026
Action point A10 <i>Embassies</i>	52	57	61	65	77	81	81	89
Total impact of action points on GNI <i>(In % of 2018 GNI)</i>	1 729 <i>0</i>	1 842 <i>0</i>	8 729 <i>0</i>	9 036 <i>0</i>	8 140 <i>0</i>	11 638 <i>0</i>	7 481 <i>0</i>	14 261 <i>0</i>
<i>(*) : the work on this action point goes beyond the request of Eurostat.</i>								

All revisions								
Revisions in added value	-3 077	-3 753	-1 551	92	2 518	5 195	4 897	6 258
Added value S11	-2 595	-2 695	-2 561	-2 618	-2 950	-2 342	-1 792	-1 270
Change in population (action point A1c)	-363	-414	-100	-257	-1 680	-1 329	-1 343	-1 225
Administrators (action point A1d)	-334	-361	-398	-404	-421	-458	-488	-500
Change linked to D29-D39 (action point A1e)	298	394	397	641	783	663	1 365	1 500
Hospitals	-383	-433	-482	-501	-556	-467	-689	-687
Childcare	-11	-11	-8	-8	-6	-6	-6	-6
Corporations for disabled people	-21	-25	-2	-10	-10	-11	2	1
R&D	355	721	476	529	531	167	-496	n.a.
Intermediate consumption of Fisim	233	-592	-978	-573	14	-49	-9	377
Intermediate consumption of investment funds services	-47	-48	-47	5	6	7	13	10
Other change in P12	25	53	-6	-56	-79	-16	7	n.a.
Other changes	-1 426	-1 485	-1 437	-1 982	-1 533	-843	-150	-740
Impact of the difference in Fisim between published GNI and GNI for OR purpose	-920	-496	24					
Added value S12	-695	-1 934	-2 083	-1 047	591	1 544	212	538
Insurance (action point A1b)	273	-754	-350	739	1 174	1 812	88	648
Investment funds	-6	47	8	-22	-18	-5	1	16
Fisim	-1 350	-2 084	-1 153	-1 679	-338	-283	-182	-232
Change in P12 (R&D and software)	61	14	-40	55	-5	3	180	257
Other changes	84	308	114	-140	-222	17	126	-151
Impact of the difference in Fisim between published GNI and GNI for OR purpose	243	535	-662					
Added value S13	-16	-79	-10	18	1 462	1 456	1 498	1 680
Change in population (action point A1c)	150	157	175	37	1 425	1 444	1 422	1 462
Change linked to D39 (action point A1e)	-122	-172	-200	-202	-202	-199	-193	-195
Municipal forests	47	52	56	61	61	55	49	49
R&D	-288	-321	-325	-289	-278	-261	-332	-187
Correction for Flemish schools	141	141	202	308	312	317	329	338
Other changes	57	65	82	102	143	100	224	212
Added value S14	608	1 393	3 516	4 162	3 719	4 701	5 111	5 400
Dwellings (action point A11)	-1 551	-462	621	1 168	722	799	760	1 354
Administrators (action point A1d)	1 827	1 825	1 885	2 038	2 182	2 250	2 486	2 544
Production of electricity by households	242	402	577	604	634	557	549	535
Intermediate consumption of Fisim	350	377	-54	799	501	1 128	1 441	1 328
Childcare	19	16	15	18	15	21	17	16
Other changes	-68	-507	-245	-465	-333	-54	-141	-376
Impact of the difference in Fisim between published GNI and GNI for OR purpose	-213	-258	717					
Added value S15	-379	-439	-413	-423	-304	-164	-133	-91
Change in population (action point A1c)	-180	-231	-199	-210	-97	38	61	104
R&D	-200	-209	-214	-213	-207	-202	-194	-194
Revisions in D21-D31	226	396	304	448	399	496	815	1 056
Non-collected VAT because of insolvencies (action point A9)	367	526	576	488	287	357	429	492
VAT linked to MOSS	0	0	0	0	0	16	29	15
Taxes linked to green certificates	812	1 139	1 421	1 777	1 917	1 959	2 198	2 187
Taxes linked to health activities	0	0	2	8	25	55	124	238
Other updates in taxes on products	0	-1	-1	0	0	7	9	147
- Subsidies linked to green certificates	952	1 281	1 667	1 800	1 912	2 103	2 093	2 090
- Subsidies linked to Infrabel	0	0	0	0	-231	-310	-256	-193
- Other updates in subsidies on products	-1	-13	27	24	149	104	136	126
Total revisions in GDP including action points (production approach)	-2 851	-3 358	-1 247	540	2 917	5 691	5 712	7 313

Revisions in final consumption expenditure	-3 563	-2 488	-412	1 158	2 367	4 262	4 333	6 450
Government	-317	-215	-532	-567	315	353	648	773
Change in population (especially <i>Infrabel</i>)	84	116	132	6	805	870	855	859
Afval	147	153	145	195	137	137	137	137
D39 received (<i>Maribel social</i>)	-122	-172	-200	-202	-202	-199	-193	-195
Social transfers in kind reclassified in D39	-374	-382	-412	-435	-470	-468	-460	-475
Change in the time of recording of social transfers in R&D	180	197	13	82	66	-111	70	0
	1	-8	-216	-138	-123	-140	-330	-238
Final consumption of Fisim	219	351	308	-89	33	367	532	580
Other changes	-450	-470	-303	13	69	-102	38	105
Impact of the difference in Fisim between published GNI and GNI for OR purpose	-501	-506	-375					
Households	-2 159	-1 279	1 305	2 653	2 991	4 661	4 396	6 425
<i>Dwellings (Action point A11)</i>	-1 230	-53	941	1 530	1 162	1 055	1 157	1 711
Self-produced electricity	27	69	95	83	80	74	112	136
Benefits in kind for self-employed administrators	274	331	399	378	381	455	490	517
Financial services	422	-1 251	-566	1 048	1 231	2 146	1 042	1 892
Health services	-356	-431	-482	-500	-557	-336	-687	-686
Childcare	-83	-91	-90	-89	-95	-96	-104	-108
Services from corporations for disabled people	-21	-20	4	-3	-3	-4	23	31
P33-P34	261	267	276	240	117	114	28	-175
Internet sales	0	392	789	1 189	1 594	1 901	2 163	2 835
Other changes	-1 135	-511	-769	-1 224	-919	-648	172	271
Impact of the difference in Fisim between published GNI and GNI for OR purpose	-319	20	707					
NPISH's	-1 087	-994	-1 185	-929	-938	-753	-711	-748
<i>Change in population (action point A1c)</i>	-913	-802	-944	-694	-684	-522	-502	-551
R&D	-158	-155	-203	-197	-191	-187	-182	-182
Intermediate consumption of Fisim	11	-30	-40	-37	-64	-44	-27	-15
Impact of the difference in Fisim between published GNI and GNI for OR purpose	-27	-7	1					
Revisions in GFCF	677	902	1 001	169	-253	709	772	16
Dwellings by households	-83	-181	-174	-99	-90	-424	110	-790
R&D	254	328	199	268	25	111	-229	377
Public investments (except R&D)	-1	-28	9	-2	1 072	1 004	938	891
Other changes	507	784	967	2	-1 260	18	-48	-462
Revisions in change in inventories	457	288	566	951	39	676	1 111	-261
<i>Holding gains/losses</i>	35	-59	-73	46	37	35	-36	-37
Counterpart P53	97	104	62	97	0	0	0	0
Government (municipal forests + current revisions)	93	112	124	99	92	94	89	55
Other changes	232	132	454	710	-89	547	1 058	-279
Revisions in exports-imports	-422	-2 060	-2 401	-1 738	763	45	-504	1 107
<i>X and M by non-residents (Action point A1F)</i>	-2 740	-1 794	-1 632	-2 635	-3 637	-2 892	-3 994	-4 685
<i>Cif-Fob adjustment (Action point 8)</i>	-453	-496	-496	-489	-491	-472	-514	-513
Fisim	-747	-1 411	-939	-449	467	547	750	763
Services from self-employed administrators	222	236	243	264	283	299	302	302
Travel	1 079	1 054	1 095	1 241	1 703	1 054	975	951
Internet sales	0	-161	-322	-483	-644	-805	-906	-1 102
Other changes	2 262	239	-95	812	3 082	2 316	2 883	5 391
Impact of the difference in Fisim between published GNI and GNI for OR purpose	-44	274	-255					
Revisions in GDP including action points (expenditure approach)	-2 851	-3 358	-1 247	540	2 917	5 691	5 712	7 313
Revisions in remuneration of employees	1 482	1 545	1 501	1 334	1 323	1 568	1 721	2 226
Undeclared wages	1 307	1 387	1 221	1 167	1 148	1 163	1 225	1 167
Other changes	176	158	279	168	175	404	496	1 059
Revisions in D21-D31	226	396	304	448	399	496	815	1 056
Revisions in D29	42	53	48	6	-15	-54	-124	-394
Revisions in D39	-101	-156	-115	-31	-59	24	-276	-480
Revisions in gross operating surplus	-3 811,8	-5 287,4	-3 294,0	-1 280,1	1 150,3	3 705,3	3 023,6	3 945
Impact of the difference in Fisim between published GNI and GNI for OR purpose	-891	-219	79					
Revisions in GDP including action points (revenue approach)	-2 851	-3 358	-1 247	540	2 917	5 691	5 712	7 313

Revisions in transfers vis-à-vis RoW	-5 890	-3 495	-267	3 210	5 695	8 131	3 659	-481
Received by domestic economy	6 077	-3 387	3 792	7 913	11 204	14 027	12 160	4 626
D1	411	412	437	419	447	447	498	690
D2	0	0	0	0	0	0	0	0
D3	0	0	0	20	0	0	0	0
D41	-100	-6 907	-5 072	-898	-6	-325	-373	-897
Impact of the difference in Fisim between published GNI and GNI for OR purpose	38	-360	728					
D42	-825	1 396	1 851	-65	353	38	167	549
D43	6 552	2 057	5 996	8 438	10 323	13 785	12 178	4 516
D441	0	-36	-86	0	87	82	-66	66
D442	0	0	0	0	0	0	0	0
D443	0	51	-62	0	0	0	-243	-298
Paid by domestic economy	11 967	108	4 059	4 703	5 509	5 896	8 501	5 108
D1	63	63	59	47	28	38	45	38
D2	0	0	0	0	0	7	9	22
D3	0	0	0	0	0	0	0	0
D41	-847	-6 549	-5 080	-2 512	-14	-1 340	-647	-207
Impact of the difference in Fisim between published GNI and GNI for OR purpose	-6	-86	473					
D42	2 253	5 451	4 557	4 060	299	381	-45	619
D43	10 504	1 163	4 013	3 103	5 219	6 800	9 118	4 631
D441	0	58	37	14	12	12	10	8
D442	0	0	0	0	0	0	12	18
D443	0	7	1	-7	-35	-2	-1	-21
GDP September 2019	363 140	375 968	386 175	392 880	403 003	416 701	430 372	446 365
GNI September 2019	368 714	376 569	395 136	402 559	411 459	422 599	434 454	451 181
GNI September 2019 for OR purpose	360 626	367 599	385 509	392 937	411 459	422 599	434 454	451 181

No other changes in sources and methods were made in the areas that were subject to cross-country comparisons in the last GNI verification cycle since the 2019 benchmark revision. Major changes will be introduced in the next 2024 benchmark revision. According to the European requirements, improvements linked to globalisation will be introduced in 2022 for the reference years starting in 2018.

2.3. PLANNED ACTIONS FOR IMPROVEMENTS

In 2020/2021, there was an important work done on the transversal reservations received by Belgium after the 2016-2019 GNI verification cycle. These reservations are:

Item	Deadline	Comment
Recording of daily allowances	2022	In depth research indicates that this item is adequately recorded and is non-material for Belgium (see section 4.2)
Missing traders VAT fraud	2021	In depth research indicates that this item is non-material for Belgium (see chapter 7)
Margins on trading financial assets	2022	
Reinvested earnings on foreign direct investment	2021	In depth research indicates that this item is non-material for Belgium (see section 8.4.4).
Globalisation	2022	

In 2022, this work continues for the topics 'Globalisation' and 'Margins on trading financial assets'.

For the 2024 benchmark revision, the following topics are on the list of the revision items:

Item	Deadline	Comment
EDP - new MGDD 2022	2024	
Introduction of COICOP 2016 and of more recent HBS results	2024	
FRIBS and IESS Regulations	2024	No direct impact on NA, but consequences for some sources (business statistics, LFS, HBS, etc.)
Changes in transmission programme	2024	Result of the CDC taskforce
Better inclusion of SUT in compilation of main aggregates and in balancing	2020-2024	Progressive change
Illegal economy (drugs)	2024	Update of data sources
Use of NSSO data for incoming cross-border workers	2024	
Real estate abroad	2024	Stocks - Transactions - Income
Analyse and reduction of vertical discrepancies	2024	

In addition, some more topics might appear within the 2020-2023 verification cycle.

2.4. FOR INFORMATION: PREVIOUS MAJOR REVISIONS

2.4.1. THE 2016 AD HOC REVISION DUE TO RESERVATION ON FISIM

In September 2016, in order to lift the to lift the last reservation regarding the Belgian GNI under ESA1995, which concerns some aspects of the calculation of FISIM, the GNI-OR data transmitted to Eurostat was revised back to 2010.

During the timespan from September 2016 to September 2019, data contained in the GNI questionnaire for the years 2010-2012 diverged from those transmitted to Eurostat in the framework of the Transmission Program and disseminated on the National Bank of Belgium's website. This period 2010-2012 was considered as closed years according to the common revision policy but had to be updated for GNI-OR purpose.

Belgium was informed by letter of 9 December 2016 that the GNI reservation on FISIM was lifted by the Commission. The updated FISIM were fully introduced in the September 2019 release, together with the benchmark revision.

2.4.2. THE 2015 BENCHMARK REVISION

See https://www.nbb.be/doc/dg/e_method/m_sec2010r0915_en.pdf for full details.

The September 2015 version of the national accounts includes a benchmark revision due to:

- further work on transversal reservations: the introduction of a supply side estimate of **prostitution services** and the revision of the benchmark year for **dwelling services** (2011 instead of 2001),
- improvements were made to the estimates of the production and use of **R&D** and the way in which these transactions are integrated in the accounts.
- a revised allocation of the production of some **financial services** between intermediate and final consumption,
- the introduction of **adjusted/harmonized NACE-codes** in the business register from 2009 onwards - and the compilation of aggregates by industry using these new NACE-codes,
- the introduction of revised figures for **own account software** (resulting from changes in wages in the IT-industry due to adjustments in NACE-codes),
- the full integration of transactions for units which were **reclassified from S11/S12 to S13**,
- the update of sources and methods in other domains of the accounts, especially revised figures in the financial accounts and international investment position (IIP) which generated important revisions in **property income flows** from/to the ROW.

The estimate of **dwelling services** was mainly based on observations of the stock of housing made from decennial censuses, which implies that there is a benchmark year, while the other years are either interpolated (between two surveys) or extrapolated.

The 2011 Census results were only released by Statbel in November 2014, which explains why this revision was not incorporated into the accounts sooner. The new benchmark led to a downward revision of the number of dwellings (the volume component) compared with the previous extrapolation exercise. Information on average rentals by type of dwelling (the price component), however, was not revised and was still taken from the *Panel socio-économique et démographique (PSBH)* - rentals for the year 2002 - and then extrapolated via the price index for non-social housing rent.

As regards intermediate consumption or final consumption for dwelling services, basic information comes from the Household Budget Survey (HBS). The estimation method was revised in order to guarantee maximum consistency in the P2/P3 split for this type of expenditure. The HBS 2012 headings that are relevant for estimating average expenses per household devoted to accommodation were re-identified. Within the major expenditure categories of 'Maintenance and repair of the dwelling' and 'Supply of water and other services relating to the dwelling', the breakdown between expenses chargeable to owners (allocated to intermediate consumption), and expenses borne specifically by tenants (allocated to final consumption), was carried out in more detail than before.

For periods between two censuses or for periods falling after the last available surveys, figures are estimated using the most relevant indices possible. The revisions to production concern the years 2002 and later (old benchmark figure year 2001 has not changed), while adjusted figures for intermediate consumption were recalculated back to 1995.

One of the main elements of the migration to ESA 2010 lies in what is referred to as **capitalisation of R&D expenditure**. This change was incorporated into the national accounts published in September 2014. The new accounting treatment of R&D expenditure was one of the main challenges faced during the switchover to ESA 2010. Since this change was brought in, additional checks were carried out. While confirming the methods applied, it was found that there was room for improvement in the treatment of data for two large enterprises. These improvements have led to corrections being made 2015.

The integration of imports of patents and imports of R&D services in the production side of the accounts (impact on value added) was also revised, considering the different registration of these transactions in the business accounts of the companies.

Furthermore, following the work done on harmonizing within the NAI the activity codes of the statistical units, some methods developed during the compilation of the R&D satellite accounts were adapted from the year 2009 onwards. In addition, the updated data from the Belgian Science Policy Office's last biennial R&D survey carried out in 2014 and covering the years 2012 and 2013 were used.

The method used for calculating **consumption of financial services** by households or by corporations is carried out by branch of activity, at the 5-digit level of the NACE-Bel classification. According to the branch, market production is allocated to either final consumption or intermediate consumption, when it is not exported. For example, production of consumer credit services is assumed to be totally consumed by households. Conversely, production of factoring activities is assumed to be totally consumed by corporations. Between these two extremes, production can be allocated both to final consumption and to intermediate consumption, notably based on information from structural surveys carried out among banks.

It had not been possible to implement this method defined by branch of activity over the last few years. A simplified method was used, linking the overall trend in household final consumption to that for total production of the other financial intermediaries' sector, regardless of the specific development of the various segments. This method led to a loss of accuracy and, with it, quality in the estimation of final consumption of financial services.

The methodology that had been used before 2009 was brought back in the 2015 edition of the national accounts: production of financial services, adapted to the NACE-Bel 2008 classification and ESA 2010, was allocated to final consumption and/or to intermediate consumption according to specific criteria for each of the underlying NACE 5 digits industries.

As there has been no revision in the production of financial services, the revision of household final consumption was offset by an opposite revision of intermediate consumption of non-financial corporations, with an impact on GDP.

In the case of **software produced for own account**, production – equal to investment - is estimated, by industry, by multiplying the number of IT staff (based on data by profession taken from DGS's labour force surveys) by the average wage cost of this kind of staff (taken from the national accounts). This result is then weighted by a factor of 0.5 since IT staff members are presumed to spend half of their time on program development. Intermediate consumption and the operating surplus (mark-up) are then added to the wages to derive an estimate for (own account) production.

The current method was not modified, but the estimation of IT staff wages and the mark-up were recalculated using adjusted data per industry following the NACE code harmonization. The result was higher average wage and mark-up levels, triggering an upward revision of production and investment.

The **reclassification of units between S13 and S11/S12** gives different valuation of production for the units that shifted from S11/S12 (market producers for which production is estimated via turnover) to S13 (non-market producers for which production is estimated as sum of costs). This gave a positive impact on GDP because revenue of sales only covers a part of total costs for these units.

In 2015, the **activity codes (NACE)** for institutional units were harmonized between the institutions making up the NAI, which helped to give a more accurate and up-to-date picture of economic reality.

The harmonized NACE codes were incorporated into the national accounts from the year 2009 on. This harmonization may lead to breaks in series compared with the year 2008 for aggregates per branch of activity. For the reference year 2012, 8.9 % of the value added of non-financial corporations switched branch (on A64 level). This harmonization also had an impact on the sectorisation of units (switches between S11 and S12 and S11 and S15 for NPI's).

Owing to differences in extrapolation methods by industry (via vat turnover or wages) for corporations without annual accounts and changes in the market/non-market boundary for NPI's, the NACE harmonization had a (relatively small) total impact on value added/GDP.

An overview of the most important elements of the 2015 occasional revision with impact on GDP - production approach - is given in the next table.

Table 2.2 Overview of the 2015 revisions with impact on GDP (production approach) in mil. €

		2010	2011	2012	2013
GDP sept 2014	a	365.747	379.991	388.254	395.262
transversal reservations		535	588	553	338
<i>prostitution</i>		324	333	347	358
<i>P2 in dwelling services (impact on B1g)</i>		212	254	206	-19
Production of dwelling services		-689	-974	-1178	-1451
R&D		-1358	-974	-872	-505
Allocation production financial services		208	-53	-591	-488
Software		310	280	132	-58
Reclassification of units between S11/S12 and S13		97	116	154	25
other changes S13		-26	-139	-256	-652
other revisions (**)		276	272	1.223	228
total revision	b	-647	-884	-836	-2563
GDP sept 2015	a+b	365.101	379.106	387.419	392.699

As regards the expenditure approach, most of the revisions in **final consumption expenditure of households** were explained by the revision of dwelling services, the revision of financial services, the revision in prostitution and the revision in health and social protection services (which is linked to the revision in P3S13 for these products: production that is not consumed by S13 is consumed by households). For 2013 there was an important element of current revision (see large amount in "other").

Considering the adjusted NACE and sector codes for NPI's, the S15 account was re-estimated from 2009 onward. There was a net outflow of NPI's from S15 to S11 which was reflected in lower production and value added in S15 after NACE harmonization. The revision in **final consumption expenditure of NPISH's** was due to an upward revision in non-market output (P13S15). The non-market output was revised upwards in line with the downward revision of market output (P11S15). This reduction in market output was explain by the fact that before NACE harmonization, some market NPI's (with important market production/revenue of sales) were (wrongly) sectorised in S15 and generated important P11. After NACE/sector correction this is no longer the case.

The inclusion of new units in the S13 boundary had an upward effect on the **final consumption expenditure of government**. The other changes to the S13-accounts had a downward effect (e.g., final consumption expenditure of government on health and social protection services).

As regards **gross fixed capital formation**, the most important revision items were the revision in R&D (especially in S11), the revision of investments in dwellings (in S14), and the shift of investments from S11/S12 to S13 caused by changes in the public sector boundary.

Table 2.3 Overview of the 2015 revisions with impact on GDP (expenditure approach) in mil. €

		2010	2011	2012	2013
P3S14		638	-18	-820	-32
rentals/dwelling services		-477	-719	-971	-1471
financial services		154	-31	-616	-362
<i>fisim</i>		0	74	34	97
<i>management cost nonresident mutual funds</i>		-54	-51	-60	29
<i>other (different allocation of production between P2/P3)</i>		208	-53	-591	-488
prostitution		314	322	334	345
health and social protection services (commodity flow method)		566	437	229	86
other		81	-27	204	1.369
P3S15		961	984	1066	1228
P3S13		-438	-355	-242	-828
market/non-market boundary		80	103	146	21
other changes		-518	-458	-388	-849
P51G		-1872	-1690	-1469	-1193

Within the 2015 benchmark revision, there were also important **revisions in property income** received from/paid to the ROW.

Many changes affecting property income were still a consequence of the transition to ESA 2010. This was introduced in September 2014, but adjustments were still necessary in 2015, in order to ensure greater consistency between the different domains of macro- economic statistics (national accounts, financial accounts and external statistics), which all switched over to a new version of their respective accounting framework in 2014.

In the course of the year 2015, the financial accounts were adjusted back to 2009. As a result of these changes, the estimation of **interest income** (D.41) - which in some respects is based on outstanding assets and liabilities recorded in the financial accounts - was therefore adjusted from 2009 onwards. In addition, from the year 2013 onwards, the reference rates that are used to estimate interest income on loans between associated corporations were also adapted so as to converge on the implicit rates that emerge from comparisons between individual survey data and the international investment position.

There was also a reassessment of **income distributed by non-resident investment funds** (D.443) taking account of revised information, since 2009, in the international investment position statistics/ balance of payments.

In 2015, a joint decision by Eurostat and the European Central Bank (ECB) recommended that all Member States review **the statistical treatment for monetary income of the European System of Central Banks** (ESCB). Previously, the NAI had recorded this income for Belgium as a current transfer (D.75) from the rest of the world to the national central bank (S.121), a transfer that has no impact on gross national income (GNI). From 2015 on, this income was recorded as interest flows (D.41) between these same two sectors.

Reinvested earnings on foreign direct investment (D.43) "paid out" by Belgian corporations to their foreign shareholders are valued using data from annual accounts filed with the Central Balance Sheet Office, by setting off their financial results against the dividends that they pay; the difference is pro-rated depending on the foreign ownership in the company's capital.

In line with the ESA rules, the company's results to be considered must leave out any capital gains or losses. Before 2015, accounting items 764/9 'Other extraordinary income' and 664/8 'Other extraordinary costs' were included to calculate companies' financial results. However, it appeared that companies do register capital gains or losses under these items. A decision was therefore made not to take them into consideration when calculating net current profit.

If, upon further examination, it turned out that large transactions that were not capital gains or losses were registered, they were included in net profit. This more in-depth analytical exercise had also provided an opportunity to correct some individual errors.

An overview of the revision of net property income received from the ROW by type is given in the next table

Table 2.4 Revision of net property income received from the rest of the world in mil. €

	2010	2011	2012	2013
D4 total				
paid to ROW (a)	1.746	6.953	4.234	-3893
received from ROW (b)	5.701	6.129	6.230	5.645
net income received from (+)/paid to (-) ROW (b)-(a)	3.955	-824	1.996	9.539

2.4.3. THE 2014 MAJOR REVISION DUE TO THE TRANSITION FROM ESA1995 TO ESA2010

See https://www.nbb.be/doc/dg/e_method/m_sec2010_en.pdf for full details.

From the different transition items from ESA1995 to ESA 2010, the following items having an impact on GDP/GNI were treated:

- Capitalisation of R&D (market and non-market) (1a and 1b)
- valuation production for own final use (2)
- insurance and reinsurance (3)
- military equipment (4)
- market/non-market classification (boundary S13) (6)
- registration of VAT-contribution to EU budget (third own resource) (item (8))
- allocation of the production of the central bank (10).

Items (5), (7), (9) and (11) were not relevant in the Belgian case.

R&D (item 1)

The ESA2010 estimation of R&D is based on the satellite account for R&D which is primarily derived from the Belspo survey, in combination with annual accounts information and Balance of Payments data.

For the market side of R&D, there was an increase in production due to the activation of costs for R&D produced for own account - and a decrease in intermediate consumption, due to the reclassification of purchased R&D services from intermediate consumption to gross fixed capital formation.

On the expenditure approach, gross fixed capital formation (P51) in R&D appeared and some adjustments had to be made to import and export figures for R&D services.

For non-market producers (S13 and S15) production and value added increased by the amount of consumption of fixed capital on the R&D-stock that did not exist in ESA95. In the expenditure approach, the collective consumption (P3) and gross fixed capital formation (P51) were impacted because in ESA95 the R&D-activity appeared as collective consumption (P3) and in ESA2010 as GFCF (P51). In addition, P3 was impacted via the extra consumption of fixed capital on the R&D capital stock.

Valuation production for own final use (item 2)

Because the own account production of tangible assets is valued at cost in the annual accounts, a mark-up is estimated by combining information from the SBS (own account construction of fixed assets by type of asset) and the Central Balance Sheets Office (operating surplus percentage in industries producing investment goods). The estimated mark-up was added to the value of the production and gross fixed capital formation.

Insurance and reinsurance (item 3)

Because the estimation of production for non-life insurance changed in ESA2010, the corresponding expenditure for policyholders (households: P3) or companies (P2) was also modified. The impact on GDP was equal to the corresponding changes in household consumption expenditure. The treatment of reinsurance induced changes in P1 and P2 in S12 for the same amounts (without impact on GDP). These changes also led to changes in value added and operating surplus of the financial and non-financial corporations.

Military equipment (item 4)

In the government sector, purchases of military equipment were reclassified from P2 to P51. Consequently, the total production of this sector (as sum of cost) changed because these military purchases were capitalized and because the extra capital stock of military equipment generated extra consumption of fixed assets.

Market/non-market classification of units (boundary S13) (item 6)

Some units were reclassified from the market sector (S11 and S12) to the government sector (S13). Because the output is valued differently for market producers (proceeds of sales) and non-market producers (sum of costs), this reclassification of units had an impact on GDP. The investments (GFCF) of reclassified units were included in computation of capital stock and hence in consumption of fixed capital (CFC). This CFC was included in the sum of costs for the output of the general government. Long series of GFCF were estimated for the computation of the PIM model for those units having significant GFCF in the period 1995-2015.

Allocation of output of central bank (item 10)

In ESA2010, the market production of the central bank had to be allocated to the sectors that pay for it. After analysis of the accounts of the Belgian central bank, it was clear that the central bank generates small amounts of revenue from abroad (for instance other central banks). This export was recorded in S2 (and the BOP). The

counterpart of this was a decrease of P2 in the financial sector (the total production of the central bank did not change, only its allocation).

Registration of VAT-contribution to EU budget (third own resource) (item (8))

The only item with impact on GNI but not on GDP concerned the revised registration fees of the VAT-contribution paid to the EU. In ESA95, this payment was registered under D2 in account S2, in ESA2010 it is treated in the same way as the GNI-contribution (as a current transfer D7). This implies that GNI increased with the amount reclassified from D2 to D7.

The 2014 benchmark revision (excl. ESA2010 items)

Next to revisions due to European requests, a revision in sources and methods was implemented within the 2014 major revision.

- Production and intermediate consumption of agriculture was revised from 2002 onwards in order to better align on the economic accounts of agriculture published by Statbel. An estimate was also for the production of electricity generated by horticulture. The production and consumption for own final use (fruit and vegetables grown by households in their own gardens) was also revised due to the use of a different source (household budget survey instead of economic accounts for agriculture).
- The production, intermediate consumption and value added for hospitals was revised because the FPS Health released a new series of accounts for the hospitals for the period 1995-2006 and published accounts for the period 2007-2012. The revised production figures are of course reflected in the household consumption of hospital services (government consumption expenditure on health services did not change). Gross fixed capital formation by the hospitals was also revised because the annexes to the annual accounts are used to derive gross fixed capital formation for these units.
- Before revision the activity of unincorporated enterprises in the financial sector was estimated in an indirect way or via hypotheses. This led to improbable evolutions of value added and mixed income given the structural decline of the number of self-employed persons in this branch. A switch was made to a direct source (personal income tax information) to estimate the activity for this sector/branch.
- In 2011, the P51 series in S15 was revised from 1995 onwards. At that time the new (lower) series had not been fed into the PIM model due to time constraints. In the September 2014 version of the accounts, it was the case. We produced consistent P51, capital stock and consumption of fixed capital series (by sector, branch and type of asset). As the consumption of fixed capital has a direct impact on production and value added in S15 and S121 (production = sum of costs) this revision also has a direct impact on GDP.
- There were changes in the estimation for the production for own final use related to intangible assets. Since 2008, the SBS gave more details concerning the production on own account of tangible and intangible assets:
 - Intangible assets: R&D, software, other (concessions, patents, licenses, know-how, trademarks, and similar rights)
 - Tangible assets: construction works and other (equipment etc.)

The total production of software on own account (and the corresponding amount of investment) is estimated via information based on the labour force survey (number of IT-people working in different industries). The production on own account of fixed assets (item 72), an information that large companies must mention in their annual accounts, is increased with this amount (the underlying hypothesis being that computer software produced for own account was never activated in the annual accounts). However, the available information in the SBS contradicted this assumption: a (small) part of the total production of software on own account seemed to be activated in the annual accounts. This led to a double counting in the production for own final use. This double counting was eliminated in this revision. At the same time, we observed relatively small amounts of production on own account (activated costs) for "other" intangible assets. In the context of national accounts, however, these assets are considered as non-produced non-financial assets (AN.2) which implied that the corresponding "production" in the annual accounts (known via the SBS) had to be removed.

- Some institutional units were reclassified between S11/S12 and S13 according to ESA criteria. Because the estimate of production and value added is different for market and non-market units this reclassification had an impact on GDP.
- There were some updates in the general government accounts. These changes were mainly due to the correction of errors in backwards series: reclassification of some expenditure leasing to switches between wages (-) and intermediate consumption (+) or revenue/taxes. A downward revision of compensation of employees in S.13 had a direct negative impact on value added and GDP. This effect was mitigated by the fact that on balance the reclassification of taxes (and subsidies) had a positive impact on the net taxes on products (D21-D31).
- The management fees of resident mutual funds owned by non-residents must be recorded as an export of a financial service. The management fees of non-resident mutual funds owned by residents must be recorded

as an import of a financial service. These imports, however, were missing in the balance of payments and, consequently, the use of these imports (intermediate consumption or household final consumption) was also missing in the national accounts. This inconsistency was corrected. The service charge percentage (management fees/net assets) known for resident mutual funds is used as a proxy for non-resident funds (management fees are supposed to be equal in Belgium and abroad).

Imports are estimated by multiplying outstanding amounts abroad held by residents (known via the financial accounts) by this service charge percentage. This import is then allocated to intermediate consumption (P2) and final consumption (P3) on the basis of the sectoral structure of ownership of the funds (households or institutional investors). The management fees allocated to intermediate consumption had a negative impact on value added and GDP.

Table 2.4 Changes in methods and sources (excl. ESA2010) - impact on value added/GDP in € mil. - version Sept 2014 minus Sept 2013

	2010	2011	2012
Agriculture	394	296	83
Hospitals	217	224	438
Unincorporated financial enterprises	-288	-275	-283
Consumption of fixed capital in S15 and S121 (excl. R&D)	-149	-159	-187
Correction production software produced on own account	-315	-342	-284
Correction production non-produced non-financial assets	-162	-169	-148
Delineation market/ non-market (in ESA95)	19	31	35
Other changes in accounts S13 (incl. routine revisions)	-419	-409	-457
Management fees non-resident mutual funds	-743	-674	-535
TOTAL	-1447	-1477	-1338

2.4.4. THE 2012 AD HOC REVISION

The most important items of the 2012 revision concerned compensation of employees (D1), GFCF (P51) and consumption of fixed capital (P51C). A reclassification of certain local taxes and subsidies (with impact on D21-D31) was also implemented. In addition, there were changes to sources and methods in the account of local government (S.1313), and a revised recording for guarantee fees.

The revision in value added corresponded to the sum of the adjustment to the wage bill and to consumption of fixed capital. The data series with respect to taxes/subsidies on products received and paid by local government were also revised, such as consumption expenditure and investments by local authorities.

Because some items of the household final consumption expenditure (P3S14) are estimated using (amended) information from the government accounts, these elements also had to be adjusted.

In 2012, the registration of fees for the provision of guarantees in the government accounts was changed. After some consideration, Eurostat proposed the following rule in the 4e edition of the "Manual on Government Deficit and Debt" (March 2012): "Any fees that government receives in its role as guarantor are classified as service fees (P.131 payments for non-market output). They should be spread over the life of the guarantee (accruing principle). However, in situations where the amount of fees paid should be considered as highly out of proportion with the cost of operating the guarantee scheme, the difference between fees and the estimated cost could be recorded as a current transfer (D.75).

In Belgium, these schemes had very low operating costs (less than five employees) and the amount of fees paid were therefore highly out of proportion with the cost of operating these guarantee schemes. The NAI decided to record the two above-mentioned fees as revenue from miscellaneous current transfers from 2008 onwards, the year in which they were applied for the first time. Consequently, the value added of S.12 increased by the amount of the paid-up fees removed from intermediate consumption and reclassified as current transfers. However, it is worth noting that only a portion of the fees paid by resident financial institutions was recorded in their intermediate consumption, as part of the fees was paid by foreign subsidiaries (as in the DEXIA S.A. group's case).

General government consumption expenditure increased by the sum of the fees received that henceforth were recorded as transfers²⁶.

Next to the reclassification of certain local taxes and subsidies, the recording of eco premiums on cars as subsidies on products instead of current transfers had also an impact on GDP. On the expenditure side, household consumption expenditure (purchase of cars) was revised downwards by the amount of these eco premiums because up to 2012 this element had not been taken into account when estimating the purchase price of cars.

These methodological changes covered the period 2003-2011. They explain the whole revision of GDP. Changes that appeared for the years 2003-2007 were not included in the GNI-questionnaire of September 2012 because these were "closed" years, and the revisions were not initiated by reservations formulated on Belgium GNI by Eurostat.

2.4.5. THE 2011 MAJOR REVISION

The 2011 revision was mainly driven by the implementation of the NACE rev2 classification and by improvements in the repertory of units leading to refining the estimation for the production approach to GDP.

The implementation of the new NACE classification (NACE rev2) was an opportunity to test the quality of activity codes in the business register and to correct them if necessary. This was the case for more than 7.000 units. A lot of reclassifications took place between agriculture and other industries (trade in agricultural products, food processing industry etc.). On balance there was a net outflow of enterprises from agriculture to other industries in the business register.

The other NACE corrections (which give rise to shifts between other industries) were back casted in order to avoid breaks in series by industry. These reclassifications had no impact on total value added. Manufacturing and construction gained weight and administrative and support activities, trade and financial activities lost weight.

In some cases, the sector code was also corrected:

- some units were reclassified from financial auxiliaries (S124) to non-financial companies (S11);
- international schools were reclassified from non-market producers (S15) to market producers (S11).

The following changes were introduced in the repertory of units:

- Non-Profit Institutions (NPI's) with annual accounts but without VAT-declarations or social security declarations were introduced in the repertory.
- "Fiscal representative" (cat RF) was reclassified to Belgian branches of foreign companies (cat A2/B3) if these units had a normal economic profile (employer and/or prodcom survey)
- A specific repertory category (BL) was allocated to subcomponents of VAT-units without annual accounts²⁷
 - new categories were created to enable the use of the annual business accounts for NPI's²⁸. Four new subpopulations for NPI's (cat H1 to H4) were created to allow the treatment of their annual accounts (or information on wages) in an automatic and systematic way. For the very large NPI's (cat H1), all the relevant information needed to estimate value added is available. The information that is lacking for the large NPI's depositing abridged accounting schemes (cat H2 and H3) is derived from the known

²⁶ General government output is specified as the sum of the costs incurred. The latter do not change so P.1 (and B.1g) remain unchanged. Since P.131 (payments for other non-market output) diminishes by the amount of the reclassified fees, P.132 increases to the same extent. The counterpart of this on the expenditure side in the government account is general government consumption expenditure (P3S13).

²⁷ For enterprises that constitute a VAT-unit, a vat declaration is available only for the unit and no longer for the individual members. If these members deposit annual business accounts, the information needed to estimate value added still exists. If annual accounts are lacking for members of VAT-units, VAT-information (on turnover, purchases and value added) for the member is no longer available and value added must be estimated otherwise. In these cases, value added for the years 2007 and 2008 was estimated via extrapolated turnover, an "ad hoc method" which was no longer appropriate from 2009 onwards. The standard source for estimating value added for members of VAT-units without annual accounts (cat BL) are wages from 2009 on.

²⁸ Since accounting year 2006 NPI's (above defined levels of employment, turnover or balance sheet total) are obliged to deposit annual accounts. The quality of these accounts has gradually improved over the years and from the year 2009 onwards, they were systematically used to estimate value added for these units.

information from large ones. The value added of small and medium sized NPI's for which annual accounts are lacking (cat H4) is derived via the structure of the accounts of large NPI's (cat H2+H3) using wages as extrapolation factor.

- Two new subpopulations/categories were created in the business register of 2009 in order to isolate enterprises with a structural business survey but without annual accounts:
 - E1: large companies with usable SBS for which annual accounts are lacking (or are not usable)
 - E2: SMS companies with usable SBS for which annual accounts are lacking (or are not usable).

To sum up, from 2009 onwards, the following sub-populations (categories) appeared in the repertory:

- A1: large companies with a usable full accounting scheme (= existing)
- E1: large companies without usable annual accounts but with usable SBS (= new)
- A2: large companies without usable annual accounts or SBS (= existing but adjusted in content)
- B1: SMS companies with a usable abbreviated accounting scheme with turnover and purchases mentioned and gross margin > 0 (= existing)
- B2: SMS companies with a usable abbreviated accounting scheme without turnover and purchases mentioned and gross margin > 0 (= existing)
- C1: SMS companies with a usable abbreviated accounting scheme with turnover and purchases mentioned and gross margin < 0 (= existing)
- C2: SMS companies with a usable abbreviated accounting scheme without turnover and purchases mentioned and gross margin < 0 (= existing)
- E2: SMS companies with usable SBS but without usable annual accounts (new)
- B3: SMS enterprise without usable annual accounts or SBS (= existing but adjusted in content)
- BL: member of a VAT-unit without annual account or SBS (= new)
- H1: very large NPI's with a usable full accounting scheme (new)
- H2: large NPI's with a usable abbreviated accounting scheme and operating income and purchases mentioned (new)
- H3: large NPI's with a usable abbreviated accounting scheme and operating income and purchases not mentioned (new)
- H4: small NPI's not depositing annual accounts (new)
- RF: fiscal representatives without wages/employment (= existing but adjusted in content)

In the old repertories (2008 and earlier) E1 was part of A2, E2 was part of B3, BL was part of A2 or B3, and NPI's were grouped together in H and B3. This extra segmentation allowed better, direct and automatic estimates of value added for the new subpopulations. The use of these new categories introduced some further improvements in the estimate of added value.

Next to the improvements introduced in the repertory of units and in the estimation of aggregates for the new categories, some other methodological changes were added:

- In forestry and fishing, specific sources (and assumptions) were replaced by standard sources and methods (annual accounts and VAT-declarations) to estimate value added. This new approach was followed from the year 2009 on and only the year 2008 was revised in order to avoid a break in the series. Preceding years (1995-2007) were not recalculated because the impact of the revision on value added was limited (- € 40 million in 2008).
- The estimation method for production for landscape service activities²⁹ was changed from an indirect method, based on the expenditure on this type of service from households (source: household budget survey) to a direct estimate of value added in landscape service activities via annual business accounts and VAT declarations.
- Self-employed company administrator's fees are treated as intermediate consumption for the companies that pay them and as production for the administrators that receive them. With the 2011 benchmark revision, an estimate was also made for companies that do not deposit their annual accounts.

As can be seen in the next table the most important item of the 2011 revision (change in sources and methods for landscape service activities) was back casted in order to avoid a break in the series of value added in nace rev2 81 (services to buildings and landscape activities).

The other elements - which on balance had a much lower impact on value added/GDP and potentially influenced all industries in the economy for small amounts – were introduced from the year 2009 on and were not be back casted.

²⁹ This activity was included in agriculture in the old nace (0141: support activities to agriculture) and was transferred to a separate service industry in the nace (813: landscape service activities).

Table 2.5 Revisions to the production approach (version sept 2011 minus sept 2010) in € mil.

	2002	2003	2004	2005	2006	2007
GDP September 2010	268.256	275.716	290.825	302.845	318.150	335.085
GDP September 2011	268.620	276.157	291.292	303.357	318.697	335.610
Revision GDP	364	440	467	512	547	526
revision value added nace 0141	478	522	553	609	678	773
other	-114	-81	-86	-97	-132	-248
<i>of which S12</i>	0	0	0	0	-58	-242

Concomitant to the revision of the production approach the expenditure approach was also revised. The change in the production for landscape service activities led to changes in the consumption of these services. From the VAT supplier file, we knew that more than 60 % of the total turnover of these enterprises was sold to other enterprises (P2). We assumed that 15 % was sold to S13-units - these units are VAT-exempt and are absent in the vat-file - and the rest to households. Taking these elements into account it was possible to make an estimate of the final expenditure of households on these services - final household expenditure (current maintenance of gardens) and investment in dwellings (construction of gardens, drives etc.) - that was consistent with the adjusted production figures.

Table 2.6. Revisions to the expenditure approach (version sept 2011 minus sept 2010) in € mil.

	2002	2003	2004	2005	2006	2007
Final consumption expenditure government (P3S13)	0	0	0	0	0	25
Final consumption expenditure households (P3S14)	137	167	212	255	260	209
final consumption expenditure NPI's (P3S15)	-57	-60	-66	-72	-78	-86
Gross fixed capital formation (P51)	248	259	246	-42	467	209
<i>government (P51S13)</i>	0	0	-41	-340	136	-134
<i>households/dwellings (P51S14)</i>	248	259	287	298	332	343
Changes in inventories (P52)	36	74	75	370	-102	169
Export goods (P61)	-428	-1019	-1891	-4110	-4395	-2233
Import goods (P71)	-428	-1019	-1891	-4110	-4395	-2233
gdp	364	440	467	512	547	526

The upward revision of the final expenditure of households (consumption and gross fixed capital formation) was the result of the revised production figures in landscape service activities. P3S15 was revised downwards because international schools were reclassified as market producers and a unit that was double counted was eliminated. Gross fixed capital formation in local government was revised and counter booked in changes in inventories. The import and export of goods went down by the same amount in order to eliminate the transit of gas.

Finally, there was a revision in transactions recorded in account S212 (institutions of the E.U). Eurostat publishes BoP data concerning transactions (D1, D5, D61, D62, D75) of EU Institutions with the different Member states. These transactions were revised from 2008 on. Back data were back casted till 1995 in order to have consistent series. These revisions have no impact on GDP but have an impact on GNI and disposable income.

2.4.6. THE 2009 MAJOR REVISION

The 2009 benchmark revision was back casted till 1995. The most important impact (in term of level shifts) occurred in the expenditure side of the accounts. The purpose of this revision was to solve some outstanding issues before the implementation of ESA2010 and to deal with the issues that were identified during the Eurostat audit of 2008.

In the production approach to GDP,

- value added in the non-market sectors (S.13 and S.15) was updated because consumption of fixed capital was revised due to the introduction of adjusted P.51 series into the PIM-model

- an indirect estimation method for the market NPI's in NACE 748530 was replaced by a direct estimate using annual accounts. The years before 2006 were back casted via VAT information
- wages in kind related to the use of leasing cars were revised upwards. This implied a reclassification of purchases of services (P.2-) to wages (D.1+) and a consequent rise in value added
- specific corrections were carried out in NACE 91 in order to remove (small) errors
- value added in S.14 was revised because wages paid in domestic services (NACE 95) were revised downwards over the whole period. Moreover, some punctual corrections were introduced in reference years 1995, 2000 and 2003
- net taxes on products (D.21-D.31) were lowered in line with the downward revision of imports (in national concept) from outside the EU. This implies that a larger part of the customs duties paid in Belgium originated from non-residents. These customs duties could not be attributed to expenditure in Belgium.

In the income approach of GDP, the revisions were due to updates in wages (cf supra), revisions in customs duties paid by non-residents and the reclassification of subsidies paid to inter-municipal companies active in the treatment of waste into intermediate consumption.

In the expenditure approach, all expenditure components were revised:

- the final expenditure of government was revised due to the introduction of adjusted data for the consumption of fixed capital on government owned assets (same effect in the production approach)
- the final expenditure of households was revised due to the use of new sources and methods
- the final expenditure of non-profit institutions was revised due to an upward revision of gross fixed capital formation which induced higher amounts of consumption of fixed capital
- The gross fixed capital formation (GFCF) was revised for the next reasons:
 - GFCF for hospitals was revised upwards using annual accounts information from the FPS Health
 - GFCF for NPI's (sectorised in S11 and S15) was revised upwards due to the combined use of SBS information and business accounts (available since reference year 2006). Before the revision, the estimate for NPI's largely relied on VAT-information but a lot of activities for NPI's were VAT exempt
 - GFCF in dwellings was re-benchmarked (upward revision)
 - the estimate for sales of existing fixed assets was revised: a fixed percentage was replaced by a genuine estimate based on annual business accounts information and SBS information
 - a double counting in GFCF for dwellings in the real estate industry was corrected.
- changes in stocks were revised in order to bring them more in line with source information available in the annual business accounts
- exports and imports of goods were revised. A limited number of individual declarations with very large import and/or export flows were analysed and confronted with other information used in the compilation of the national accounts (annual business accounts, annual reports, SBS, VAT-declarations, industrial production survey). This 'micro-integration' of foreign trade statistics data led to corrections of import and export in national concept. Moreover, the methodology used to derive figures in national concept for the so-called fiscal representatives (F.R.) (of foreign companies) was changed.

The net primary income received from the rest of the world was revised upwards because, over the whole period, compensation of employees received from ROW was revised upwards and taxes paid to the ROW were lower than before revision.

³⁰ In particular, the 'social secretariats' which are institutions that deal with payroll administration and legally must operate as NPI's. From 2006 onwards, we disposed of annual accounts for these (large) entities (total wage bill paid by these units in 2007 is € 290 million).

Table 2.7 GDP and GNI before and after revision 2009 (in € mil.)

sept-08	1999	2000	2001	2002	2003	2004	2005	2006	2007
GDP	238.248	251.741	258.883	267.652	274.726	289.629	302.112	318.223	334.917
D.1_D.4	4.664	5.694	3.922	3.384	3.804	2.616	1.421	2.094	1.827
GNI	242.912	257.435	262.806	271.036	278.530	292.244	303.533	320.318	336.744
sept-09	1999	2000	2001	2002	2003	2004	2005	2006	2007
GDP	238.569	252.216	259.433	268.256	275.716	290.825	302.845	318.193	334.948
D.1_D.4	4.642	5.774	4.164	3.608	4.253	3.155	1.970	2.778	3.205
GNI	243.211	257.990	263.597	271.864	279.969	293.980	304.816	320.971	338.153
Sep/09 min Sep/08	1999	2000	2001	2002	2003	2004	2005	2006	2007
GDP	320	475	550	604	990	1.196	733	-30	31
D.1_D.4	-21	80	242	225	449	540	549	684	1.387
GNI	299	555	792	828	1439	1.736	1.283	653	1.409
in %									
GDP	0,13 %	0,19 %	0,21 %	0,23 %	0,36 %	0,41 %	0,24 %	-0,01 %	0,01 %
GNI	0,12 %	0,22 %	0,30 %	0,31 %	0,52 %	0,59 %	0,42 %	0,20 %	0,42 %

CHAPTER 3

The production approach

3.0. GDP ACCORDING TO THE PRODUCTION APPROACH

The following tables show GDP by NACE section and the distribution of production (P.1), intermediate consumption (P.2) and gross value added (B1.g) by industry (A*21) and by institutional sector.

Table 3.0.1: Breakdown of P.1, P.2 and B1.g by industry and GDP

2016 (in € million)			
Nace section	P1	P2	B1g
A	9 751	7 048	2 703
B	656	417	240
C	214 096	160 950	53 145
D	12 895	6 686	6 209
E	10 383	6 700	3 683
F	69 692	50 013	19 678
G	93 592	46 367	47 225
H	55 860	34 395	21 466
I	17 197	10 050	7 147
J	34 692	18 826	15 866
K	48 999	24 602	24 397
L	47 580	13 032	34 548
<i>of which imputed rents of owner-occupied dwellings</i>	<i>24 749</i>	<i>5 188</i>	<i>19 561</i>
M	78 956	41 057	37 899
N	35 619	16 572	19 047
O	39 190	10 040	29 151
P	31 062	4 469	26 593
Q	48 227	21 082	27 145
R	6 181	3 565	2 616
S	10 538	5 720	4 818
T	457	0	457
Grand Total	865 621	481 588	384 033
Taxes on products			50 136
Subsidies on products			4 083
Gross domestic product			430 085

Table 3.0.2: Breakdown of P.1 by industry and by institutional sector

2016 (in € million)						
P.1	S11	S12	S13	S14	S15	Grand Total
A	5 540			4 211		9 751
B	651			5		656
C	212 574			1 521		214 096
D	12 215			680		12 895
E	8 838		1 504	42		10 383
F	63 305			6 387		69 692
G	90 065			3 527		93 592
H	45 683		9 700	478		55 860
I	13 860			3 337		17 197
J	33 441		880	372		34 692
K		48 859		140		48 999
L	12 187			35 392		47 580
M	57 498	1 277		20 181		78 956
N	34 025			1 594		35 619
O			39 190			39 190
P	1 634		28 922	123	383	31 062
Q	43 081			2 824	2 322	48 227
R	5 212			537	431	6 181
S	6 547			2 089	1 903	10 538
T	0			457		457
Grand Total	646 355	50 135	80 196	83 897	5 038	865 621

Table 3.0.3: Breakdown of P.2 by industry and by institutional sector

2016 (in € million)						
P.2	S11	S12	S13	S14	S15	Grand Total
A	4 291			2 758		7 048
B	410			6		417
C	160 018			932		160 950
D	6 555			131		6 686
E	5 858		812	31		6 700
F	46 216			3 797		50 013
G	45 453			914		46 367
H	31 099		3 025	270		34 395
I	8 246			1 804		10 050
J	18 245		419	162		18 826
K		24 542		60		24 602
L	5 730			7 301		13 032
M	37 676	710		2 671		41 057
N	15 719			854		16 572
O			10 040			10 040
P	1 057		3 222	53	137	4 469
Q	19 494			1 012	576	21 082
R	3 168			226	172	3 565
S	4 222			716	781	5 720
T	0			0		0
Grand Total	413 456	25 252	17 517	23 697	1 666	481 588

Table 3.0.4: Breakdown of B1.g by industry and by institutional sector

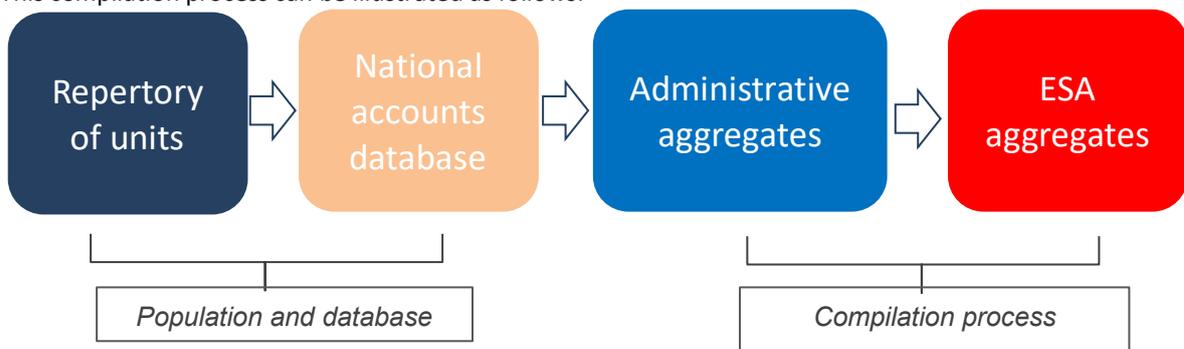
2016 (in € million)						
B1.g	S11	S12	S13	S14	S15	Grand Total
A	1 249			1 454		2 703
B	241			-1		240
C	52 556			590		53 145
D	5 661			549		6 209
E	2 980		692	11		3 683
F	17 089			2 590		19 678
G	44 612			2 614		47 225
H	14 583		6 675	208		21 466
I	5 614			1 533		7 147
J	15 196		461	210		15 866
K		24 316		81		24 397
L	6 457			28 091		34 548
M	19 822	567		17 510		37 899
N	18 306			741		19 047
O			29 151			29 151
P	577		25 701	70	245	26 593
Q	23 587			1 812	1 746	27 145
R	2 045			311	260	2 616
S	2 324			1 372	1 122	4 818
T	0			457		457
Grand Total	232 899	24 883	62 679	60 200	3 373	384 033

3.1. THE REFERENCE FRAMEWORK

3.1.1. OVERVIEW OF THE ORGANISATION OF THE SYSTEM

The NBB Statistics department (National accounts section) is responsible for the whole compilation process of the production approach.

This compilation process can be illustrated as follows:



Step 1: compilation of the annual repertory of production units

Step 2: multiple useful data associated to each unit

Step 3: compilation process in two phases

- First phase: calculation of aggregated “administrative” data
- Second phase: from aggregated administrative data to ESA concepts

3.1.2. MAIN METHODOLOGIES USED FOR OUTPUT AND INTERMEDIATE CONSUMPTION

Estimates of output and intermediate consumption are largely based on administrative data sources. Survey and census are marginally used. Modelling is mainly used for the estimate of specific ESA concepts, like dwellings, FISIM or PIM.

For most of industries, the main data source is the annual business accounting. Other very important data sources are VAT declaration and Social security data. From these administrative data, a centralized IT process was developed, allowing aggregation of individual data and adjustments, in order to obtain ESA 2010 concepts.

Specific methodologies were developed outside the central IT framework for financial activities (bank and insurance), for general government, for dwellings, etc. See section 3.7 for details.

Since the estimate of production in the general government sector is estimated via a sum of cost approach and is based on specific source material, the S.13 aggregates (e.g., value added) are calculated in a different way compared to those for market producers.

3.1.3. BUSINESS REGISTER AND REPERTORY

The estimate of GDP via the output side is largely based on the *business register* compiled by Statbel. This database includes all economic agents that are active in Belgium. The basic information for creating this register is provided by public administrations (National Register, BCE/KBO³¹, VAT-administration, National Social Security Office (NSSO), which manage partial files of units for their own purposes (respectively VAT-registered enterprises, enterprises with employees, and corporate bodies). By linking the identifiers present in these source files, Statbel creates the business register.

Based on this register, an annual '*repertory*' is compiled which contains identification numbers and relevant characteristics for all units (corporations, unincorporated enterprises, public bodies, NPIs³²). The coverage of this repertory is considered as exhaustive, except for illegal activities. There is no cut-off threshold for small units. In the adjustment for exhaustiveness, categories N4 and N5 are empty because all active units (incorporated or not) are included in the repertory/business register. This repertory of units is updated every year. More information on the different adjustment for exhaustiveness can be found in section 7.1.1.

The combination of the following characteristics enables ESA 2010 variables to be calculated in a detailed way, and the most appropriate basic source to be selected:

- NACE 5 digit³³ code (determines which industry the unit belongs to)
- category (determines which source³⁴ is used to estimate the activity of the unit)
- institutional sector code (determines which institutional sector the unit belongs to)³⁵
- district code (this information is important for the regional split-up of value added, compensation of employees, employment, and gross fixed capital formation).

3.1.3.1. Sectoral breakdown of the repertory

The allocation of a sector code to the units included in the repertory is largely carried out via an automated procedure. By combining the NACE code and the structure of the identification number, it is possible, for a large

³¹ BCE: "Banque carrefour des entreprises » - KBO: "Kruispuntbank van ondernemingen".

³² The legal notion of *non-profit association (NPA)* is not relevant for the sector classification of ESA 2010, based on economic criteria.

³³ This is a Belgian version which is compatible to the NACE Rev.2 classification. The most detailed level of NACE Rev.2 is the 4 digits level.

³⁴ cf.1.3.3.1.

³⁵ ESA 2010 provides the institutional sectors: non-financial corporations (S.11), financial corporations (S.12), general government (S.13), households (S.14) and non-profit institutions (NPIs) serving households (S.15). The units belonging to S.12 and S.13 are further sub-sectorised in the repertory (S.121, S.122, S.123, S.124, S.125, S.126, S.127, S.128, S.129 resp. S.1311, S.1312, S.1313, S.1314)

part of the units not belonging to the general government, to define the sector code. A few units are still classified manually. The sector classification criteria for units in the repertory are as follows:

- all incorporated units (legal persons), other than non-profit associations and units in NACE 64, 65 and 66, are classified into sector S.11
- all unincorporated units (physical persons) are classified to sector S.14. Some of them are active in financial activities (NACE 661 or 662); co-owners associations are also recorded in S.14
- all incorporated units belonging to NACE 64, 65 and 66 are classified in sector S.12. There is a direct link between NACE 4 digit in these activities and the corresponding subsectors of S.12:

Sector	SUT branches	Description
S121	64A	Central Bank
S122	64A	Deposit-taking corporations
S123	64A	Money market funds
S124	64C	Non-MMF investment funds
S125	64D	Other financial intermediaries, except S.128 and S.129
S126	66A, B, C and 70A	Financial auxiliaries
S127	64B	Captive financial institutions
S128	65A	Insurance corporations
S129	65A	Pension funds

NACE	Description	S121	S122	S123	S124	S125	S126	S127	S128	S129
64.11	Central Banking	X								
64.19	Other monetary intermediation		X	X						
64.20	Holding companies							X		
64.30	Trusts, funds, and similar financial entities				X					
64.91	Financial leasing					X				
64.92	Other credit granting					X				
64.99	Other financial service activities					X				
65.11	Life insurance								X	
65.12	Non-life insurance								X	
65.20	Reinsurance								X	
65.30	Pension funding									X
66.11	Administration of financial markets						X			
66.12	Security and commodity contracts brokerage						X			
66.19	Other activities auxiliary to financial services						X			
66.21	Risk and damage evaluation						X			
66.22	Activities of insurance agents and brokers						X			
66.29	Other activities auxiliary to insurance and pension funding						X			
66.30	Fund management activities						X			
70.10	Head offices (*)						X			

(*) Whose subsidiaries are financial corporations.

- the only unit in NACE 6411 (the National Bank of Belgium) is classified into sector 121
- units in NACE 6419 are classified into sector S.122. Lists compiled by the supervisory body for credit institutions are used to verify the accuracy and exhaustiveness of the content of this sector
- legal units in NACE 64.20 (holding companies)³⁶ are classified into sector S.127
- legal units in NACE 64.30 are classified into sector S.123 (money market funds) or into sector S.124 (non- money market investment funds) according to their characteristics
- legal units in NACE 64.9 are classified into sector S.125, NACE 65.1 and 65.2 into sector S.128, NACE 65.3 into sector S.129, and NACE 66 into S.126. Lists compiled by the supervisory body for insurance companies and pension funds are used to verify the accuracy and exhaustiveness of these subsector.
- A few legal units in NACE 70A (head offices whose subsidiaries are financial corporations; see ESA 2010 §2.65e) are also considered as financial and are classified in S.126. All other legal units in NACE 70A remain in S.11.

3.1.3.2. General government

The units classified into sector S.13 are defined exhaustively based on a list compiled by the National Accounts Institute.

The general government sector (S.13) consists of institutional units which are non-market producers whose output is intended for individual and collective consumption and are financed by compulsory payments made by units belonging to other sectors, and institutional units principally engaged in the redistribution of national income and wealth (ESA 2010, §2.111).

The institutional units classified in sector S.13 are:

- general government units which exist through a legal process to have legal authority over all other units on the economic territory. They manage and finance a group of activities, principally providing non-market goods and services intended for the benefit of the community
- corporations or quasi-corporations if their output is mainly non-market and a government unit controls them
- non-profit institutions recognised as independent legal entities which are non-market producers, and which are controlled by general government
- autonomous pension funds, where there is a legal obligation to contribute, and where general government manages the funds with respect to the settlement and approval of contributions and benefits.

This definition requires more explanations to facilitate comprehension of the rationale underlying the classification of institutional units in the general government sector. To categorise a unit in this sector, the following questions need affirmative answers:

- Is the unit in question an institutional unit³⁷?
- Is it a public-sector unit³⁸?
- Is it a non-market producer³⁹?

³⁶ Excluding the head offices, which are classified in NACE 70.1 and belong to S.11 or S.12, depending on the nature of their subsidiaries (non-financial or financial corporations).

³⁷ A unit is deemed to be an institutional unit if it has decision-making autonomy with respect to its main functions and keeps full accounting records or can compile adequate records if required from an economic and legal perspective. If the unit is not an institutional unit, it must be included with the institutional unit it depends on.

³⁸ An enterprise is deemed to be a public enterprise according to ESA 2010 if it is publicly controlled, i.e., if it is controlled directly or indirectly by general government. Control over an entity is defined as the ability to determine the general policy or programme of that entity. General government secures control over a corporation if it owns more than half of its voting shares or otherwise controls more than half of the shareholder votes. Control can also be secured because of special legislation, decree or regulation which empowers the government to determine corporate policy or appoint its managers. ESA 2010 has a list of indicators to determine if an enterprise is publicly controlled. The same applies, *mutatis mutandis*, to non-profit institutions (NPIs). With the difference however that for NPIs, public intervention in the form of general regulations applicable to all units working in the same activity is irrelevant when deciding whether the government holds control over an individual unit and if a NPI remains able to determine its policy or programme to a significant extent, the degree of financing by government has no impact on its classification (ESA 2010, §20.15).

³⁹ To allocate a sector code to a unit in ESA 2010, it is therefore essential to have that unit's annual accounts (or other accounting records) for several successive years. In the case of newly created units which have not yet been able to publish annual accounts, it was decided that a provisional sector code should be attributed based on other available

For non-financial units, a non-market producer is a unit that does not pass either the qualitative criterion or the quantitative criterion of the market test. The qualitative criterion relates to who is the buyer of the production. If the unit sells more than half of its production to government without any competition (e.g., public tendering), the unit is considered as non-market. The quantitative criterion is also called the "50% criterion". It is the ratio between sales and production cost. The terms "sales" and "production costs" are used within the meaning of ESA 2010, not in their ordinary legal or administrative sense. For financial units, in particular financial intermediaries, the risk exposure determines if a unit is a financial corporation (classified outside government) or a government unit. For institutional units providing financial services, where most of either their assets or their liabilities are not traded on open market, namely captive financial institutions, the degree of independence⁴⁰ determines whether such a unit should be classified inside or outside the government sector.

In Belgium, the list of public units (including both units in and outside of the government sector) is updated twice a year by the National Accounts Institute (NAI).

Efforts have been made to detect public units in a systematic way in the aim of arriving at an exhaustive list, as described below.

Three sources of information are used simultaneously to detect public units in a systematic manner. A first source is their legal form. All institutional units active in Belgium must be recorded in the Crossroads Bank for Enterprises (CBE)⁴¹ and their legal form is one piece of the information that it contains⁴². We use this database to automatically detect the units that have a legal form which has been flagged as public⁴³. A manual check is then made to make sure that the units detected are well public.

A second source is the National Social Security Office for Provincial and Local Government (ONSSAPL)⁴⁴. The ONSSAPL is the body in charge of the social security services of local government units, including provinces, municipalities, public welfare centres, some *intercommunales*, local police zones and some units under local government control. All units affiliated to this body are therefore automatically flagged as public.

A third means of identifying government units is the shareholding links. This information is obtained from four different sources: (i) annual business accounts of individual companies, (ii) consolidated annual accounts of groups, (iii) NBB's Foreign Direct Investments (FDI) survey and (iv) the reporting on participations of public units.

- (i) In Belgium, most companies are required to file their annual accounts every year under a standardized format at the Central Balance Sheet Office of the National Bank of Belgium. In their annual accounts, companies must report all their participations of at least 10%.
- (ii) Groups of companies satisfying certain conditions⁴⁵ are required to file their consolidated annual accounts at the Central Balance Sheet Office. Those accounts contain the list of the subsidiaries which are consolidated and their percentage of ownership.
- (iii) Information is also collected from the NBB's survey on FDI. This monthly⁴⁶ survey conducted on a selection of resident companies active in FDI request information, amongst others, on the group structure of companies.

information (e.g., articles of association and/or budget forecasts) subject to subsequent examination of the first annual accounts of the unit in question. When these become available, the 50% criterion is applied and the unit is given a sector code retroactively, i.e., after the date of its creation.

⁴⁰ The degree of independence from its parent may be demonstrated by exercising some substantive control over its assets and liabilities to the extent of carrying the risks and reaping the rewards associated with the assets and liabilities. Such units are classified in the financial corporation sector (ESA 2010, §2.22).

⁴¹ The CBE was created by the law of 16 January 2003 (« loi portant création d'une Banque-Carrefour des Entreprises, modernisation du registre de commerce, création de guichets-entreprises agréés et portant diverses dispositions »).

⁴² The CBE can be consulted at <http://kbopub.economie.fgov.be/kbopub/zoeknummerform.html?lang=en>.

⁴³ Examples of public legal forms are Ministry, Federal Public Service, Regional Authority, Local Police, State, Public Limited Company, Public Association, Public Welfare Centre, Municipality, *Intercommunale*, etc.

⁴⁴ On 1 January 2015, the ONSSAPL merged with the Social Security Office for Overseas (OSSOM) and the new entity was renamed the Office for Special Social Security Systems (ORPSS).

⁴⁵ The obligation to draw up and file consolidated annual accounts and a consolidated annual report is governed by Articles 108 to 121 of the Companies Code, Articles 106 to 169 of the Royal Decree of 30 January 2001 implementing that Code and Article 11, § 1 of the law of 17 July 1975 on corporate accounting. These provisions constitute the transposition into Belgian law of the 7th Directive of the Council of the European Communities of 13 June 1983 (RL 83/349/EEG)

⁴⁶ For some companies less active in FDI, the survey is conducted yearly.

- (iv) Finally, shareholding links of public units are also identified by means of a dedicated reporting called Reporting Participations. This survey, which is sent every year to the SPOCs⁴⁷ of each government, asks for the participations of all public units identified that do not file annual accounts and for the public mandates of all government units identified. This reporting is of great importance as many government units do not file standardized annual accounts at the Central Balance Sheet Office. So, for these units, this is the only way to detect shareholding links. However, although this questionnaire is sent every year to each Belgian government, if a unit answers it satisfactorily, it will only be questioned every three years.

These four sources of information are introduced into a specific algorithm designed to detect the group structures of companies based on participations. For example, if a unit A is owned 30 % by a municipality, 30 % by regional government and 40 % by a public unit, the algorithm will detect that A is public⁴⁸. This unit A is then added to the list of S.13 public units mentioned above. Its sector classification is assessed as described below and its affiliates are identified through the shareholding links as described above. This is thus an iterative process designed to identify in a systematic way all units of which the public sector is directly or indirectly the majority shareholder.

The sources described above are also used to detect new public units (newly created public units or non-public units that become public). In addition, the SPOC of the controlling entity (or other contacts) may inform directly when a new unit has been created or is to be created, either just for information or to ask for its sector classification. Although unsystematic, this is a supplementary way of detecting public units.

3.1.3.3. Non-profit institutions

Non-profit institutions (NPIs) are defined according to the ESA 2010 as entities “whose status does not permit them to be a source of income, profit or other financial gains for the units that establish, control or finance them” (§3.31 ESA2010). In practice, these entities are identified in the repertory and company database based on of their legal status, annual accounts model and nature of activity. Units that fulfil at least one of the following criteria are considered as NPIs:

- All units having filed annual accounts in accordance with the model designed for non-profit institutions during the reference year or in the past (except if they filed another model of annual accounts since then)
- All units outside of the household sector with one of the legal status shown in the table below⁴⁹.

017	Association sans but lucratif
018	Fondation d'utilité publique
020	Union professionnelle
022	Organisation scientifique international de droit belge
023	Association étrangère privée avec un établissement, agence, bureau, succursale en Belgique
026	Fondation privée
028	Institution sans but lucratif
029	Fondation publique
117	Association sans but lucrative de droit privé
125	Association internationale sans but lucratif
128	Temporel des cultes et établissement culturel public
325	Association internationale sans but lucratif de droit public

⁴⁷ The SPOCs are the single points of contact that have been designated by the Federal government and the 8 regional governments (Brussels, Flanders, Walloon Region, French Community, German-speaking Community, VGC, COCOM and COCOF) on the request of the NAI in order to facilitate the flow of information between the NAI and the public entities.

⁴⁸ The algorithm was originally designed to detect the group structure of companies, so its task was to identify the ultimate mother company (head of group) and detect all its subsidiaries. In the case of public control, the process is slightly different since a unit can be considered public because of the joint control of several public units with no other links between them than their public nature (i.e., there might be no unique ultimate mother company).

⁴⁹ The present list of legal forms associated with NPIs should not be considered as a closed one. Additional forms could be added to this list to reflect the evolution of economy.

- All units that were NPI the year before the reference year, and that have one of the legal status shown in the table below, or exceptionally a new unit that has one of the legal status shown in the table below.

721	Société ou association sans personnalité juridique
051	Autre forme de droit privé avec personnalité juridique
151	Autre forme juridique
790	Divers sans personnalité juridique
999	Forme juridique inconnue
Blank	Pas de forme juridique
030/230/235	Entreprise étrangère
065	Groupement européen d'intérêt économique avec un siège en Belgique
060	Groupement d'intérêt économique avec un siège en Belgique
124	Etablissement public
419	Régie provinciale autonome
451	Organismes immatriculés pour l'O.N.P.
420	Associations de CPAS

Moreover, three types of entities are excluded from the scope of NPIs:

- Units classified in the household sector,
- Pension funds (NACEBEL 65300),
- Units whose VAT number is associated with several other entities.

Once their population has been delineated, NPIs are grouped into four different classes (H1 to H4) for the needs of the National Accounts estimation procedures. These classes reflect the level of information available about the entity over a given year. The first group H1 consists of entities which have filed a full presentation of the annual business accounts.

H2 units are entities that have filed the abbreviated presentation of the annual accounts and answered the optional fields⁵⁰. NPIs classified in the H3 group have filed the abbreviated model of the annual accounts but left empty the optional fields. At last, units in the H4 group are entities for which no annual account is available over the given period.

NPIs classified in the H4 group are by far, the more numerous. Indeed, only large and very large NPIs are required to file annual business accounts in Belgium, meaning that 80 % of NPIs are exempt from filing annual accounts⁵¹. The only information available for H4 entities are thus wages declared at the National Social Security Office (NSSO) and VAT filings (although many NPIs are exempt from paying VAT, as well). As explained below, the scarcity of information available for H4 NPIs has influenced the choice of estimation techniques and sectorisation process.

Table 3.1.1: Number of NPIs in 2016 by category and institutional sector (source: repertory of ref. year 2016)

NPI Categories	Non-financial corporations	Financial corporations	General government	NPISH	TOTAL
H1	957	3	304	220	1 484
H2	1 451	7	184	855	2 497
H3	1 892	20	226	1 052	3 190
H4	16 554	15	1 278	7 041	24 888
TOTAL	20 854	45	1 992	9 168	32 059

⁵⁰ The optional fields in question are both "Ventes et prestations" (heading 70/74) and "Approvisionnements, marchandises, services et biens divers" (heading 60/61).

⁵¹ Associations or foundations that meet or exceed at least two of the following criteria at the end of the bookkeeping year are deemed as a large NPI and required to file at least an abbreviated presentation of the annual business accounts:

- Annual average workforce (in full-time equivalents): 5,
- Total annual income, other than exceptional income (excluding VAT): € 312.500,
- Balance sheet total: € 1.249.500.

Furthermore, NPIs are classified into the different institutional sectors in a two steps process. The first one determines whether a given entity operates freely from the control of the general government. An NPI is considered as a public entity in case the government controls its general policy or program (§20.13 ESA 2010). Otherwise, this NPI is said to be a private producer. In a second step, NPIs are classified as market or non-market producers. According to the ESA 2010, non-market producers are units (public or private) which cover at most 50 % of their costs by their sales (§3.19 and §20.29 ESA 2010).

The classification of associations (not sectorised in S.13)⁵², as either market producers (S.11 or S.12) or non-market producers (S.15), was revised in depth due to the 2019 benchmark revision. In the past, most NPIs were classified in the non-financial or financial corporations' sector or in the sector for NPIs serving households, depending on the nature of their activities, since there was insufficient accounting information available. It was not possible to apply the quantitative test to determine whether the units in question were market or non-market.

The market/non-market test involves calculating the ratio between the NPI's income from sales and the production costs: if that ratio is less than 50 %, the NPI is deemed to be non-market and is classified in the sector for NPIs serving households (S.15). If the opposite applies, it is regarded as market and classified in the sector for non-financial corporations (S.11) or financial corporations (S.12). To ensure that classifications are stable, assignment to a sector must be confirmed for at least three consecutive years before a change in the sectoral classification of an NPI can be considered.

Changes to the law gradually led to an increase in the number of NPIs required to file their annual accounts at Belgium's Central Balance Sheet Office. However, the information gathered depends on the size of the NPI: "full-format" accounts for very large NPIs and "abbreviated" accounts for large NPIs.

Since 2009, many NPIs have also responded to a very detailed survey (the Statbel structure survey), thus extending the quantitative data on their activities. The benchmark revision provided an opportunity to make maximum use of all the information now available.

Where the information is not sufficiently detailed, i.e., if an NPI has not taken part in the survey, has not filed full annual accounts, or has not completed the optional sections in filing abbreviated annual accounts, the sectoral classification of a newly created NPI depends on the unit's activity, as in the past.

Implementation of the quantitative test from 2009 led to reclassification of around 12% of private NPIs: 6 % were transferred to the non-market sector and 6% to the market sector. The impact on the overall population of enterprises is therefore limited.

For the reference year 2016, the majority of NPI's (65.1 %) are considered as market producers (S.11/S.12). 28.6 % are sectorised in S.15 and the rest (6.2 %) in S.13. The sectoral breakdown of NPI's is given in the next table.

⁵² The continuing text will refer generally to non-profit associations only. Other, less common legal forms are treated in the same way (foundations, public utilities, scientific organisations, etc.)

Table 3.1.2: Allocation of the number of NPI's by sector

Number	Non-financial corporations	Financial corporations	General government	NPISH	TOTAL
With annual accounts	4 300	30	714	2 127	7 171
Without annual accounts	16 554	15	1 278	7 041	24 888
Total	20 854	45	1 992	9 168	32 059
%	Non-financial corporations	Financial corporations	General government	NPISH	TOTAL
With annual accounts	13,4%	0,1%	2,2%	6,6%	22,4%
Without annual accounts	51,6%	0,0%	4,0%	22,0%	77,6%
Total	65,0%	0,1%	6,2%	28,6%	100,0%

S15-units only appear in a limited number of activities, as shown in the next table:

Activities to which S15-units belong

Nace_Bel (5 digit)	Description	NACE rev. 2
85207	Adult literacy	852
85209	Primary education (other)	
85319	General secondary education (other).	853
85329	Technical and vocational secondary education (other).	
85410	Post-secondary non-tertiary education	854
85429	Tertiary education (other).	854
85520	Cultural education	8552
85591	Other education "enseignement de promotion sociale"	8559
85592	Other education "formation professionnelle"	8559
85593	Other education "formation socio-culturelle"	8559
85599	Other education "autres formes d'enseignement"	8559
85609	Educational support activities (other)	856
87109	Other residential nursing care activities	871
87209	Other residential care activities for mental retardation, mental health and substance abuse.	872
87309	Other residential care activities for the elderly and disabled	873
87909	Other residential care activities (other).	879
88102_9	Social work activities without accommodation for the elderly and disabled	8810
88919	Other social work activities without accommodation - child day care activities	8891
88991_9	Other social work activities without accommodation - other	8899
91011_2	Library and archives activities	9101
91020	Museums' activities	9102
91030	Operation of historical sites and buildings	9103
91041	Botanical and zoological gardens and nature reserve activities	9104
93121_9	Activities of sport clubs	9312
93191	Other sport activities (sport federations)	9319
93299	Other amusement and recreation activities (other)	9329
94120	Activities of professional membership organisations	941

94200	Activities of trade unions	942
94910	Activities of religious organisations	9491
94920	Activities of political organisations	9492
94991_9	Activities of other membership organisations	9499

3.1.3.4. Unincorporated enterprises

Most of unincorporated enterprises are self-employed people and are classified in sector S.14. Due to the Belgian legal framework, it is not interesting for business' owners to maintain their activity as an unincorporated enterprise. As soon as an activity grows, it is better to create a corporate unit. Consequently, unincorporated enterprises cover mainly small self-employed people's businesses. A few other unincorporated types of units (like 'associations de fait') can be identified and are classified in S.11, S.12 or S.15 based on the general criteria detailed above.

The repertory does not record unincorporated businesses without personnel whose activity is not liable to VAT. The added value for these S.14 units is estimated via the personnel income tax (PIT) file.

In practice, the PIT information is used for the few following activities (nace codes) in S.14:

- 66.1 and 66.2: activities auxiliary to financial services and insurance activities
- 70.2: activities related to administration of companies
- 86.2: medical and dental practice activities
- 86.9: other human health activities

3.1.3.5. Other specific cases

Special Purpose Entities are not identified separately in the repertory, which implies that they do not receive a special treatment.

For resident units having branches located abroad, an adjustment to exclude the activity of these branches from the domestic output is computed in the second phase of the estimation process (see description of adjustment (v) in section 3.4.

The resident branches belonging to non-resident are included in the repertory, as they must receive a BCE/KBO (national identification) number if they have activities on the Belgian territory.

The creation of a *Large Case Unit* associated with the national accounts and balance of payments teams will allow to analyse in depth the transactions of MNE's. This Large Case Unit was set up in 2020 to implement the recommendations linked to the GNI transversal reserve on the integration of the economic globalisation in the national accounts.

The statistical unit that is used in the compilation of national accounts aggregates by sector and industry is the legal unit (corporation, unincorporated enterprise, NPI). Every legal unit is characterised by one institutional sector code and one activity code (reflecting the principal activity of the unit). Legal units with different establishments in more than one district are identified as such in the repertory (label 'MA'). Although these establishments might have different activities they are not treated as "local kind of activity units" but receive the same activity code as the legal entity they belong to.

3.1.4. MAIN SOURCES USED FOR NON-FINANCIAL CORPORATIONS (S.11), FINANCIAL CORPORATIONS, HOUSEHOLDS (S.14) AND NPISH'S (S.15)

For units belonging to sectors for which standardized source information can be used (annual business accounts, and/or VAT-declarations and/or NSSO-declarations), centralized IT-applications have been developed to compile value added.

The main sources are the annual business accounts filed by non-financial corporations (S.11), by part of the financial corporations (S.125, S.126, S.127) and by NPI's (S.11 and S.15); VAT returns of VAT-registered units (S.11 and S.14); National Social Security Office returns submitted by employers (in all sectors) and personal income tax returns (S.14) for unincorporated businesses that are not liable to VAT. All this individual information is stored in a 'national accounts database'.

3.1.4.1. Business annual accounts

All Belgian limited liability corporations (public limited companies, private limited companies, limited partnerships, etc.) must publish their accounts by filing them with the Central Balance Sheets Office of the National Bank of Belgium, in accordance with a standardised accounting model provided by law. The annual accounts file is therefore the preferred source for estimating ESA 2010 aggregates relating to the production and primary distribution of income account of non-financial corporations, a subset of financial corporations (not depositing a specific type of accounts) and for NPI's.

Large corporations must file a 'full' accounting model; SME corporations may file an 'abridged' or a micro accounting model⁵³. These reporting models are in fact data extracts from the internal financial accounting of corporations where large corporations must provide more information than SME corporations. All corporations with a turnover of more than EUR 0.5 million must follow the 'Minimum Standardized Accounting System'. This chart of accounts (introduced by Royal Decree in 1983) is the concrete operational implementation of the accounting legislation that dates from 1975.

The Minimum Standard Chart of Accounts contains 8 chapters/headings, five of which relate to the Balance sheet (chapter 1 to 5), two of which to the profit and loss account (chapter 6 and 7) and one chapter (chapter 0) which is not relevant in the context of national accounts.

Chapter 0	Rights and commitments not reflected in the balance sheet
Chapter 1	Capital and reserves, provisions, and amounts payable after one year
Chapter 2	Formation expenses, fixed assets and amounts receivable after one year
Chapter 3	Stocks and contracts in progress
Chapter 4	Amounts receivable and payable within one year
Chapter 5	Current investments and cash
Chapter 6	Charges
Chapter 7	Income

The accounting legislation specifies the content of the various headings from the balance sheet, profit and loss account (income and expenditure) and annexes to the balance sheet and profit and loss account. In this way business accounting variables can be translated into ESA 2010 variables.

The most important information used to compile the real accounts comes from chapter 7 (production: P1), chapter 6 (intermediate consumption and components of value added: P2, D1, D29, D39) and chapter 2 and 3 (Gross fixed capital formation and changes in stocks). Chapters 1, 4 and 5 are relevant in the compilation of the financial accounts. The detailed content of the Minimum Standard Chart of Accounts can be consulted in chapter 10.1.1.2.

Note that in 2019, the law on annual reporting obligations was revised by the new code 'Companies and Associations' and the related Royal Decree. Existing enterprises could choose to apply the new accounting rules

⁵³ For more information, see chapter 10.1.1.3.

from 1 May 2019 and had to do so from 1 January 2020. New enterprises founded from 1 May 2019 onwards were automatically subjected to the new accounting rules⁵⁴.

The use of business annual accounts information provides clear advantages:

- the 'primary input' of the national accounts is drawn up according to concepts that are relevant for and known by the data suppliers (commercial accounting)
- this information is standardised and can be converted into the concepts specified by the national accounts (ESA 2010 aggregates)
- in most industries the coverage of the annual accounts file is very good and only a small portion of total value added must be derived in an indirect way (extrapolation via other sources)
- the 'formal' quality of the annual accounts data is guaranteed because they must comply with checks provided by law (since 1991): these are arithmetic and logical checks on the data indicated in the balance sheet, the profit and loss account and notes
- the dependence on survey data (SBS) to estimate the main aggregates is very limited
- the integration of the real and financial accounts is easier due to the use of the same data sources.

3.1.4.2. VAT returns

The activity of most non-financial corporations (supply of goods and provision of services) falls under the VAT system. Only a limited number of activities are exempt from VAT (medical services, renting of real estate⁵⁵, etc.). Recently (since 2014), legal services have also become VAT liable, which implies that the value added of the self-employed persons active in these activities are also estimated via the VAT declarations.

Depending on their size, all units (corporations, self-employed persons, non-profit associations...) that fall within the scope of VAT must submit a monthly (annual turnover > € 2,5 million) or a quarterly VAT return (annual turnover < € 2,5 million)⁵⁶. Based on this declaration, the tax authorities deduct their VAT-claim (or VAT-debt) towards the unit in question.

From the VAT returns, the turnover (proxy for P.1), the current purchases of goods and services (proxy for P.2) and the acquisition of capital goods (proxy for P.51) can be obtained. The information on turnover and current purchases is used in most industries to estimate the value added of VAT-registered units sectorised in S.14, and to estimate the activity of corporations for which no (usable) annual accounts or structural business surveys are available.

Advantages of using VAT data are the high level of representativeness, rapid availability, and reasonable quality.

3.1.4.3. NSSO and NSSOPLA returns

All employers established in Belgium must each quarter submit a return to the administration of the National Social Security Office (NSSO) or to the National Social Security Office for Provincial and Local Authorities (NSSOPLA). Based on this return, the social contributions payable are calculated. The information given in these returns allows for the compensation of employees (D.1) to be calculated.

⁵⁴ The new code distinguishes between companies with capital and companies without capital. Consequently, three new accounting models (full, abridged, and micro) are drawn up for the companies without capital. The old accounting models for companies are adapted to reflect the new code and serve the companies with capital. The accounting models for companies with and without capital are relatively similar; the profit and loss account is identical.

The new code introduces the micro model for associations and foundations.

Companies can file their annual account using the new accounting models since 1 January 2020 if they do so in PDF format. Companies that file their annual account using the XBRL format and all associations and foundations could not use the new accounting model until 3 February 2021. From this day onwards, they must use the new models. The Central Balance Sheet Office has converted all annual accounts filed in 2019 and 2020 using the old accounting models to the new models.

⁵⁵ From 2019 onwards, renting of newly constructed (or structurally renovated) building can be subjected to VAT if it is stipulated in the lease contract. If this is the case, a VAT declaration must be filed by the lessor. Since not all lessors file VAT declarations, the value added of the self-employed persons active in these activities cannot be estimated using VAT declarations.

⁵⁶ For more details see chapter 10.1.1.8.

The wages and salaries' bill is used to estimate the value added of corporations with no annual accounts and of (small) NPIs not obliged to deposit annual accounts.

3.1.4.4. Personal income tax returns

The activity of some liberal professions is exempt from VAT. For these S.14 units, the value added is estimated via the personal income tax return. From these returns the 'income from a liberal profession' (proxy for P.1) and the professional expenses (proxy for P.2) are deducted.

3.1.4.5. Linking source data and directory

Aggregates are calculated based on all variables available in the different sources. An aggregate is a total amount for a certain variable calculated for a certain group of units on the basis of a certain source for a certain period (e.g., the total turnover according to the VAT returns of corporations classified to S.11 belonging to the industry NACE 181 for 2016).

The aggregation of variables present in the different source files is always carried out based on the characteristics (NACE code, sector code) included in the repertory. This procedure ensures that the obtained results are comparable with one another.

In this way one can compare variables present in different sources with one another in a meaningful way: e.g., the turnover (VAT and annual accounts) and wages and salaries bill (NSSO and annual accounts).

3.1.4.6. Sources for MFI (S.121 S.124), insurance corporations and pension funds (S.128 S.129)

The value added estimated for these units is also based on specific accounting information. The contents of the sources used are detailed in chapter 3.17 describing the financial sector.

3.1.5. MAIN SOURCES FOR GENERAL GOVERNMENT (S.13)

Under ESA 2010 methodology, the general government sector (S.13) includes four subsectors:

- the central government (S.1311) called "Federal Government" in Belgium
- the federated state administrations (S.1312) referred to in Belgium as "Communities and Regions", i.e., the French, Flemish⁵⁷ and German-speaking Communities, the Walloon and Brussels Capital Regions and the French, Flemish and Joint Community Commissions
- the local authorities (S.1313) covering the 10 provinces, the 581 communes (excluding their *de jure* municipal undertakings), the 581 Public Social Welfare Centres (PSWCs) -excluding their hospitals and rest homes-, the 185 police zones, 34 emergency rescue zones (fire departments), the Brussels agglomeration, the polders and water authorities and "*intercommunales*" not producing market services⁵⁸
- social security administrations (S.1314), including the central and some primary agencies of the various social security schemes⁵⁹ for employees and the self-employed, including the Business Closures Fund and the Overseas Social Security Office, but excluding holiday pay and optional insurance schemes⁶⁰. The medical care insurance bodies of the Flemish Community are also part of this subsector.

⁵⁷ The Flemish Community also covers the Flanders Region.

⁵⁸ *De jure* municipal undertakings, PSWC hospitals and rest homes, *intercommunales* producing market goods and services and "Chapter XII associations" (Articles 118-135 of the Consolidation Act on Public Social Welfare Centres of 8/7/1976) are included in the non-financial corporations' sector (S.11).

⁵⁹ Disability insurance, family benefits, pensions, early retirement pensions, unemployment, occupational diseases and industrial accidents for employees, and disability, family benefits and pensions for the self-employed as well as sickness insurance for employees and self-employees.

⁶⁰ The bodies which manage holiday pay funds come under the Federal Government, whereas the sections of mutual organisations which manage optional insurance schemes are deemed to be quasi-corporations and are part of the

The main data sources used are detailed below by subsector.

3.1.5.1. Federal Government, Communities and Regions

The main analytical source for the Federal government and the Communities and Regions is an *economic regrouping* of the expenditure and revenue of each of these entities. This source is based on economic concepts (consumption, transfers of income, investments, etc.) of the budgetary and similar transactions (transactions of funds, public-sector administrative bodies, and cessations of budget funding) of the entity concerned. The scope of economic regrouping is therefore not confined to budget transactions but extends to non-budget transactions such as pre-financing and to transactions by autonomous bodies and funds. The economic grouping however does not follow strictly the consolidation perimeter of the federal level or the individual state level. Entities which are not integrated in the economic grouping are added based on their business accounts, as described further in this chapter (other data sources).

The economic regroupings are compiled by the budget departments of each body⁶¹. They are forwarded to the secretariat of the General Documentary Base created under an agreement between the State, the Communities, the Joint Community Commission, and the Regions, and then provided to the National Accounts Institute.

In June 2015, the economic regrouping was updated to include the changes linked to the introduction of the ESA 2010, as well as some further clarification on the counterparty of some transactions. This new classification was used from the reference year 2016 onwards. Some additional changes were introduced in March 2017 and January 2020. The full description of the economic codes can be found on the website of the General Documentary base: <http://www.budgetfederal.be/FR/figures/grouping.html>. For each economic code a description and examples are given.

The economic grouping distinguishes 10 main groups. The groups 0-4 register current flows, the groups 5-8 concern capital flows, and the group 9 concerns transactions in the government debt other than interest charges.

Group	Expenditure	Receipts
0	Non-divided expenditure	Non-divided receipts
1	Current expenditure for goods and services	Current receipts for goods and services
2	Interest and other expenditure from property	Interest and other receipts from property
3	Current transfers to other sectors	Current transfers from other sectors
4	Current transfers within the government sector	Current transfers within the government sectors
5	Capital transfers to other sectors	Capital transfers from other sectors
6	Capital transfers within the government sector	Capital transfers within the government sector
7	Investments	Disinvestments
8	Capital injection (equities and loans)	Reimbursement of loans and sales of equities
9	Government debt	Government debt

The economic codes identify the counterparty of transactions. Flows between government sectors receive a specific code (4 or 6 depending on the nature of the transaction). Based on this, the NAI can check if the transfers from the federal level and between the different Communities and Regions are consistent.

In addition to the economic regrouping, there is also a *functional regrouping* of the tasks of general government in terms of their purpose (general administration, national defence, education, etc.). The advantage of this classification is that it is constant over time and unaffected by changes to ministerial portfolios or to the allocation of tasks among the various administrations.

financial corporations' sector. In addition to compulsory insurance, mutual organisations also manage optional insurance and supplementary sickness/disability insurance, including:

- optional health care insurance, also known as "minor risks" insurance for the self-employed until 2007, in 2008 this scheme became compulsory and was included in the social security funds (S.1314)
- supplementary insurance (daily allowances, hospitalisation, transport of sick persons, medical care abroad and various other services) which may or may not involve compulsory membership (depending on mutual organisation and type of service)
- pre-nuptial savings.

⁶¹ Taking our recommendations into account.

Combining the economic and functional regroupings makes it possible to compile the cross tables of the expenditure of the various general government subsectors by function and by transaction.

Since 2004, the functional classification COFOG 1998,⁶² which classifies the functions of general government under ESA 2010,⁶³ has been used. An update of this document was provided in 2005 ([COFOG98-mise jour janvier 2005 \(budgetfederal.be\)](http://budgetfederal.be)).

⁶² COFOG is the acronym for "Classification of the Functions of Government", a functional classification defined by the United Nations.

⁶³ The classification units in the functional classification, like those in the economic classification, are individual transactions. In other words, every purchase, salary payment, transfer or other item of expenditure is given a functional COFOG code, depending on the purpose of the transaction. It is recommended that this principle be strictly applied to capital transfers and current transfers, and to the acquisition of financial assets. For most other expenditure, it is not generally possible to use transactions as classification units. COFOG functional codes must be allocated to programmes of activity, directorates, agencies, offices, administrative units, and other units of the same type belonging to government departments. All expenditure items of a particular unit (other than transfers and acquisition of assets) are given the same functional code.

Where government bodies, rather than transactions, are used as classification units, it is possible that even the smallest bodies which can be identified in the national accounts may exercise more than one COFOG function. It is sometimes possible to break down the expenditure of multi-function bodies between COFOG functions on the basis of information about their expenditure, but in most cases the best that can be done is to attribute all their expenditure to the function which appears to represent the largest part of their total expenditure.

In the economic classification, it is compulsory for the classification units to be individual transactions (there can be no question of derogating from this principle) and if a budget heading contains several basic transactions, it must be broken down into as many economic codes as there are basic transactions.

This means that the functional classification is constructed with less precision than the economic classification, which is therefore the focus of close attention by the staff responsible for constructing these classifications.

In the functional classification, functions are delineated purely by convention, and any error under a particular heading is automatically compensated for under another heading, i.e., it has no impact on the economic aggregates (public consumption, deficit, GDP, etc.)

3.1.5.2. Local government

Until 2011, there was no centralised electronic database on the budgets and accounts of the main local authorities (provinces, municipalities, PSWCs and police zones). Information on the units of this subsector was gathered by surveys and other sources (such as Belfius⁶⁴ studies of local authority finances).⁶⁵

In the course of 2011, the necessary detailed information became available. Consequently, in 2012, the NAI could review its method to establish local government accounts starting from the reference year 2006.

The local government in Belgium encompasses 10 provinces, 581 municipalities, 581 PSWCs⁶⁶ (providing welfare services) excluding hospitals and rest homes consolidated in their accounts, 185 local police zones, 34 emergency rescue zones, the Brussels agglomeration, the polders and water boards and the other local public entities not providing market services.

Overview of the administrative supervision of local authorities in Belgium

	WALLONIA	BRUSSELS	FLANDERS
▶ Provinces	Walloon Region		Flemish Region
▶ Municipalities	Walloon Region German-speaking Community (for the 9 German-speaking municipalities)	Brussels-Capital Region	Flemish Region
▶ CPAS/OCMW	Walloon Region German-speaking Community (for the 9 German-speaking municipalities)	Joint Community Commission	Flemish Region
▶ Local Police zones	FPS Interior		
▶ Local Emergency Rescue zones	FPS Interior		

The NAI receives from the supervisory authorities the detailed accounts of the municipalities, CPAS/OCMW, local police zones and provinces. The supervisory authorities collect these data to make the statutory audits on the accounts of the local entities. The regions and the German speaking community are the supervisory authorities for the municipalities; the communities are the supervisory authorities for the CPAS/OCMW (in Wallonia, this is done by the Region); the regions are the supervisory authorities for the provinces; the supervisory authority for the local police zones is the Federal Government (FPS Interior). For the local emergency rescue zones, estimates are derived from figures of the NSSO and the Six Pack reporting.

By law, most local government units must submit their accounts at the latest six months after the end of the year to the supervising authorities, which have in general around one month to make remarks. These legal deadlines are however often missed. The NAI receives the individual accounts for the year T-1 at T+8 months. Additional accounts or corrections are transmitted to the NAI at t+12 months, at t+16 months and in rare cases at t+24 months.

The coverage rate for the police zones is lower for the most recent years because the deadlines for the compilation of the accounts and those for the supervisory authority to make its remarks is up to 200 days in both cases. However, 80 % of the expenditures of the local police zones are wages and this information is available from the social security fund of local government, while their financing comes from higher governments and the municipalities.

⁶⁴ Previously Dexia Banque and before that 'Crédit Communal de Belgique'.

⁶⁵ The former method is described in EDP consolidated inventory of sources and methods Belgium, September 2007 (http://www.nbb.be/doc/DQ/E_pdf_EDP/BE_2007september_inventory_EN.pdf).

⁶⁶ CPAS in French and OCMW in Dutch.

Competence for the accounting systems is to a large extent in the hands of each individual community and region. This has caused increasing divergence in bookkeeping systems. The diversity of the bookkeeping systems used in the local administrations makes it more difficult to translate the accounts into ESA concepts (and thus compile government statistics), because these differences sometimes have an impact on the statistical process.

Most local administrations (municipalities, OCMW/CPAS and local police zones) have a two-pillar accounting system based on budget accounting (annual flows) and general accounting (system of double-entry accounting with a balance sheet and profit-and-loss account). The individual data of the local entities, which give an overview of their budgetary transactions (by economic code and functional code) and their financial statements are codified. These data are translated via conversion translated into concepts that can be used for the ESA2010. Wherever necessary, the data are also extrapolated in the database to compensate for the missing expenditure and revenue figures. After this conversion, some structural corrections are still required regarding the time of recording. In principle, these adjustments are made at consolidated level. In addition, punctual corrections concerning the operation itself or the time of recording also must be taken into consideration.

The budget accounting of the Walloon, Brussels and German speaking local authorities consists of a normal service and an extraordinary service. The normal service contains all expenditure and receipts which normally occur every year, including debt reimbursements. The extraordinary service contains all expenditure and receipts which have an important impact on the patrimony of the local government (especially investments).

The normal service forms the basis of the government accounts for these local authorities:

Normal service

Economic Grouping	Category
+ 60	Operational receipts
+ 61	Incoming transfers
+ 62	Financial transactions (receipts)
- 70	Wages and salaries
- 71	Operational expenditure
- 71	Outgoing transfers
- 7X	Financial transactions (expenditure)

On the one hand some of the receipts and expenditure of the extraordinary service must considered:

Extraordinary service

Economic Grouping	Category
+ 80	Incoming capital transfers
+ 81	Sale of capital assets
- 90	Outgoing capital transfers
- 91	Acquisition of capital assets

On the other hand, some debt-related transactions should not be considered:

Economic Grouping	Economic Code	Category
+ 62		Financial transactions (receipts)
	-861	Repayment of loans by public units
	-867	Repayment of loans by private units
	-870	Repayment of loans by households and NPISH
	-891	Repayment of loans by higher government levels
	-893	Repayment of loans by other government levels
+ 7X		Financial transactions (expenditure)
	+911	Repayment of debts for account of the municipality
	+912	Repayment of debts for account of higher government levels
	+913	Repayment of debts for account of others
	+918	Repayment of guaranteed debt

In 2011, the Flemish government implemented a separate accounting system (BBC, Beleids- en Beheerscyclus), which is fully implemented from the accounting year 2014 onwards. The new system increases the level of detail in the accounts and makes it possible to do a complete translation into ESA-transactions. Behind this new accounting system, there still is a two-pillar accountings system; the two pillars however being fully integrated as budgetary and general transactions are recorded in one sole registration system using one set of economic codes. The budget accounting, which is the basic information on which the non-financial accounts are compiled, consists of three parts:

- The operating budget includes transactions such as wages and salaries, purchases of goods and services, transfers to and from other government levels such as OCMW/CPAS and police zones, subsidies, and receipts from sales and taxes.
- The investment budget details the investment both in financial and non-financial assets as well as investment grants.
- The liquidity budget consists of the expected money flows. It summarizes both expenditure and receipts from operating and investment transactions as well as other financial transaction (debt transactions).

The detail in the budget accounting (individual transactions with separate economic, functional codes as well as information on the counterparty of the transaction) allows to translate these accounts into ESA2010 transactions (using conversion tables). Net lending/borrowing (B.9) can roughly speaking be derived as follows:

The operating result (receipts – expenditures; excluding exchange rate or holding gains on financial assets)
 + the investment result (excluding transactions in financial participations)
 + donations (only transaction that is withheld from the liquidity budget)

The degree of detail in the economic classification for all local authorities is enough to identify the economic nature of the transactions.

The time of recording of the data provided is “netto vastgestelde rechten/droits nets constatés” for the receipts and “aanrekening/imputation” for expenditure, which in principle corresponds closely to a recording of most transactions on an accrual basis. However, for the taxes collected by higher governments, it is different from the time of recording in the government accounts. In that case the NAI uses “transactionalised cash basis” recording.

The local government sector also includes some consolidated units, like the polders and water boards and the other local public entities not providing market services, for which no data nor accounts are provided by the supervisory authorities. For these entities data can be found in the social security fund of the local government (ONSS-APL), the Central Balance Sheet Office (NBB_CBSO) and the economic grouping or other budgetary information of higher authorities enabling them to be integrated into the local government accounts.

3.1.5.3. Social security administrations

Most of the data used to compile the accounts of social security agencies are from the social security economic accounts (formerly the "General Report on Social Security") published by the FPS Social Security. Economic accounts are compiled according to five social security schemes: scheme for employees, scheme for self-employed, health care scheme (since 2008, the health care schemes for employees and self-employed are merged into a new scheme), Public Service for Social Security from provincial and local government (ONSSAPL/DIBISS), and oversea social security scheme (OSSOM).

The redundancy fund and the care insurance companies of the Flemish Community (until 2015 when it is consolidated with the Flemish Community) are also part of this sub-sector.

On 1 January 2015, OSSOM became the *Office des régimes particuliers de sécurité sociale* (ORPSS) by merging with the *Office national de sécurité sociale des administrations provinciales et locales* (ONSSAPL).

Until 2015, public pensions were managed by the Public Sector Pension Service (SdPSP), a unit classified in the federal government sub-sector (S.1311).

On 1 April 2016, the Public Sector Pension Service (PSPS) and the National Pensions Office (NPO) merged to form the Federal Pension Service, abbreviated to FPS or the Pension Service. The National Pensions Office (NPO) was a unit classified in the social security funds sub-sector (S.1314). The new body, the Federal Pensions Service (FPS), is a unit that remains classified in the social security funds sub-sector (S.1314).

On 1 January 2017, the National Social Security Office (NSSO) took over a significant part of the tasks of the Office for Special Social Security Schemes (ORPSS). The pension responsibilities of local governments (except for the

collection of contributions) are transferred to the FPS. On the other hand, the granting, management, and payment of overseas social security pensions are the responsibility of the NSSO. The role of ORPSS as a family allowance fund has already been taken over by FAMIFED as from 1 September 2016.

The social security economic accounts include general accounts in the form of a comprehensive presentation of the classes of expenditure and proceeds under the accounting plan of social security agencies (both those which collect contributions and those which pay benefits). Within each social security scheme, expenditure and income are broken down by the various social security domains corresponding to the different social risks covered by social security.

This document is useful for compiling the accounts of social security administrations according to the national accounts in not only encompassing all semi-state social security bodies but also recording transactions from an accrual perspective.

3.1.5.4. Other data sources

The introduction of the ESA2010, in September 2014, enlarged substantially the scope of the government perimeter. Since 2014, many additional public entities have been included in the government sector, at every level of government. As the direct information for the different entities (Federal Government, Communities and Region, Local governments, and Social security sector) provided to the NAI did not include these entities, the NAI has used the business accounts available at the central Balance Sheet Office at the National Bank of Belgium. These accounts follow business accounting rules. They allow the identification of some economic flows and the calculation of the financing balance of these entities. At the Federal Government level and the level of the Communities and the Regions, these entities are progressively integrated in the economic groupings.

3.1.6. NON-PROFIT INSTITUTIONS SERVING HOUSEHOLDS (S.15)

The sources used for compiling the S.15 account are:

- NSSO data (wages and salaries) for units in sector S.15 (cat H4)
- annual business accounts (cat H1, H2, H3)
- the results of the annual structure survey among associations, covering all units employing more than 20 persons and a sample of those employing fewer (information necessary to transform 'administrative/accounting aggregates' to ESA2010 aggregates)
- the annual reports of certain large associations (e.g., Belgian Red Cross, Médecins sans Frontières, etc.)
- data from the general government account and various administrative sources.

3.1.7. OTHER INFORMATION ON DATA SOURCES USED FOR THE PRODUCTION APPROACH

The business repertory is updated once in a year, in Q1 for Y-2. This ensures that the population for estimation of year Y-2 is exhaustive and of high quality.

The administrative data are obtained as quickly as the law fixes the scheduling for their collection, i.e., on monthly basis for VAT, on quarterly basis for Social Security, on yearly basis for the annual accounts (central balance sheet office) or business survey. Monthly VAT and quarterly social security data are used to estimate quarterly national accounts.

Surveys are usually organised on annual basis. There are two surveys less frequent than yearly that are used for annual National Accounts:

- a survey for general building contractors (see 10.1.16)
- the Belspo survey on R&D (see 10.3.1)

There are no ad-hoc large-scale surveys, but ad-hoc information can be collected by e-mail or on the internet (number of cross-border workers or information on a specific event in one big company, for example).

As regards products bartered, they are immaterial. A study of the VBO (Association of Belgian Companies) suggests that the barter economy is (up to now) of marginal importance. Explicit figures of that (very little) part of the economy are not available anywhere.

3.2. BORDERLINE CASES

In this section, a brief description of the inclusion/exclusion in production and intermediate consumption of some borderline cases is given.

1) The following borderline cases are included in production:

- a) Own-account gross fixed capital formation (GFCF) including, in particular:
 - i. Mineral exploration
Mineral exploration is irrelevant in the Belgian context.
 - ii. Machine tools produced by engineering enterprises
These items are included in business accounts (account 72: own account construction of assets).
 - iii. Construction or extensions to dwellings by households and communal construction undertaken by groups of households
Own account work on dwellings is taken into accounts in the estimation of P.51 on dwellings and in the grossing up percentage for the non-observed economy in construction.
 - iv. Entertainment, literary and artistic originals
Specific estimates are made in accordance with GNI recommendations /ESA2010.
 - v. Software
Specific estimates are made in accordance with GNI recommendations /ESA2010.
 - vi. Research and development
Estimation is made in accordance with manual on R&D and R&D satellite accounts.
- b) Production, storage, and processing of agricultural products for own account by households
A specific estimate is made for own account production and consumption of agricultural products by households (vegetable gardens).
- c) Dwelling services produced by owner-occupiers
The estimate of dwelling services is in accordance with GNI-recommendations/ESA2010. The largest part of the total production of dwelling services is imputed rents for owner-occupiers.
- d) Household services produced by employing paid domestic staff
An estimate is made in the context of exhaustiveness adjustments for the NOE (type N1: underground producer).
- e) Volunteer activities that result in goods
No explicit estimate is made for this. We believe these activities/amounts involved are immaterial.
- f) Products used for payments in kind
An explicit adjustment is made for goods and services produced or purchased by employers and put at the disposal of employees as wages in kind.
- g) Products bartered
No explicit estimate is made for this. We believe amounts are immaterial.
- h) Products supplied by one local KAU to another within the same institutional unit to be used as intermediate inputs or for final uses
The administrative sources used (annual accounts and VAT-declarations) only record transactions between different legal units. This implies that products supplied between establishments of the same legal unit are not registered in the basic sources and, therefore, neither in the national accounts. These 'missing' transactions do not influence value added or GDP/GNI.
- i) Products added to the inventories of finished goods and work-in-progress (including natural growth of animal and vegetable products, standing timber and uncompleted structures for which the buyer is unknown)

Annual accounts information covers this type of production as well as the economic accounts for agriculture which are used to compile the aggregates for agriculture.

2) The following borderline cases are included in intermediate consumption:

- a) Costs of using rented fixed assets (mainly operational leasing)
The treatment in business accounts/VAT is in accordance with ESA2010.
- b) Inexpensive tools used for common operations and small devices such as those listed in the ESA2010 §3.89 (f)(1)
We follow the treatment (capitalization/current purchase) of business accounts which, overall, is in accordance with ESA2010.
- c) Subscriptions, contributions, or dues paid to non-profit business associations
These payments are treated as operating revenue/production by the units receiving them and as purchase of service/intermediate consumption by the units paying them.
- d) Goods and services received from another local KAU of the same institutional unit that comply with the definition of intermediate consumption
The administrative sources used (annual accounts and VAT-declarations) only register transactions between different legal units. This implies that products supplied between establishments of the same legal unit are not registered in the basic sources and, therefore, neither in the national accounts. These 'missing' transactions do not influence value added or GDP/GNI.
- e) Non-life insurance service charges (payments for life insurance should be excluded)
An explicit adjustment for this item is made (see section 3.4).
- f) FISIM purchased by resident producers
An explicit adjustment for this item is made (see section 3.4).
- g) Research and development acquired to be used solely in the creation of further products of research and development (all other research and development should be treated as GFCF)
The treatment is in accordance with manual on R&D and R&D satellite accounts.
- h) Goods and services used as inputs into ancillary activities
All purchases of goods and services (from other legal units) used as inputs whether to main activities or to ancillary activities are treated as intermediate consumption.
- i) Expenditure by employees, reimbursed by the employer, on items necessary for the employers' production.
No explicit estimate/adjustment is made for this. We believe amounts are immaterial and business accounting practice corresponds to ESA2010 approach (reimbursement registered as a purchase of goods and services)

3) The following borderline cases are excluded from intermediate consumption:

- a) Items to be treated as gross capital formation, e.g., valuables, mineral exploration, major repairs and improvements (renovation, reconstruction or enlargement), software, research and development (with the exception of the R&D acquired to be used solely in the creation of further products of R&D), military weapons
A separate estimate is made for valuables (P.53). Mineral exploration is not relevant for Belgium. Major repairs and improvements are treated the same way in the annual business accounts and the national accounts (as P.51). Purchases of software accounted for in the profit and loss account (as intermediate consumption) are reclassified as investment (see section 3.4). R&D is treated according to ESA2010 prescriptions. Military weapons are also capitalized in ESA2010.
- b) Expenditure to be treated as the purchase of non-produced assets, e.g., long-term contracts, leases, and licenses
These items appear as a separate class of intangible assets in the business annual accounts. Expenditure on them (as well as on tangible fixed assets) is accounted for outside the profit and loss account – increase of fixed asset and increase of net financial liability - which is in accordance with ESA2010.
- c) Expenditure by employers to be treated as wages and salaries in kind
An explicit adjustment is made for goods and services produced or purchased by employers put at the disposal of employees as wages in kind (see section 3.4)
- d) Use by market or own-account producer units of collective services provided by government units (to be treated as collective consumption expenditure by government)

The compilation of the S.13 accounts reflects this treatment. Only if payments are made for the use of services provided by government – which may occasionally happen – will these payments be accounted for as the purchase of a service (intermediate consumption).

- e) Goods and services produced and consumed within the same accounting period and within the same local KAU (to be also excluded from output)
These flows do not appear in the basic sources.
- f) Payments for government licenses and fees that are to be treated as other taxes on production
All transactions in S.13 accounts are ESA2010 compatible.
- g) Payments for licences for using natural resources (e.g., land) that are to be treated as rents, i.e., as a payment of property income
This information is estimated via the structure business survey and recorded in D.4.
- h) Decommissioning for large capital assets.
No specific treatment is envisaged because nuclear power plants are operated by market producers.

Daily allowances received by employees on business trips are recorded as intermediate consumption, and not as compensation of employees. For more detail on this topic, see section 4.2.

3.3. VALUATION

3.3.1. ACCRUAL ACCOUNTING

A basic principle in national accounts and business accounts is “accrual” accounting (transactions must be registered when they take place and not when they are paid for). This principle also results in the registration of some “internal” transactions which are necessary in order to give an exhaustive and economically relevant description of the economic activity. Production does not only cover the sale of goods and services (turnover and other operating revenue) but also goods (finished goods, work in progress, contracts in progress) that are produced but not yet sold (additions to stocks) as well as assets produced on own account for own final use. Purchases of goods which have not yet been used in the production process (or resold) give rise to changes in stocks, which are considered to estimate the intermediate consumption. This implies that, in general, the underlying principles of business accounts correspond to those of national accounts.

However, specific adjustments are needed to transform producer prices (business annual accounts) into basic prices (national accounts), to include a mark-up in the valuation of production for own final use (for market producers) and to eliminate stock appreciation/depreciation from the changes in stocks that can be derived from the annual business accounts. These adjustments are explained more in detail in sections 5.10.3.1.3 and 5.11.4

3.3.2. VALUATION OF MARKET OUTPUT AT BASIC PRICES AND INTERMEDIATE CONSUMPTION AT PURCHASER PRICES

The valuation of turnover in business annual accounts and VAT-declaration does not include VAT charged to customers, which is compatible to a basic price evaluation in national accounts. Some other taxes on products are however passed through in the producer price and some types of wage subsidies are recorded as normal operating revenue (assimilated to production) in the annual business accounts and not as other subsidies on production (D.39). In these cases, an adjustment from producer to basic prices is needed. The amounts involved for 2016 are shown in the next table, where:

- (o1) excise duties
- (o2) tax on turnover in pharmaceutical industry
- (o31) rebate on advance tax payment (*précompte professionnel*)
for researchers, in the case of shift work, night work and overtime hours
- (o32) subsidies "cheques services"
- (o4) mark up own account production of tangible assets

Table 3.3.1: Adjustments for valuation at basic prices

2016 (in € million)							
Codes business accounting	Initial amounts		(o1)	(o2)	(o31)	(o32)	(o4)
C_A	1 090 844	Adjustment on output	-8 095	-235	-2 811	-1 734	166
C_B	835 773	Adjustment on intermediate consumption	-5 046	11	0	0	0
C_640	7 843	Adjustment on D.29	-3 049	-246	0	0	0
C_740	3 485	Adjustment on D.39	0	0	2 811	1 734	0
C_C	255 071	Adjustment on added value	-3 049	-246	-2 811	-1 734	166

The total amount of excise duties (€ 8095 million) is known via the S13-accounts. Part of this amount (€ 3049 million) is accounted for in “other operating taxes” (640) - this information is available in the SBS - and the remaining part is supposed to be included in the total of purchases of goods and services (C_B). After correction (o1), the turnover is cleared for excise duties (at basic prices) and operating taxes and purchases of goods and services are cleared for taxes on products (excise duties). The logic behind the correction (o2) is the same: elimination of a tax on product from turnover and elimination of taxes on products included in taxes on production and purchases of goods and services (intermediate consumption).

The rationale for corrections (o31) and (o32) is to reclassify wage subsidies from normal operating revenue/turnover in the annual into accounts into subsidies on production (740/D39).

In a final phase (cor (aa)) the total of operating taxes (640) and subsidies (740) estimated via the annual accounts/SBS are aligned to the totals known from the government accounts. This reconciliation generates additional impacts on turnover and purchases (and value added) because the budget identity acts as a constraint (extra imputations in categories C_640 and C_740 are counterbalanced on turnover and purchases). This adjustment is detailed in section 3.4.

In business accounts, purchases of goods and services are evaluated at “acquisition cost” which includes non-deductible VAT. This corresponds to the valuation in national accounts (intermediate consumption at purchaser prices i.e., inclusive of non-deductible VAT).

3.3.3. VALUATION OF OUTPUT FOR OWN FINAL USE AND OF ADDITIONS TO WORK-IN-PROGRESS; HOLDING GAINS/LOSSES ON STOCKS

The valuation of own account production of fixed assets in the business annual accounts is at cost (labour cost, intermediate consumption, depreciation). According to ESA 2010, the valuation of own account production of fixed assets (software, R&D, tangible fixed assets) includes a mark-up for operating surplus for market producers. For software and R&D, the amounts recorded in cor(i1) and cor(g) take this mark up into account.

For tangible fixed assets, the mark-up is added to the turnover valued at cost in cor (o4).

Production of R&D for own account is estimated by deducting capitalized R&D purchases (in Belgium and abroad) from R&D investments. The way R&D investments and R&D purchases (in Belgium and abroad) are estimated is explained in the section 5.10.4.2.

Production of software for own account is sum of the costs pertaining to this activity, covering computer staff remuneration, intermediate consumption, and gross operating surplus (by applying a mark-up).

A more detailed description of the estimate of output for own final use and of the mark-up is to be found in the dedicated section for each of the relevant assets:

- For tangible assets, see section 5.10.3.1.4, item (e)
- For R&D, see section 5.10.4.1
- For software, see section 5.10.4.2.2
- For entertainment, literary and artistic originals, see section 5.10.4.3

The steps taken ensure that GFCF produced on own account is valued at the basic prices of similar fixed assets, and if such prices are not available, at the costs of production plus a mark-up (except for non-market producers) for net operating surplus or mixed income.

For (additions to) work in progress, we follow the business accounting valuation rules (and the resulting flows): work in progress (account 32) is valued at cost and for contracts in progress (account 37) intermediate profit recognition is a common practice.

Changes in stocks as derived in the business accounts depend on the valuation methods allowed in business accounting (FIFO, LIFO, other methods) which do not always correspond to the ESA2010 treatment. To clear changes in stocks and value added from holding gains/losses on stocks, a specific adjustment is estimated (see 5.11).

Up till now, there are no adjustments made to exports and imports due to valuation of intra-group transactions within MNE's. The analysis of MNE's by the recently created *Large Case Unit* could lead to adjustments related to this type of phenomenon.

3.4. TRANSITION FROM PRIVATE ACCOUNTING AND ADMINISTRATIVE CONCEPTS TO ESA 2010 AGGREGATES

As illustrated in section 3.1, the calculation is carried out in two steps:

- Calculation of the production and primary distribution of income accounts by industry (NACE 2, 3, 4 or 5) and by institutional (sub)sector according to administrative/business accounting concepts
- Adding up of these amounts to give a higher aggregation level (SUT industries) and conversion to concepts and valuation methods of the national accounts (ESA 2010).

In the next table, the different adjustments made to the data sources are detailed for production (P1), intermediate consumption (P2) and added value (B1g), in accordance with the process table presentation. The different types of conceptual adjustment are described in section 3.4.2.

The corrections having the highest impact on the basis for NA figures are:

1. correction (d) - elimination of goods for resale from total turnover, purchases, and changes in inventories
2. correction (z) - production to be calculated as a 'margin' for specific activities
3. correction (v) – removing of added value produced abroad

The adjustment for exhaustiveness is described in chapters 7 and 3.6, as well as in Annex 1, section 1.5

The data validation process is presented in Annex 1, section 1.2.

Table 3.4.1: Transition items from administrative aggregates to ESA 2010 aggregates

2016 (in € million)			
	P.1	P.2	B1.g
Data validation	-40 398	-15 987	-24 411
Allocation of Fisim	962	9 978	-9 016
Allocation of insurance	129	4 519	-4 390
Other conceptual adjustments			
(a1)	-390	0	-390
(a2)	-231	0	-231
(b)	0	0	0
(c)	-589	-480	-109
(d)	-377 458	-377 458	0
(e)	-653	-1 225	572
(f)	-263	-699	435
(g)	1 043	-1 936	2 979
(h1)	0	-654	654
(h2)	-1 758	0	-1 758
(i1)	3 221	-1 300	4 521
(i2)	-389	0	-389
(i3)	-332	0	-332
(j)	-532	0	-532
(k)	0	2 017	-2 017
(l)	0	-1 064	1 064
(m)	-690	0	-690
(n)	-4 568	0	-4 568
(o1)	-8 095	-5 046	-3 049
(o2)	-235	11	-246
(o31)	-2 811	0	-2 811
(o32)	-1 734	0	-1 734
(o4)	166	0	166
(r)	0	0	0
(s)	-733	-733	0
(t)	0	0	0
(u)	0	-501	501
(v)	-14 088	-11 544	-2 543
(w)	5	-55	60
(x1)	693	60	632
(x4)	0	205	-205
(x5)	71	44	27
(x6)	0	575	-575
(z)	-19 782	-19 782	0
(aa)	-85	179	-263
(ab)	0	0	0
(ac)	0	0	0
(af)	0	0	0
(ae)	4 594	0	4 594
Adjustments specific to S.12	588	1 038	-450
Adjustments specific to S.13	-38	-25	-13
Adjustments specific to S.15	-8	0	-8
Total other conceptual adjustments	-425 081	-418 373	-6 708
Exhaustiveness	29 168	9 134	20 035
Balancing	16	163	-146
Total adjustments	-435 203	-410 566	-24 637

It is important to stress that the output and income approach are estimated *simultaneously and in an integrated way*. In this way, the consistency between the value added and its components (D.1, D.29, D.39 and B.2g) is already monitored at the start of the calculations.

3.4.1. STEP 1 - CALCULATION OF THE ADMINISTRATIVE/BUSINESS ACCOUNTING AGGREGATES BY INDUSTRY AND SECTOR

The calculation is carried out at NACE 2-, 3-, 4- or 5-digit level by summing up the results of the underlying subpopulations (categories)⁶⁷:

Category	Description
A1	large corporations with annual accounts using 'full accounting model'
E1	Large corporations with no (usable) annual accounts but with S.B.S.
A2	large corporations with no (usable) ⁶⁸ annual accounts and without S.B.S.
B1	SMEs with abridged or micro model, turnover and purchases indicated and gross margin > 0
B2	SMEs that are not member of a VAT unit with abridged or micro model without turnover and purchases and gross margin > 0
BC	SMEs that are member of a VAT unit with abridged or micro model without turnover and purchases
C1	SMEs with abridged or micro model, turnover and purchases indicated and gross margin < 0
C2	SMEs that are not member of a VAT unit with abridged or micro model without turnover and purchases and gross margin < 0
E2	SMEs with no (usable) annual accounts but with S.B.S.
B3	SMEs with no (usable) annual accounts and without S.B.S.
BL	Members of a VAT-unit without annual accounts
H1	Very large NPI's with full accounting model
H2	Large NPI's with abridged model and operating revenue and purchases indicated
H3	Large NPI's with abridged model and operating revenue and purchases not indicated
H4	Small NPI's without annual accounts
RF	Fiscal representatives

For **category A1** all the relevant variables are available:

From the profit and loss account:

Operating income

70 turnover

71 change in inventory of produced goods (increase +, decrease -)

72 own account production of fixed assets

74 other operating income

740 operating subsidies (annex)

741/9 other operating income⁶⁹

⁶⁷ A category "BW" was introduced from 2017 onwards for ancillary corporations that only file a return with the National Social Security Office (NSSO). They do not file VAT declarations or annual accounts.

⁶⁸ Annual accounts are regarded as 'usable' (for further statistical processing) if:
 (a) the financial year coincides with the calendar year or
 (b) the financial year covers at least 1/2 of the calendar year (and covers a period of 12 months) or
 (c) financial year data from successive annual accounts can be determined pro rata to provide calendar year data. In cases (a) and (b) the original book year data are used, in case (c) pro rata data (e.g., a company closing its accounts at 30/06: all the flows for financial year N will be derived by adding 50 % of the amounts occurring in the accounts closed at 30/06/N and 50 % of the amounts in the accounts closed at 30/06/N+1). Corporations with 'no usable' annual accounts are dealt with in the same way as corporations with no annual accounts.

⁶⁹ 741/9 means the sum of accounts 741 to 749.

Operating costs

- 60 consumed goods for resale, materials, and supplies
 - 600/8 acquisitions of goods for resale, materials, and supplies
 - 609 changes in inventories of purchased goods (increase -, decrease +)
- 61 services and other goods (not entered in 600/8)
- 62 wages and salaries, social security contributions and pensions
- 64 other costs
 - 640 operating taxes (annex)
 - 641/8 other operating costs
 - 649 operating charges capitalized as restructuring costs (-)

Notes/annexes to the accounts and the profit distribution account

- 8002 formation expenses/restructuring costs: new costs of the year (*)
- 9126 interest subsidies (recorded as financial revenue in the business annual accounts)
- 695 distribution of profit to administrators
- 6690 infrequent operational charges capitalized as restructuring costs (-)
- 6691 infrequent financial charges capitalized as restructuring costs (-)

(*) costs linked to the constitution of the corporation, issue of new stock, issue of bonds and costs linked to the reorganisation/restructuring of the corporation

Costs linked to the constitution and the reorganisation/restructuring of the company can be capitalized according to Belgian accounting law. These costs however are to be treated as intermediate consumption in the national accounts (purchase of services).

Interest subsidies (9126), accounted for as financial revenue in the annual accounts, are treated the same way as operating subsidies in the national accounts (other subsidies on production: D39) and have to be reclassified.

The fees paid to administrators are considered to be an allowance for the delivery of a service (intermediate consumption by the corporation and production by the administrator who delivers the management service; administrators are unincorporated businesses/self-employed persons sectorised in S.14).

The following 'business accounting' aggregates can be deduced from this:

- A production = (70 + 71 + 72 + 74 - 740)
- B intermediate consumption = [60 + 61 + 641/8 + 8002 + 649 + 6690 + 6691 + 695]
- C gross value added (A - B)
 - compensation of employees (62)
 - operating taxes (640)
 - operating subsidies (740 + 9126)
- D gross operating surplus [C - 62 - 640 + (740 + 9126)].

In order to illustrate the importance of the different variables, the amounts for the financial year 2016 (full schemes and abbreviated schemes - all industries and sectors) as published by the CBSO are shown below.

Table 3.4.2 A: Full and abbreviated business accounts models for corporations

Full model - financial year 2016 - all industries and sectors (PU450)		
(mln €)		
turnover	70	726 734
changes in stock (produced goods)	71	2 576
own account production of assets	72	7 288
other operating revenue	74-740	35 942
Production	A	772 540
purchases of goods and services	600/8	497 947
changes in stocks of purchased goods	609	-17 042
consumption of goods	60	480 906
purchases of services (and other goods)	61	134 653
other operating costs	64-640	3 808
formation/reorganisation costs	8002	251
capitalized current reorganisation costs	649	-13
infrequent operational costs capitalized reorganisation costs	6690	-25
infrequent financial costs capitalized reorganisation costs	6691	-1
administrators' fee	695	444
Intermediate consumption	B	620 101
Gross value added	C	152 438
compensation of employees	62	87 999
operating taxes	640	5 759
operating subsidies	740	2 540
interest subsidies	9126	147
Gross operating surplus	D	61 367
Gross margin (70/76A-76A-60/61)	9800	159 520
Gross value added		152 438
Difference		7 082
conceptual differences concerning charges		4 542
conceptual differences concerning income		2 540
Number of accounts/corporations		21 918

Abbreviated and micro model - financial year 2016 - all industries and sectors (PU450)				
(mIn €)				
		Abbreviate d model	Micro model	Total
Gross margin (70/74-60/61=9900+76A)	9800	47 499	9 569	57 069
compensation of employees (-)	62	24 033	3 084	27 117
other operating costs (-)	640/8	1 883	524	2 407
Gross operating surplus		21 583	5 961	27 545
operating taxes (n.a. but estimated)	640	1 133	316	1 449
other operating costs (excl. Taxes)	641/8	749	209	958
operating subsidies (not estimated)	740	n.a.	n.a.	n.a.
formation/reorganisation costs	8002	n.a.	n.a.	n.a.
administrators' fee	695	872	131	1 003
Gross value added (*)		45 878	9 230	55 107
Gross margin minus gross value added		1 622	340	1 961
conceptual differences concerning charges		1 622	340	1 961
conceptual differences concerning income		0	0	0
Number of accounts/corporations		235 641	154 560	390 201
(*) 9800-641/8-695				

An aggregate that is commonly used in financial statements analysis (and which is also compulsory in the abbreviated and micro models) is the 'gross margin' or the difference between total operating revenue and the consumption of goods and services (70/76A-76A - 60/61). The gross margin serves as a proxy measure for value added.

Value added estimated in the context of national accounts, however, is lower than the gross margin, because some transactions are reclassified: other operating revenue (74) is corrected for operating subsidies (740), infrequent operational revenue is eliminated (76A) and other operating costs (64 - 640) as well as capitalized formation/restructuring costs and administrators' fees are treated as intermediate consumption. This explains why gross value added is lower than the gross margin.

The vast majority (95 %) of corporations depositing annual accounts are considered as small or medium sized and deposit an abridged or micro format. These SMS corporations however represent only 26 % (€ 57 billion) of total value added (€ 216.6 billion) in business accounts (gross margin). As in other countries large companies are still predominant in the Belgian economy (5 % of corporations account for 74 % of total value added).

For large corporations with no (usable) annual accounts, a structural business survey (SBS)⁷⁰ might be available (**category E1**). In this case, the information from the survey is used. This is direct information covering the same contents as in the annual accounts (in the survey, reference is made to the accounting model).

For large corporations for which no annual accounts or SBS are available (**category A2**), we have the turnover and current purchases according to the VAT returns, and the wages and salaries calculated from the NSSO file⁷¹. The wage and salary data are included as such. The other headings are computed either via VAT- turnover (this is the case in most industries) or via NSSO -wages and salaries (this is the case in some service industries)⁷² using

⁷⁰ All large corporations are covered via the structural business survey. This is for example also the case for the Belgian branch offices of foreign corporations that are not obliged to file annual accounts with the Central Balance Sheets Office. For those units we therefore have a structural business survey but no annual accounts.

⁷¹ Including the NSSOPLA wages and salaries in a limited number of industries.

⁷² The cost structure of A1+E1 is transferred to A2 using the ratio VAT turnover A2/annual accounts turnover A1+E1, or the ratio NSSO wages and salaries A2/annual accounts wages and salaries A1+E1.

the structural information – turnover/purchases, turnover/wages, purchases/wages, value added/wages - of the units for which direct information is available (cat A1 and E1) in the industry that is estimated.

For *SMS corporations*, the accounting information in the ‘abridged and micro models’ is no longer exhaustive: the detail of operating revenue (70, 71, 72, 74) is missing, turnover (70) and consumption of goods and services (60/61) are optional (and de facto in most cases also missing), and operating subsidies (740) and operating taxes (640) are no longer available via the notes/annexes to the accounts.

Gross margin (frequent and infrequent operational revenue minus consumption of goods and services) (9900), infrequent operational revenue (76A), wages and salaries (62) and total other operating costs (640/8) are however compulsory.

annual account code	description
70	turnover (<i>optional information</i>)
76A	Infrequent operational revenue
60/61	$600/8 + 609 + 61 =$ consumption of goods and services (<i>optional information</i>)
62	wages and salaries, social security contributions and pensions
640/8	$640 + 641/8$ (other operating costs incl. business taxes)
9900	gross margin = $70 + 71 + 72 + 74 + 76A - 60 - 61 > 0$
9900	gross margin = $70 + 71 + 72 + 74 + 76A - 60 - 61 < 0$

For SMEs with abridged and micro accounts in which turnover and purchases are mentioned (**categories B1 and C1** respectively with a positive and negative gross margin), we know the main headings (in particular the turnover and consumption of goods and services). The missing headings are deducted from the known headings (71, 72, 74) or estimated based on coefficients known for large corporations from the same industry (640 and 740).

For SMEs that are not member of a VAT unit with abridged and micro accounts in which turnover and purchases are missing (**categories B2 and C2** respectively with a positive and negative gross margin), turnover is calculated from the VAT-declarations and purchases are derived as a residual (given the gross margin). In a few industries, gross margin is used to make the estimates.

For SMEs that are member of a VAT unit with abridged and micro accounts in which turnover and purchases are missing (**category BC**), the gross margin is used to make the estimates.

The data for *SMEs with no (usable) annual accounts* is taken from the SBS (if available: **category E2**) or is estimated via other sources (**category B3**). In most industries, the VAT-turnover is available, and purchases are estimated using the ratio purchases/turnover known for $B1 + B2 + C1 + C2 + BC + E2$. In a few industries, turnover and purchases are estimated via the wage bill (using the ratio wages/turnover and wages/purchases known for $B1+B2+C1+C2+BC+E2$). The wages and salaries for cat B3 are known from NSSO.

Enterprises not depositing annual accounts and belonging to VAT-units (category BL) request a specific treatment, because the only information available for this population is the wage bill. Turnover, purchases, and value added for these units is estimated via wages.

NPI's with annual accounts sectorised in S11 (market units) are categorized as **H1, H2 or H3** depending on the type of accounting model (resp. full model, abridged model with operational revenue and purchases mentioned and abridged model with the revenue and purchases missing). These accounts are very similar to the accounts of corporations and are used in the same way. Contrary to the accounts for corporations, the accounts for NPI's include a specific income item 73 (contributions, gifts, legacies, and grants). Revenue, purchases, and value added of small NPI's for which annual accounts are missing (**category H4**) are estimated via NSSO-wages (using ratios available for NPI's with annual accounts).

Annual accounts data available by category of NPI⁷³

Headings	Description	H1	H2	H3	H4
<i>Production</i>					
70/74	Operating income (70+71+72+73+74)	x	x		
70	Turnover	x			
71	Changes in stocks of produced goods	x			
72	Capitalized own account production of assets	x			
73	Contributions, gifts, legacies, grants	x			
730/1	Contributions	x			
732/3	Gifts	x			
734/5	Legacies	x			
736	Investment and interest grants	x			
74	Other operating income	x			
<i>Intermediate consumption and taxes on production</i>					
60/61	Consumption of goods and services (60 + 600/8 + 609 + 61)	x	x		
60	Consumption of raw materials, consumables etc.	x			
600/8	Purchases of goods	x			
609	Changes in stocks of purchased goods	x			
61	Services and other goods	x			
640/8	Other operating costs	x	x	x	
640	Operating taxes	x			
641/8	Other operating costs (excl. taxes)	x			
<i>Compensation of employees</i>					
62	Compensation, social contributions and pensions	x	x	x	
<i>Gross margin</i>					
9900	Difference of the headings 70/74 and 60/61		x	x	

The administrative aggregates for the NPI's are estimated in the following way: for **category H1** units, administrative aggregates are calculated on basis of the following headings of their annual accounts:

- Output: 70 + 71 + 72 + 73 + 74
- Intermediate consumption: 600/8 + 61 + 609 + 641/8
- Compensation of employees: 62
- Other taxes on production: 640
- Other subsidies on production: 0.

The NPI's operating income (70/74) breakdown is not available for units of the **category H2** that file a short version of the annual accounts. One needs to extrapolate these data from the information provided by H1 units, in order to estimate the different components of the output. Likewise, the sole information available to estimate the intermediate consumption of H2 units is the heading 60/61 of the annual accounts (supplies, merchandises, services miscellaneous goods). It is therefore necessary to identify the part of taxes on production (heading 640) relative to the other operating costs recorded in (640/8). These are derived from the data provided by H1 units.

Output and intermediate consumption of NPIs of the **category H3** are extrapolated from the annual accounts of units of the categories H1 and H2 based on the gross operating margin ($9900 = 70/74 - 60/61$). As for the category H2, other operational expenses recorded in the annual accounts of NPIs of the category H3 are divided between intermediate consumption and other taxes on production using the breakdown provided by units of the categories H1 and H2.

Finally, all administrative aggregates for units of the **category H4** are extrapolated on basis of wages declared to the National Social Security Office and structural information of NPI's with annual accounts (H2+H3).

⁷³ This table contains the 2012 version of the full model for NPI annual accounts. This was the version NPI's had to use in 2016. The introduction of the new code Corporations and Associations of 2019 led to a new version, which was published in 2020.

The amounts of the relevant variables from the profit and loss account of NPI's consolidated in the statistics of the C.B.S.O. of the NBB are shown in the next table.

Table 3.4.2 B: Full and abbreviated business accounts models for associations

NPI's - financial year 2016 full and abbreviated models - all industries and all sectors			
Source CBSO/NBB			
(mln €)	account	full model	abbreviated model
turnover	70	14 803	
changes in stock (produced goods)	71	-8	
own account production of assets	72	30	
contributions, gifts, legacies and grants	73	8 792	
other operating revenue	74-740	1 983	
Production	A	25 600	
purchases of goods and services	600/8	2 626	
changes in stocks of purchased goods	609	-5	
consumption of goods	60	2 621	
purchases of services (and other goods)	61	6 017	
other operating costs	64-640	677	355
formation/reorganisation costs	8002	13	
capitalized current reorganisation costs	649	-2	
capitalized extraordinary reorganisation costs	669	0	
Intermediate consumption	B	9 331	
Gross value added	C	16 269	
compensation of employees	62	14 475	4 220
operating taxes	640	78	n.a.
operating subsidies	740+9126	0	0
Gross operating surplus	D	1 716	456
Gross margin (70/74-60/61)	9900	16 962	5 031
Gross value added		16 269	4 676
Difference		692	355
Number of accounts/NPI's		1 507	5 715

Category **RF** consists of units that act as fiscal representatives (for VAT purposes) for non-resident units. The value added of fiscal representatives is conventionally obtained via the wages (overall these are very limited amounts because most of the fiscal representatives are purely administrative units without personnel).

The total amounts of the administrative/private accounting aggregates by sector for the year 2016 are shown in the next tables.

Administrative aggregates for sector S.11

Table 3.4.3: Results of the administrative aggregates for sector S11

Total S11	2016 (in € million)																
	A1	E1	A2	B1	B2	BC	C1	C2	E2	B3	BL	H1	H2	H3	H4	RF	TO
C_70	700 558	4 931	13 084	15 663	171 523	12 143	364	3 291	1 920	27 174	3 935	8 138	1 187	1 775	1 981	31	967 699
C_71	2 172	7	4	-51	-279	-14	-7	0	0	31	3	0	0	0	0	0	1 868
C_72	6 764	2	29	0	9	0	0	0	5	11	5	12	2	3	6	0	6 848
C_73	0	0	0	0	0	0	0	0	0	0	0	3 389	735	779	1 304	0	6 207
C_74-740	32 889	80	524	303	1 122	105	26	3	26	142	209	1 079	209	276	316	0	37 309
C_A	742 383	5 020	13 641	15 915	172 375	12 234	383	3 295	1 952	27 357	4 153	12 619	2 133	2 833	3 607	31	1 019 931
C_600/8+61	599 509	4 207	11 462	11 816	124 412	8 918	462	4 166	1 586	20 898	3 228	4 293	776	1 216	1 827	0	798 777
C_609	-2 138	-207	-25	-145	-2	-5	-5	0	10	-3	-4	-2	0	0	0	0	-2 525
C_641/8	3 536	5	450	127	1 531	175	4	66	15	120	24	173	62	65	115	0	6 466
C_B	600 906	4 005	11 886	11 798	125 940	9 089	461	4 232	1 611	21 015	3 248	4 464	839	1 282	1 942	0	802 718
C_62	81 502	676	1 416	2 266	22 109	1 770	17	186	169	2 878	673	8 414	1 137	1 362	1 481	31	126 088
C_640	5 794	28	36	118	1 030	50	4	69	7	167	28	51	20	22	28	0	7 452
C_740	1 375	34	31	37	395	3	1	9	0	58	5	1 272	0	0	0	0	3 219
C_C	141 477	1 014	1 755	4 117	46 435	3 146	-78	-937	341	6 342	905	8 155	1 294	1 551	1 665	31	217 213

S.11	Categories	C_C (B1g)	%
Direct information		206.514	95,1%
Annual business accounts		205.159	94,5%
Corporations	A1+B1+B2+C1+C2+BC	194.159	89,4%
NPI's	H1+H2+H3	11.001	5,1%
SBS	E1+E2	1.355	0,6%
Indirect information	A2+B3+BL+H4+RF	10.698	4,9%
Total		217.213	100,0%

95 % of total value added in S.11 is estimated using direct information (annual accounts or occasionally SBS). Only 5 % of value added is estimated in an indirect way (using VAT or NSSO-information).

The *indirect estimation methods for populations A2 and B3* can be summarized as follows:

- Method VAT1: turnover and purchases are taken over from the VAT returns.
- Method VAT2: turnover is taken over from the VAT returns, purchases are extrapolated.
- Method NSSO1: turnover and purchases are extrapolated via NSSO wages and salaries.

The extrapolation base for methods VAT2 and ONSS1 is the population of comparable companies for which direct information exists. In the case of A2 it is A1+E1, in the case of B3, it is B1+B2+C1+C2+BC+E2.

If the extrapolation base for industries in which VAT-declarations are representative is too small, the VAT1 method is used (a minority of industries).

In most industries whose activity is not exempt from VAT (and for which relevant VAT information is therefore available) method VAT2 is used. After a comparison between the turnover and the purchases from the annual accounts and the VAT- declarations, it was noticed that the amounts for purchases (of current goods and services) in the VAT file were not always reliable. Therefore, it is more appropriate to extrapolate purchases via the ratio (purchases/turnover) of comparable enterprises.

For many service industries for which direct information is not available, NSSO1 is used instead of VAT1 or VAT2.

The *estimation method for BL and H4* is NSSO1, because VAT-information is missing in the case of BL and is mostly missing in the case of H4. The extrapolation base used to estimate BL is A1+E1+B1+B2+C1+C2+BC+E2, because enterprises belonging to VAT-units can be large as well as small. The extrapolation base for H4 is H1+H2+H3. Limiting the extrapolation base for H4 to H2+ H3 would lead to too much extrapolation problems/ad hoc corrections because the estimates for non-profit institutions are made on a detailed NACE level (mostly NACE 4/5).

The indirect estimation methods only give results for the total operating income and the total consumption of goods and services but not for the other headings like the changes in inventories. Changes in stocks (C-71 and C_609) are only available in the profit and loss accounts for large companies (full schemes: cat A1). Therefore, the amounts derived/extrapolated in other categories are not used in the estimate of changes in stocks (P.52), as will be explained in chapter 5.

Administrative aggregates for sub-sector S.125 to S.127

For the subsectors S.125 to S.127 for which the same approach as for S.11 is used, the following results appear. For the other sub-sectors of S.12, specific sources and methods are used. They are described in section 3.7.

Table 3.4.4: Results of the administrative aggregates for sub-sectors S.125-S.127

2016.2020.S125-S127.Agg1.D	A1	2016 (in € million)															
		E1	A2	B1	B2	BC	C1	C2	E2	B3	BL	H1	H2	H3	H4	RF	TO
C_70	9 514	367	310	223	2 364	522	4	20	16	1 038	1 280	0	7	4	1	0	15 670
C_71	0	0	0	0	-2	-1	0	0	0	0	0	0	0	0	0	0	-3
C_72	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19
C_73	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
C_74-740	730	10	82	13	107	30	2	0	0	45	25	1	1	0	0	0	1 045
C_A	10 262	377	392	236	2 469	551	6	20	16	1 083	1 305	1	9	4	1	0	16 733
C_600/8+61	6 598	124	289	115	1 219	287	10	57	12	414	833	21	8	2	0	0	9 988
C_609	-39	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	-38
C_641/8	220	2	8	5	42	26	1	3	0	8	3	4	1	2	0	0	324
C_B	6 779	125	297	120	1 262	313	10	59	12	421	836	26	8	4	0	0	10 274
C_62	1 480	95	74	60	564	134	3	5	1	161	97	0	0	2	0	0	2 677
C_640	56	2	0	3	18	2	1	2	2	12	4	0	0	1	0	0	102
C_740	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
C_C	3 483	251	95	116	1 207	238	-4	-40	4	662	469	-24	1	1	0	0	6 459

S125_S127	Categories	C_C (B1g)	%
Direct information		5.233	81,0%
Annual business accounts		4.977	77,1%
Corporations	A1+B1+B2+C1+C2+BC	5.000	77,4%
NPI's	H1+H2+H3	-23	-0,4%
SBS	E1+E2	256	4,0%
Indirect information	A2+B3+BL+H4+RF	1.226	19,0%
Total		6.459	100,0%

The relative importance of indirect estimation methods is higher here, but the absolute amounts involved are low.

Administrative aggregates for sector S.15

For the NPI's classified in S.15, we have the following amounts:

Table 3.4.5: Results of the administrative aggregates for sector S.15

2016.2020.S15.Agg1	A1	2016 (in € million)															
		E1	A2	B1	B2	BC	C1	C2	E2	B3	BL	H1	H2	H3	H4	RF	TO
C_70	0	0	0	0	0	0	0	0	0	0	0	130	94	115	233	0	572
C_71	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C_72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C_73	0	0	0	0	0	0	0	0	0	0	0	1 891	943	946	1 256	0	5 037
C_74-740	0	0	0	0	0	0	0	0	0	0	0	94	36	44	65	0	239
C_A	0	0	0	0	0	0	0	0	0	0	0	2 116	1 073	1 106	1 555	0	5 849
C_600/8+61	0	0	0	0	0	0	0	0	0	0	0	837	281	373	636	0	2 127
C_609	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
C_641/8	0	0	0	0	0	0	0	0	0	0	0	215	38	37	118	0	408
C_B	0	0	0	0	0	0	0	0	0	0	0	1 052	319	410	754	0	2 536
C_62	0	0	0	0	0	0	0	0	0	0	0	891	677	627	706	0	2 901
C_640	0	0	0	0	0	0	0	0	0	0	0	12	39	39	43	0	132
C_740	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C_C	0	0	0	0	0	0	0	0	0	0	0	1 064	753	696	801	0	3 313

S15	Categories	C_C (B1g)	%
Direct information		2.513	75,8%
Annual business accounts		2.513	75,8%
Corporations	A1+B1+B2+C1+C2+BC	0	0,0%
NPI's	H1+H2+H3	2.513	75,8%
SBS	E1+E2	0	0,0%
Indirect information	A2+B3+BL+H4+RF	801	24,2%
Total		3.313	100,0%

For S.15, by construction, there are amounts in categories H1, H2, H3 and H4 only. Because only very large (H1) and large NPI's (H2 and H3) deposit annual accounts, a relatively large amount of value added is estimated in an indirect way (using NSSO-wages and salaries) (H4). In terms of value added, the estimate for S.15 is very reliable, because compensation of employees is always available.

Administrative aggregates for sector S.14

Depending on the activity, different sources are used to estimate the value added (and mixed income) of self-employed persons categorised in S.14.

The calculations for *agriculture* are based on the economic accounts for agriculture.

For *VAT-registered self-employed persons*, value added is estimated via the VAT returns.

For *non-VAT-registered self-employed persons*, the personal income tax returns are used. The disadvantage of these source is that the final data only become available late (the final data for income of year T become available at the end of t+2). These calculations are carried out outside the repertory. Apart from administrators (S14_nace 702) following activities are estimated using the personal income tax file:

- 66: activities auxiliary to financial and insurance services
- 702: management consultancy (administrators/directors)
- 8621: general medical practices
- 8622: specialist medical practices
- 8623: dental practices
- 8690: other human health activities (nurses, physiotherapists, speech therapists etc.).

Dwelling services (rent and imputed rent) are estimated according to a specific methodology. The corresponding amounts are added in step 2 of the compilation process.

The value added of *households as employers of domestic personnel* (NACE 97) corresponds to the wages and salaries paid by families to domestic help, gardeners, cleaning ladies etc. Because most of these services are supplied 'in the black economy', little or no use can be made here from official sources. The corresponding amounts are added in phase 2 of the compilation process.

The compensation of employees paid by unincorporated enterprises (self-employed people) are known via the NSSO returns. The apportionment of other taxes and subsidies on production over the various industries is estimated via the structure survey intended for self-employed units.

Because self-employed persons do not have to draw up and file annual accounts only categories A2, B3 and BL are relevant here. The totals of 'administrative' aggregates in S14 are shown in the next table. These amounts do not include dwelling services and domestic personnel which are added afterwards (in phase 2).

Table 3.4.6: Results of the administrative aggregates for sector S.14

2016 (in € million)																	
2016.2020.S14.Agg2.D.*	A1	E1	A2	B1	B2	BC	C1	C2	E2	B3	BL	H1	H2	H3	H4	RF	TO
C_70	0	0	82	0	0	0	0	0	0	46 359	102	0	0	0	0	0	46 543
C_71	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C_72	0	0	0	0	0	0	0	0	0	309	0	0	0	0	0	0	309
C_73	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C_74-740	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
C_A	0	0	85	0	0	0	0	0	0	46 668	102	0	0	0	0	0	46 855
C_600/8+61	0	0	75	0	0	0	0	0	0	19 281	78	0	0	0	0	0	19 434
C_609	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C_641/8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C_B	0	0	75	0	0	0	0	0	0	19 281	78	0	0	0	0	0	19 434
C_62	0	0	9	0	0	0	0	0	0	1 436	6	0	0	0	0	0	1 451
C_640	0	0	0	0	0	0	0	0	0	154	0	0	0	0	0	0	154
C_740	0	0	0	0	0	0	0	0	0	265	0	0	0	0	0	0	265
C_C	0	0	10	0	0	0	0	0	0	27 388	24	0	0	0	0	0	27 421

The split-up of the total by source, excluding dwelling services and households with domestic personnel, is given in the next table:

Table 3.4.7: Allocation of administrative aggregates by source for sector S.14

2016 (in € million)				
2016.2020 S14	agriculture	income tax	VAT	total
C_70	3 868	19 260	23 415	46 543
C_71	0	0	0	0
C_72	197	0	112	309
C_73	0	0	0	0
C_74-740	0	0	2	2
C_A	4 066	19 260	23 530	46 855
C_600/8+61	2 605	1 877	14 952	19 434
C_609	0	0	0	0
C_641/8	0	0	0	0
C_B	2 605	1 877	14 952	19 434
C_62	71	45	1 335	1 451
C_640	24	0	130	154
C_740	231	0	34	265
C_C	1 461	17 383	8 578	27 421
C_D	1 597	17 338	7 146	26 081

(*) Excluding dwelling services and households with domestic

The amount of € 197 million corresponding with item C_72 for agriculture refers to the production for own final consumption of vegetables by households in their own gardens.

3.4.2. STEP 2 - TRANSITION FROM ADMINISTRATIVE/BUSINESS AGGREGATES TO ESA 2010 AGGREGATES

In a first step, the administrative aggregates are calculated per industry (NACE 2, 3, 4 or 5) and per sector. These intermediate results are then summed up to give a higher aggregation level (140 SUT industries; see section 9.1 for a full description).

By SUT industry/sector, the administrative/business accounting variables (operating revenue, consumption of goods and services, wages and salaries, operating taxes, and operating subsidies) are converted into ESA 2010 aggregates (production, intermediate consumption, compensation of employees, other taxes on production, other subsidies on production). The balancing items gross value added (B.1g = P1-P2) and gross operating surplus (B.2 g = B1g - D1 - D29 + D39) can of course also be derived.

Business accounting aggregates	=>	Aggregates ESA 2010
70+71+72+73+ 74-740	=>	P.1
60 + 61 + 641/8 + 8002 + 649 + 6690 + 6691 + 695	=>	P.2
62	=>	D.1
640	=>	D.29
740 + 9126	=>	D.39

All adjustments and reclassifications have a counterpart that can fall within or outside the primary distribution of income account. The budget identity on the global level of the sector account is therefore always respected.

To obtain exhaustive accounts, the administrative figures can be completed with exogenously estimated amounts (for example for hospitals depositing a specific type of accounts).

The information needed to calculate these adjustments is available either in the business annual accounts, in the SBS, or as exogenous data in accounts S.13 (taxes and subsidies on products and other taxes and subsidies on production) and S.12 (nonlife insurance premiums and claims).

In the following, each type of adjustment (indicated with a letter) is described for each sector. The amounts refer to 2016. The amounts are expressed in € million.

In particular, the following conceptual adjustments are considered:

- Valuation of inventories: see adjustment (w)
- Computer software and databases: see adjustment (i) and section 3.19
- Entertainment, literary and artistic originals: see adjustment (x) and section 3.24
- Research and development: see adjustment (g) and section 3.19
- Insurance service charge: see adjustments (l), (m), (aa) and section 3.17
- Production and allocation of FISIM: see specific adjustment for FISIM and section 3.17
- Leasing: see adjustment (d) and section 3.17
- Margins on trading financial assets: see section 3.17

No adjustment is brought as regards durable goods of small value. On this topic, national accounts depend on the treatment of purchases of small tools in the annual accounts of the companies: when these purchases are treated as investment goods and are capitalized on the balance sheet, they are de facto considered as part of GFCF. If they are recorded as current purchases of goods in the profit and loss account, they are de facto considered as intermediate consumption. No attempt is made to correct the P2/P51 delineation used in business accounts. A possible correction would be immaterial compared to the GDP/GNI-levels.

Major repairs and improvements are treated the same way in the annual business accounts and the national accounts (as P.51). Therefore, no specific adjustment is needed for this item.

3.4.2.1. Non-financial corporations (S.11)

Table 3.4.8: Transition from administrative/business aggregates to ESA 2010 aggregates for sector S.11

2016 (in € million)															
2016-2020-11.All Branches	C_70	C_71	C_72	C_73	C_74-740	C_A	C_600/8+61	C_609	C_641/8	C_B	C_62	C_640	C_740	C_C	C_D
Initial	967 699	1 868	6 848	6 207	37 309	1 019 931	798 777	-2 525	6 466	802 718	126 088	7 452	3 219	217 213	86 892
(a1)	0	0	0	-92	0	-92	0	0	0	0	0	0	0	-92	-92
(a2)	0	0	0	-36	0	-36	0	0	0	0	0	0	0	-36	-36
(b)	0	0	0	0	0	0	0	0	0	0	241	0	0	0	-241
(c)	-589	0	0	0	0	-589	-480	0	0	-480	0	0	0	-109	-109
(d)	-369 854	0	0	0	0	-369 854	-370 529	675	0	-369 854	0	0	0	0	0
(e)	0	0	0	0	-616	-616	0	0	-1 124	-1 124	0	0	0	508	508
(f)	0	0	0	0	-263	-263	-692	0	0	-692	0	0	0	428	428
(g)	0	0	1 002	0	0	1 002	-1 952	0	0	-1 952	0	0	0	2 954	2 954
(h1)	0	0	0	0	0	0	-186	0	-64	-250	0	0	0	250	250
(h2)	0	0	0	-155	0	-155	0	0	0	0	0	0	0	-155	-155
(i1)	0	0	2 962	0	0	2 962	-1 273	0	0	-1 273	0	0	0	4 235	4 235
(i2)	0	0	-328	0	0	-328	0	0	0	0	0	0	0	-328	-328
(i3)	0	0	-318	0	0	-318	0	0	0	0	0	0	0	-318	-318
(j)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(k)	0	0	0	0	0	0	1 630	0	0	1 630	0	0	0	-1 630	-1 630
(l)	0	0	0	0	0	0	-905	0	0	-905	0	0	0	905	905
(m)	0	0	0	0	-685	-685	0	0	0	0	0	0	0	-685	-685
(n)	0	0	0	-1 330	0	-1 330	0	0	0	0	0	0	1 330	-1 330	0
(o1)	-8 095	0	0	0	0	-8 095	-5 046	0	0	-5 046	0	-3 049	0	-3 049	0
(o2)	-235	0	0	0	0	-235	11	0	0	11	0	-246	0	-246	0
(o31)	-2 800	0	0	0	0	-2 800	0	0	0	0	0	0	2 800	-2 800	0
(o32)	-1 699	0	0	0	0	-1 699	0	0	0	0	0	0	1 699	-1 699	0
(o4)	0	0	166	0	0	166	0	0	0	0	0	0	0	166	166
(p1)	59	0	0	0	0	59	0	0	0	0	59	0	0	59	0
(p2)	0	0	0	0	0	0	-2 401	0	0	-2 401	2 401	0	0	2 401	0
(q)	516	0	0	0	0	516	0	0	0	0	516	0	0	516	0
(r)	0	0	0	0	0	0	0	0	0	0	47	0	0	0	-47
(s)	-733	0	0	0	0	-733	-563	-171	0	-733	0	0	0	0	0
(t)	675	-675	0	0	0	0	0	0	0	0	0	0	0	0	0
(u)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(v)	-11 893	-12	-52	-3	-429	-12 390	-10 396	11	-47	-10 433	-1 155	0	0	-1 957	-802
(w)	0	5	0	0	0	5	0	-55	0	-55	0	0	0	60	60
(x1)	20 573	0	596	0	787	21 956	10 271	-15	101	10 357	10 598	16	815	11 599	1 801
(x2)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(x3)	767	0	0	0	0	767	53	0	0	53	8	0	0	713	705
(x4)	0	0	0	0	0	0	130	0	0	130	0	0	0	-130	-130
(x5)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(x6)	0	0	0	0	0	0	575	0	0	575	0	0	0	-575	-575
(y)	18 867	0	0	0	0	18 867	8 510	0	0	8 510	2 358	0	0	10 357	7 999
(z)	-19 782	0	0	0	0	-19 782	-19 782	0	0	-19 782	0	0	0	0	0
(aa)	-85	0	0	0	0	-85	205	0	0	205	0	-425	85	-290	220
(ab)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(ac)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(af)	0	0	0	0	0	0	0	0	0	0	1 248	0	1 248	0	0
(ad)	208	0	0	0	0	208	143	0	0	143	0	0	0	65	65
(fisim)	0	0	0	0	0	0	4 104	0	0	4 104	0	0	0	-4 104	-4 104
(ae)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Adjustment	-374 101	-682	4 028	-1 616	-1 206	-373 576	-388 573	445	-1 134	-389 262	16 321	-3 704	7 976	15 686	11 045
Final	593 598	1 186	10 877	4 591	36 104	646 355	410 204	-2 080	5 332	413 456	142 409	3 748	11 196	232 899	97 937

Adjustment (a1): Legacies received to be reclassified as current transfers (D.75)

NPI's which are classified as market are sectorised in S.11. Very large NPI's (cat H1) deposit a full accounting scheme with the heading 73 broken down (in the annex) by different categories. One of these categories is legacies received (734/5). The percentage of legacies in the total of heading 73 is calculated by SUT-branch. In a second step, this percentage is applied to the total of category 73 for categories H1 to H4. The total amount of legacies reclassified as current transfers was € 92 million in 2016. The amount before adjustment refers to the total of heading 73 for all industries for NPI's within S.11.

Adjustment (a2): Some fees received to be reclassified as current transfers (D.75)

This correction is linked to the heading 730/1 "Membership fees" in the annual accounts. The question is whether the membership fees should be regarded as compensation for a service obtained (P.11) or as a transfer (D.75). If it is an allowance for a service, the amount should be included in P.11. Otherwise, it should be included in D.75.

For sector S.11, pragmatic approach is adopted. The amounts under heading 730/1 are considered as an allowance for a service in all SUT branches **except** industry 94A, which consists of three sub-categories, i.e. 94.1 "Business, employers' and professional organisations", 94.2 "Trade unions" and 94.9 "Other associations". The amounts in 730/1 for units belong to NACE 94.9 are treated as transfers (D.75). In the other NACE categories 94.1 and 94.2, they are treated as P.11, as in all other branches of industry. An adjustment is therefore only made for NACE 94.9 within SUT branch 94A.

The calculation of the adjustment is the same as for adjustment (a1), but only in NACE 94.9. The amount for this adjustment was € 36 million in 2016.

2016 (in € million)		
Heading annual business accounts	Amount before adjustment	Adjustments (a1) and (a2)
C_73	6 207	-92
		-36
Counterpart in D.75 received		128

Adjustment (b): transition of compensation of employees from administrative sources to ESA 2010 definition

The compensation of employees is calculated outside the IT centralised system, based on administrative aggregates (annual accounts and NSSO) and according to ESA 2010 concepts (see section 4.7 for a detailed description). In parallel, the compensation of employees is also calculated via the IT centralised application. The two estimates are not perfectly in line⁷⁴. In adjustment (b), the opening amounts and the closing amounts of both estimates are aligned with each other. The amount of this adjustment in (b) also considers other corrections on account C_62 (p1, p2, q, r, v, x1, x3, y, af - cf. infra for a description).

2016 (in € million)		
Heading annual business accounts	Amount before adjustment	Adjustment (b)
C_62	126 088	241

Adjustment (c): discounts for cash payment recorded in the financial results

In business accounting, discounts given to customers for cash payment are recorded as financial costs, discounts received from suppliers for cash payment as financial income. In the national accounts these amounts are removed respectively from turnover and purchases. The percentages by which turnover and purchases are adjusted are calculated based on SBS results.

2016 (in € million)		
Heading annual business accounts	Amount before adjustment	Adjustment (c)
C_70	967 699	-589
C_600/8+61	798 777	-480

⁷⁴ One reason for this discrepancy is the next one. In the administrative aggregates, heading 62 includes a pro rata adjustment where needed (the same approach as for turnover, purchases, value added etc.). In the compilation of D1 (ESA2010), the annual accounts (social balance sheet) are only used for corporations whose financial year and calendar year coincide. If this is not the case, then an estimate is made via the NSSO. The notion 'usable' annual accounts (social balance sheet) is therefore stricter in the wages and salaries estimation than in the value-added estimation. As a result, the consistency between the number of employees (averaged over 4 quarters) and the total wage and salary bill (originally calendar year data) is always guaranteed.

Adjustment (d): removing of goods for resale from total turnover, purchases and changes in inventories

The goods for resale are eliminated from the total purchases, changes in inventories and turnover. This converts purchases of goods and services into purchases intended for intermediate consumption (excluding goods for resale) and turnover of goods for resale into a trade margin (turnover of goods for resale – purchases of goods for resale).

The relevant amounts are estimated by combining information from the annual accounts, SBS and Prodcum. This adjustment is calculated for all industries and not only for wholesale and retail trade (SUT 45A, 46A, 46B, 47A, 47B). The amounts are very large (around 38 % of total turnover and 46 % of total purchases) but there is no impact on added value.

2016 (in € million)		
Heading annual business accounts	Amount before adjustment	Adjustment (d)
C_70	967 699	-369 854
C_600/8+61	798 777	-370 529
C_609	-2 525	675

The cost of sold goods for resale is equal to purchases of goods for resale (heading 604 of business accounts) adjusted for changes in inventories of goods for resale (heading 6094).

604	purchases goods for resale	368 020
6094	changes in inventories goods for resale (increase)-675	
604 + 6094	cost of sold goods for resale	367 345

By removing the cost of sold goods for resale from the total turnover, we obtain the turnover for services, self-produced goods and the trade margin on the resale of commercial goods, i.e., the output of the trade activity according to the national accounts:

turnover = turnover of services + turnover of goods for resale + turnover of self-produced goods
 turnover – cost of sold goods for resale = turnover of services + (turnover of goods for resale – cost of sold goods for resale) + turnover of self-produced goods

(sold) output = turnover of services + trade margin + turnover of self-produced goods

Adjustment (e): elimination of holding gains and losses from operating income and expenditure

Holding gains and losses are not transactions and must therefore be eliminated from the output and the intermediate consumption. This concerns the following items for which information is available via the SBS:

- 741: gains on current disposal of tangible fixed assets
- 742: gains on realisation of (written of) trade debts
- 641: losses on current disposal of tangible fixed assets
- 642: losses on realisation of (written of) trade debts

2016 (in € million)		
Heading annual business accounts	Amount before adjustment	Adjustment (e)
C_74/740	37 309	-616
C_641/8	6 466	-1 124

Adjustment (f): elimination of rent received and paid for land from operating income and operating costs

Land is a non-produced asset. Rental income and payments are therefore not regarded as output and intermediate consumption, but as property income (D.45). The rent received and paid on land is known via the SBS.

2016 (in € million)		
Heading annual business accounts	Amount before adjustment	Adjustment (f)
C_74/740	37 309	-263
C_600/8+61	798 777	-692
Counterpart in D.45 received		263
Counterpart in D.45 paid		692

Adjustment (g): capitalisation of expenditure on R&D

Belgian accounting law allows companies to capitalise their R&D costs. Activation, however, is not compulsory. Consequently, production on own account of R&D (included in account 72) and GFCF in R&D appear in the annual accounts, but these amounts underestimate the total R&D-activity and cannot be used as such.

For large companies (full scheme) the acquisition of R&D is known separately. For small and medium size companies (abbreviated scheme), the acquisition of R&D is included in the total acquisitions of intangible fixed assets (R&D, concessions, patents, licences, know-how, trademarks, and other similar rights).

The starting point is the estimate of acquisitions of R&D according to the annual accounts: the amounts are known as such for large companies and are estimated for SMS companies (using the hypothesis that, by industry, the part of the acquisitions of R&D in the total acquisitions of intangible assets is the same for large companies as for SMS companies (SUT-branch)).

This amount is then compared to the total investments in R&D according to ESA2010 compiled according to the manual on R&D/satellite accounts of R&D. The source used in this respect is the specific survey on R&D conducted by the Belgian Science Policy Office (Belspo-survey), which allows to estimate the total production of R&D. Following a supply and use approach and after integrating the amounts of imports and exports of R&D from the balance of payments, investment in R&D according to the national accounts (ESA2010) can be derived.

This amount is higher than the acquisitions of R&D in the business accounts because not all companies activate their R&D costs. For companies activating their R&D costs, the annual accounts are ESA2010 compliant (there is production for own final use of R&D and/or purchases of R&D that were activated). For companies which did not activate their R&D but have R&D investments according to the satellite account/national accounts, the annual accounts must be adjusted. The value added must be increased in line with their investment (increase in production and/or decrease in intermediate consumption). The adjustment (g) corresponds to the difference between the investment in R&D according to the national accounts and the investment in R&D according to the annual business accounts⁷⁵. This difference covers companies not activating their R&D costs as well as conceptual and valuation differences between annual business accounts (e.g., production for own final use is valued at cost) and national accounts/satellite accounts (e.g., production for own final use includes a mark-up for operating surplus).

⁷⁵ The portion of investment in R&D generated by imports of patents, however, is not taken into account when calculating correction (g). This concerns a transaction with no impact on value added/GDP in the national accounts (P7= P51) nor in the annual accounts (a purchase of a patent is a balance sheet transaction according to the annual accounts – acquisition of intangible assets (excl. R&D) - and does not appear in the profit and loss account which implies that value added which can be derived from the annual accounts is not impacted). This type of investment in R&D has no counterpart in the production approach of the accounts: adjustment (g) = P51_R&D_ESA2010 – imports of patents – P51_R&D_annual accounts.

This adjustment has a considerable positive impact on value added.

2016 (in € million)		
Heading annual business accounts	Amount before adjustment	Adjustment (g)
C_72	6 848	1 002
C_600/8+61	798 777	-1 952
Counterpart in P.51_R&D		2 954

Adjustment (h1): removing of gifts paid recorded in intermediate consumption

Gifts paid by companies are normally recorded in account 61 and must be deleted from intermediate consumption and transferred to the miscellaneous current transfers: D75. For corporations (all categories except Hi), this information is known via the SBS.

Gifts paid by NPI's (categories Hi) are recorded in the other operating charges (641/8). They must be treated as current transfers. The part of gifts in the other operating charges is estimated via information available in the SBS sent to associations and estimated for industries where NPI's are classified.

2016 (in € million)		
Heading annual business accounts	Amount before adjustment	Adjustment (h1)
C_600/8+61	798 777	-186
C_641/8	6 466	-64
Counterpart in D.75 paid		250

Adjustment (h2): elimination of gifts received recorded in operating revenue /production (for NPI's)

These gifts are reclassified as current transfers (D75). An estimate is made using annual accounts information of very large NPI's for which account 73 is detailed in the annexes as follows:

- 73: contributions, gifts, legacies, grants
- 730/1: contributions
- 732/3: gifts
- 734/5: legacies
- 736: other grants

2016 (in € million)		
Heading annual business accounts	Amount before adjustment	Adjustment (h2)
C_73	6 207	-155
Counterpart in D.75 received		155

Adjustment (i1): recording of non-capitalised costs of software as investment

Self-developed software for own use is, in most cases, not capitalised by corporations; purchased software is often treated as a current purchase (entry in the profit and loss account) and not as an acquisition of a fixed asset in the balance sheet.

Self-produced software is estimated based on the wage and salary costs of IT- staff employed in the different industries (see section 5.11.1.2). Purchased software recorded as a current expense is known via the SBS.

Self-produced software is added to production (heading 72: own production of fixed assets) and investments. Purchased software accounted for as current purchases of goods and services is reclassified from intermediate consumption to GFCF.

This adjustment has a considerable positive impact on value added.

2016 (in € million)		
Heading annual business accounts	Amount before adjustment	Adjustment (i1)
C_72	6 848	2 962
C_600/8+61	798 777	-1 273
Counterpart in P.51_Software		4 235

Adjustment (i2): elimination of activated software in the annual accounts

A small number of companies activate the costs associated to the development of software for own final use. This information is known via the SBS (detail of account 72). The total production of software on own account is compiled via adjustment (i1). The portion that was already considered in the annual business accounts is corrected for in adjustment (i2). Without correction (i2), there would be a double counting in the production approach.

2016 (in € million)		
Heading annual business accounts	Amount before adjustment	Adjustment (i2)
C_72	6 865	-328

Adjustment (i3): removing of activated costs linked to non- produced non-financial assets

A limited number of companies activate costs linked to intangible fixed assets. These costs (concessions, licences, trademarks etc.) are considered as non-produced non-financial assets in the national accounts. As these assets are not part of the produced fixed assets (AN.11), no P51g can be associated nor any production. If a production (in the form of activated costs) appears in the annual business accounts, it must be removed (set to 0). This information is known via the SBS.

2016 (in € million)		
Heading annual business accounts	Amount before adjustment	Adjustment (i3)
C_72	6 848	-318

Adjustment (k): transfer of some bank charges to intermediate consumption

Via the SBS for financial institutions, the amounts (commissions, management charges, etc.) that banks invoice to S.11 units for the services they provide are known. Non-financial corporations record these charges in heading 65 of the business accounts (financial charges). However, in ESA 2010, these charges are to be treated as intermediate consumption. The amounts involved are significant.

2016 (in € million)		
Heading annual business accounts	Amount before adjustment	Adjustment (k)
C_600/8+61	798 777	1 630

Adjustment (l): non-life insurance premiums

Companies record the (gross) premiums paid to insurance corporations in heading 61, as a purchase of a service. According to ESA 2010, the total premium must be split into a 'service part' (corresponding to the production of insurance corporations) and a transfer part (compensation paid to insurance takers).

The gross premiums paid are known via the SBS. The transfer part - to be withdrawn from intermediate consumption - can be calculated based on information from the accounts of the insurance corporations.

2016 (in € million)		
Heading annual business accounts	Amount before adjustment	Adjustment (l)
C_600/8+61	798 777	-905
Counterpart in D.71 paid		905

Adjustment (m): non-life insurance claims

In business accounts, non-life insurance claims received are recorded in "other operating income" (account 74) or in "other extraordinary income" (account 764/9). The part recorded in operating income can be estimated based on SBS. It is reclassified from production to the non-life insurance claims (D72).

2016 (in € million)		
Heading annual business accounts	Amount before adjustment	Adjustment (m)
C_74/740	37 309	-685
Counterpart in D.72 received		685

Adjustment (n): removing of operating subsidies from output

In some cases, operating subsidies received from S.13 are recorded in heading 73 of the business accounts. Through the adjustment (n), these subsidies are reclassified in D.39.

2016 (in € million)		
Heading annual business accounts	Amount before adjustment	Adjustment (n)
C_73	6 207	-1 330
C_740	3 219	1 330

Adjustments (o): adjustment to convert producer prices into basic prices

The valuation of turnover in business annual accounts and VAT-declaration does not include VAT charged to customers. That is in line with the basic price evaluation in national accounts. Some other taxes on products are however passed through in the producer price. Some types of wage subsidies are recorded as normal operating revenue (assimilated to production) in the annual business accounts and not as other subsidies on production (D39). In these cases, an adjustment from producer to basic prices is needed. The amounts involved for 2016 are shown in the next table, where:

- (01) excise duties
- (02) tax on turnover in pharmaceutical industry
- (031) rebate on advance tax payment (*précompte professionnel*)
for researchers, in the case of shift work, night work and overtime hours
- (032) subsidies "cheques services"
- (04) mark up own account production of tangible assets

2016 (in € million)							
Codes business accounting	Initial amounts		(o1)	(o2)	(o31)	(o32)	(o4)
C_A	1 090 844	Adjustment on output	-8 095	-235	-2 811	-1 734	166
C_B	835 773	Adjustment on intermediate consumption	-5 046	11	0	0	0
C_640	7 843	Adjustment on D.29	-3 049	-246	0	0	0
C_740	3 485	Adjustment on D.39	0	0	2 811	1 734	0
C_C	255 071	Adjustment on added value	-3 049	-246	-2 811	-1 734	166

The total amount of excise duties (€ 8095 million) is known via the S13-accounts. Part of this amount (€ 3049 million) is accounted for in "other operating taxes" (640) - this information is available in the SBS - and the remaining part is supposed to be included in the total of purchases of goods and services (C_B). After correction (o1), the turnover is cleared for excise duties (at basic prices) and operating taxes and purchases of goods and services are cleared for taxes on products (excise duties). The logic behind the correction (o2) is the same: elimination of a tax on product from turnover and elimination of taxes on products included in taxes on production and purchases of goods and services (intermediate consumption). The rationale for corrections (o31) and (o32) is to reclassify wage subsidies from normal operating revenue/turnover in the annual into accounts into subsidies on production (740/D39).

Correction (o4) is necessary because own account production of tangible investment goods (construction work, installations, machines, etc.) is valued at cost in the annual accounts while it should be valued at basic prices (including a mark-up for operating surplus) in the national accounts. This mark-up is registered in adjustment (o4).

Adjustment (p1): wages and salaries in kind produced by the employer

Goods and services produced by companies and provided free of charge or at reduced prices to employees must be added to turnover and to wages and salaries. Some amounts are estimated for two industries: hotels, restaurants, and cafés (free meals offered to staff) and manufacturers of motor vehicles (discounts granted to employees on a new car purchased from their own employer).

2016 (in € million)		
Heading annual business accounts	Amount before adjustment	Adjustment (p1)
C_70	967 699	59
C_62	126 088	59

Adjustment (p2): wages and salaries in kind purchased by the employer

The information is obtained via the NSSO (personal use of company car) and from the balance sheet (code 1033: benefits on top of wage or salary).

2016 (in € million)		
Heading annual business accounts	Amount before adjustment	Adjustment (p2)
C_600/8+61	798 777	-2 401
C_62	126 088	2 401

Adjustment (q): tips/gratuities

For some industries, gratuities are taken into account (hotels, restaurants and cafés, taxis, hairdressers). These are estimated as a percentage of the turnover.

Turnover and the wages and salaries are increased by the amount of the gratuities estimated.

2016 (in € million)		
Heading annual business accounts	Amount before adjustment	Adjustment (q)
C_70	798 777	516
C_62	126 088	516

Adjustment (r): reclassification of profits distributed to employees as compensation of employees

Profits can be distributed to three types of beneficiaries:

- Owners/stockholders (dividends) (heading 694)
- Directors/managers (heading 695)
- Other beneficiaries (employees) (heading 696)

The distribution of profit is mentioned in the annual business accounts. The (small) portion allocated to employees is treated as compensation of employees in national accounts.

2016 (in € million)		
Heading annual business accounts	Amount before adjustment	Adjustment (r)
C_62	126 088	47

Adjustment (s): real estate acquired intended for resale

Real estate companies trade in existing real estate (non-residential buildings, dwellings, etc.). The purchase of real estate for resale is treated in the same way as the purchase of other goods for resale. In business accounts, they are recorded in the profit and loss account (heading 605: purchase of real estate intended for resale) and give rise to an increase in stocks (account 6095) if there is no subsequent sale. They are not considered as an acquisition of fixed assets (GFCF).

With adjustment (s), the corresponding acquisitions are removed from intermediate consumption. The turnover on account of the resale of real estate is reduced to a 'margin' [similarly to the adjustment for goods for resale, cf. adjustment (d)]. This margin is imputed to the product 'buildings' in the supply and use table as shown in the example:

Real estate sector acquires buildings produced by NACE 41 for 100, keeps 10 in stock and sells on 90 at 120 The margin realized on this sale (30) is imputed to the product buildings						
annual accounts		adjustment(s)	after adj.			
70	120	-90	30	P1	allocate to product buildings	
605	100	-100	0	P2		
6095	-10	10	0	P2		
supply and use table						
	P1	P1	supply	P51	P52	use
	nace41	nace 68				
buildings	100	30	130	120	10	130

The changes in stocks of real estate acquired for resale (6095) are reclassified as GFCF (P51) afterwards, considering the type of assets concerned. This implies that no changes in stocks are allowed for the product buildings in the SUT (see also chapter 5.11).

The amounts for 2016 (known via the SBS) are as follows

605	purchase of real estate intended for sale	563
6095	changes in inventories of real estate intended for sale	-171 (decrease)
605+6095	cost of commercial real estate sold	733

2016 (in € million)		
Heading annual business accounts	Amount before adjustment	Adjustment (s)
C_70	967 699	-733
C_600/8+61	798 777	-563
C_609	-2 525	-171

Adjustment (t): transfer of amounts recorded in account 71 to account 70 in some industries

In the construction industry (NACE 41-43) and the real estate industry (NACE 68), the amounts recorded in account 71 are contracts in progress. According to the bookkeeping definitions, the corresponding advance payments are recorded as an investment (under account 27: assets under construction and advance payments)⁷⁶. To avoid double counting in national accounts and in the SUT, it is therefore appropriate to reclassify this amount from a change in inventory (account 71) to a sale (account 70).

2016 (in € million)		
Heading annual business accounts	Amount before adjustment	Adjustment (t)
C_70	967 699	675
C_71	1 868	-675

Adjustment (v): elimination of value added produced abroad

In the annual business accounts, transactions (and assets and liabilities) are reported for the legal unit. This unit may have operating premises (establishments) located outside Belgium. Because only the value added produced in Belgium must be included in GDP, the figures for corporations with foreign establishments [operating premises with no separate legal personality] must be adjusted.

Because survey or administrative information is not available at the establishment level, an indirect approach is used to estimate the activity realised abroad. This is done by comparing the wages and salaries indicated in the annual accounts (including foreign establishments) with those indicated in the social balance sheet (wages and salaries paid in Belgian establishments). The difference between these amounts is the wage bill paid in foreign establishments. The proportion of wages paid abroad with respect to the total wages and salaries paid is used as a proxy to estimate the value added produced abroad⁷⁷. The related turnover, purchases and the corresponding wages and salaries are removed from the original figures. This adjustment, which transforms value added from a corporate basis to a territorial basis, is quite significant.

⁷⁶ In the books of the construction companies, these advance payments received are recorded as liabilities in the balance sheet (account 46: advances received on contracts in progress).

⁷⁷ If wages according to the social balance sheet are 90 and wages in the annual accounts (profit and loss account) are 100, 10 of total wages are paid in foreign establishments. If value added according to the annual account is 150, 10 % (15) of this amount is deemed to be produced abroad. This implies that all the relevant transactions (turnover, purchases, wages) in the annual accounts are adjusted in the same proportion (-10 %).

2016 (in € million)		
Heading annual business accounts	Amount before adjustment	Adjustment (v)
C_70	967 699	-11 893
C_71	1 868	-12
C_72	6 848	-52
C_73	6 207	-3
C_74_740	37 309	-429
Operating income (CA)	1 019 931	-12 390
C_600/8+61	798 777	-10 396
C_609	-2 525	11
C_641/8	6 466	-47
Purchases of goods and services (C)	802 718	-10 433
C_62	126 088	-1 155
C_640	7 452	0
C_740	3 219	0
Gross added value (CC)	217 213	-1 957
Gross operating surplus (CD)	86 892	-802

Adjustment (w): holding gains/losses on inventories

In times of large price increases or price reductions for raw materials, consumables and goods for resale, the accounting figures for changes in inventories may include significant holding gains/losses if corporations measure their inventories by the FIFO method.

An estimate is made for these holding gains/losses. The changes in inventories for purchased goods (heading 609) according to the annual accounts are thereby adjusted. This adjustment has no counterpart. Therefore, it has an impact on value added and gross operating surplus. In the case of holding gains, value added is adjusted downwards. In the case of holding losses, value added is adjusted upwards. There is an additional note and more explanation on this item in section 5.11.

This correction on purchases was extended to the changes in inventories of produced goods. Following the same principle, a correction on heading 71 is applied. In case of price increase, the changes in inventories will be adjusted downwards. In case of price decrease, the correction will be positive.

2016 (in € million)		
Heading annual business accounts	Amount before adjustment	Adjustment (w)
C_71	1 868	5
C_609	-2 525	-55

The business accounting figure for changes in stocks shows a total valuation difference of € -50 million. These holding gains are excluded from the changes in inventories (P.52) via adjustment (w). After this adjustment, the decrease in purchased stocks is higher and intermediate consumption is lower. In this case, the production is higher. In total, gross value added and operating surplus increase by the same amount.

Adjustment (x): additions of some units or adjustments for ad hoc calculation

Adjustment (x1) includes the production and primary income account for hospitals (for which overall information is available via the FPS Public Health), the subsidies on production not yet recorded for agriculture and the part of own account production of originals recorded in S.11.

Adjustment (x3) covers the part of the production of drugs sectorised in S.11 (in NACE 20) (for more detail on illegal economy, see chapter 7)

Adjustment (x4) includes the imputation of management costs for mutual funds owned by S.11.

Adjustment (x6) includes the imputation of the costs for self-employed administrators.

2016 (in € million)								
Heading annual business accounts	Amount before adjustment	Adjustment (x1)	Agriculture	Originals	Hospitals	Adjustment (x3)	Adjustment (x4)	Adjustment (x6)
C_70	967 699	20 573	0	0	20 573	767	0	0
C_71	1 868	0	0	0	0	0	0	0
C_72	6 848	596	0	596	0	0	0	0
C_73	6 207	0	0	0	0	0	0	0
C_74_740	37 309	787	0	0	787	0	0	0
Operating income (CA)	1 019 931	21 956	0	596	21 360	767	0	0
C_600/8+61	798 777	10 271	0	0	10 271	53	130	575
C_609	-2 525	-15	0	0	-15	0	0	0
C_641/8	6 466	101	0	0	101	0	0	0
Purchases of goods and services (CB)	802 718	10 357	0	0	10 357	53	130	575
C_62	126 088	10 598	0	0	10 598	8	0	0
C_640	7 452	16	0	0	16	0	0	0
C_740	3 219	815	244	0	571	0	0	0
Gross added value (CC)	217 213	11 599	0	596	11 003	713	-130	-575
Gross operating surplus (CD)	86 892	1 801	244	596	961	705	-130	-575

Adjustment (y): grossing up for the non-observed economy

In the official administrative databases (annual accounts, VAT returns, NSSO returns), only the official/declared part of business activities can be found. In column (y), a grossing up for 'undeclared' sales, purchases and wages is applied, in order to bring the official data in line with the economic reality and to obtain an exhaustive GDP. The grossing-up percentages are defined by NACE 3 or 4 digit. They are applied to the official data for small and medium-sized corporations (categories B1, B2, B3, C1, C2 and E2). More detail on this estimation of non-observed economy is given in chapter 7.

Since undeclared wages and salaries are paid net (excluding social security contributions and payroll tax) the ratio wages and salaries/value added for undeclared activities is lower than for official activities.

2016 (in € million)		
Heading annual business accounts	Amount before adjustment	Adjustment (y)
C_70	967 926	18 867
C_71	1 869	0
C_72	6 865	0
C_73	6 208	0
C_74_740	37 333	0
Operating income (CA)	1 020 201	18 867
C_600/8+61	798 898	8 510
C_609	-2 523	0
C_641/8	6 476	0
Purchases of goods and services (C)	802 851	8 510
C_62	126 111	2 358
C_640	7 453	0
C_740	3 190	0
Gross added value (CC)	217 350	10 357
Gross operating surplus (CD)	86 976	7 999

Adjustment (z)

This adjustment is specific for some industries (trade in gas and electricity, etc.). By analogy with trade, production must also be calculated here as a 'margin'. There is no impact on value added. Turnover and purchases are adjusted downwards by the same amount.

2016 (in € million)		
Heading annual business accounts	Amount before adjustment	Adjustment (z)
C_70	967 699	-19 782
C_600/8+61	798 777	-19 782

Adjustment (aa): reconciliation entries

This adjustment concerns operating taxes, operating subsidies, and non-life insurance premiums. The total of these items can be found in the general government account and the accounts of the insurance corporations. The amounts that can be estimated from the business accounts of non-financial corporations are reconciled with the data from the other data sources.

The total adjustment (aa) is the sum of three sub-items:

- *alignment of accounts 740 (after previous adjustments) to D.39 (other subsidies on production)*

The total of D.39 is known from the general government account and the rest of the world account. It is split up by institutional sector based on the nature of the subsidies.

In the annual accounts and the SBS, information is available from receivers (operating subsidies).

In adjustment (aa2) the information from the business accounts is aligned with the exogenous amounts known from the general government account.

For operating subsidies, we get the following situation:

Opening amount 740 from the annual accounts (incl. amounts for SMS enterprises)	3 219
Adjustments to line 740 (different types of wage subsidies not recorded in 740 etc.)	+7 892
Additional adjustment (aa)	85
D.39 in S.11	11 196

The operating subsidies are additionally augmented with € 85 million in adjustment (aa2). This amount has a counterpart in turnover/other operating revenue. Here we assume that these 'lacking' subsidies on production were incorrectly recorded in turnover.

- *alignment of accounts 640 (after previous adjustments) to D.29 (other taxes on production)*

The total of D.29 is known from the general government account and the rest of the world account. It is split up by institutional sector based on the nature of the taxes.

In the business annual accounts and the SBS, information is available from payers (business taxes).

In adjustment (aa1), the information from the business accounts is aligned with the exogenous amounts known from the general government account.

For business taxes, this gives the following:

Opening amount 640 from the annual accounts (incl. amounts for SMS enterprises)	7 452
Adjustments on line 640 (excise duties, etc.)	-3 285
Additional adjustment (aa)	-425
D.29 in S.11	3 748

The business taxes are additionally reduced by € 425 million in adjustment (aa1). There is a counterpart for this amount in the purchases, if it relates to taxes on products that from the point of view of the national accounts was incorrectly recorded in account 640 (this is for example the case for non-deductible VAT on current purchases of goods and services that must be allocated to intermediate consumption).

- *reconciliation of insurance premiums paid with insurance premiums received*

It is assumed that all insurance premiums paid by non-financial corporations were properly recorded under the heading 'purchases of goods and services' of the business accounts. However, the information available via the SBS (premiums paid) is not fully consistent with the insurance corporation data (premiums received).

The adjustment for insurance premiums already made in adjustment (I), based on insurance premiums paid by industry, must therefore be reconciled with the total premiums received by insurance companies. This new adjustment considers only the service part of the premiums, not the transfer part.

For non-life insurance premiums, we get the following situation:

Removing of transfer part of premiums from purchases based on information from the SBS (payers) (adj. (I))	-905
Additional adjustment taking into account the exogeneous information from insurance corporations (adjustment aa3)	-220
Final adjustment of intermediate consumption on account of non-life insurance premiums	-1 125

These 3 sub-items and the total of correction (aa) are shown in the next table.

Heading annual business accounts	Amount before adjustment	Adjustment (aa)	Subsidies (aa1)	Taxes (aa2)	Insurance premiums (aa3)
C_70	967 699	-85	-85	0	0
C_71	1 868	0	0	0	0
C_72	6 848	0	0	0	0
C_73	6 207	0	0	0	0
C_74_740	37 309	0	0	0	0
Operating income (CA)	1 019 931	-85	-85	0	0
C_600/8+61	798 777	205	0	425	-220
C_609	-2 525	0	0	0	0
C_641/8	6 466	0	0	0	0
Purchases of goods and services (CB)	802 718	205	0	425	-220
C_62	126 088	0	0	0	
C_640	7 452	-425	0	-425	0
C_740	3 219	85	85	0	
Gross added value (CC)	217 213	-290	-85	-425	220
Gross operating surplus (CD)	86 892	220	0	0	220

Adjustment (ab): reclassification of social workplaces with protected/subsidized jobs

Social workplaces have a specific NACE-BEL 5 digits code. For national accounts purpose, they must be included in the industries corresponding to their actual activity (mainly some industries from the processing industry). This reclassification is made via adjustment (ab). The sum of the positive and negative amounts (total S.11) is equal to zero.

Adjustment (af): treatment of specific deductions on employers' social contributions as wage subsidies

In Belgium, cutbacks on employers' social contributions are granted for specific targeted groups in order to improve their employment opportunities. These amounts are not considered as receipts (wage subsidy) in the business annual accounts, but directly removed from the wage's bill. In the national accounts, compensation of employees/employers' social contributions must be recorded before deductions/cutbacks of employers' social contributions, i.e., in gross terms. Simultaneously, a wage subsidy (equal to the amount of the deductions) must be recorded in D.39. The objective of adjustment (af) is to implement this correction.

2016 (in € million)		
Heading annual business accounts	Amount before adjustment	Adjustment (af)
C_62	126 088	1 248
C_740	3 219	1 248

The adjustment on wages (C_62 - gross registration of wage cost i.e., before deduction of employers' social contributions) is the same as the adjustment on subsidies on production (C_740)

Adjustment (ad): balancing

In order to harmonise the production approach and the expenditure approach of GDP (and considering estimation errors on both sides), an adjustment is needed. This adjustment can be done on the expenditure side,

on the production side or both. The *arbitrage* adjustment in the production side (on production and/or intermediate consumption) appear in this item. For more information on the balancing procedure, see chapter 6.

2016 (in € million)		
Heading annual business accounts	Amount before adjustment	Adjustment (ad)
C_70	967 699	208
C_600/8+61	798 777	143

Adjustment for FISIM

In the estimation FISIM, the portion allocated to the intermediate consumption of S.11 is calculated. This amount (€ 4 104 million in 2016) is broken down by industries using production as allocation key.

Note that no adjustment is brought as regards durable goods of small value. On this topic, national accounts depend on the treatment of purchases of small tools in the annual accounts of the companies: when these purchases are treated as investment goods and are capitalized on the balance sheet, they are de facto considered as part of GFCF. If they are recorded as current purchases of goods in the profit and loss account, they are de facto considered as intermediate consumption. No attempt was made in the past (ESA95) nor will be made in the future (ESA2010) to correct the P2/P51 delineation used in business accounts. A possible correction would be immaterial compared to the GDP/GNI-levels.

3.4.2.2. Financial corporations (excl. MFI and insurance corporations and pension funds)

The following nace groups/SUT-industries/subsectors are covered in this section:

Nace rev2	description	SUT	sector
642	Activities of holding companies	64B	S127
649	Other financial service activities, except insurance and pension funding	64D	S125
	Activities auxiliary to financial services, except insurance and pension funds	66A	S126
662	Activities auxiliary to insurance and pension funding	66B	S126
663	Fund management activities	66C	S126
701	Activities of head offices	70A	S126
sector	description		
S.125	Other financial intermediaries, except insurance and pension funding		
S.126	Financial auxiliaries		
S.127	Captive financial institutions and money lenders		

For financial corporations in sub-sectors S.125 to S.127, the same approach is followed as for S.11. An estimate is done by SUT-industry and sub-sector.

Totals and the different adjustments are shown in the table below. All the adjustments relevant for non-financial corporations are not relevant for this sub-group of financial corporations.

Table 3.4.9: Transition from administrative/business aggregates to ESA 2010 aggregates for sector S.12

2016 (in € million)															
2016-2020-12.All Branches	C_70	C_71	C_72	C_73	C_74-740	C_A	C_600/8+61	C_609	C_641/8	C_B	C_62	C_640	C_740	C_C	C_D
Initial	15 670	-3	19	2	1 045	16 733	9 988	-38	324	10 274	2 677	102	2	6 459	3 682
(b)	0	0	0	0	0	0	0	0	0	0	-20	0	0	0	20
(d)	-699	0	0	0	-10	-709	-750	41	0	-709	0	0	0	0	0
(e)	0	0	0	0	-37	-37	0	0	-101	-101	0	0	0	64	64
(f)	0	0	0	0	0	0	-7	0	0	-7	0	0	0	7	7
(g)	0	0	10	0	0	10	16	0	0	16	0	0	0	-5	-5
(h1)	0	0	0	0	0	0	-6	0	0	-6	0	0	0	6	6
(i1)	0	0	173	0	0	173	-21	0	0	-21	0	0	0	194	194
(i2)	0	0	-1	0	0	-1	0	0	0	0	0	0	0	-1	-1
(i3)	0	0	-14	0	0	-14	0	0	0	0	0	0	0	-14	-14
(j)	-532	0	0	0	0	-532	0	0	0	0	0	0	0	-532	-532
(l)	0	0	0	0	0	0	-16	0	0	-16	0	0	0	16	16
(p2)	0	0	0	0	0	0	-78	0	0	-78	78	0	0	78	0
(r)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(v)	-1 347	0	0	0	-30	-1 377	-913	0	-39	-952	-205	0	0	-425	-220
(w)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(x1)	0	0	0	0	0	0	60	0	0	60	0	0	0	-60	-60
(x4)	0	0	0	0	0	0	23	0	0	23	0	0	0	-23	-23
(aa)	0	0	0	0	0	0	-20	0	0	-20	0	0	0	20	20
(af)	0	0	0	0	0	0	0	0	0	0	16	0	16	0	0
(ad)	-51	0	0	0	0	-51	20	0	0	20	0	0	0	-70	-70
(fisim)	2 371	0	0	0	0	2 371	454	0	0	454	0	0	0	1 917	1 917
Total Adjustment	-258	0	169	0	-79	-167	-908	40	-139	-1 007	-131	0	16	840	987
Final	15 412	-3	189	2	967	16 566	9 080	2	185	9 267	2 546	102	17	7 299	4 668

Adjustment (d) is applied in sector/industry S.125_64D. Companies active in financial leasing record the goods purchased to be leased as commercial goods. These purchases, however, cannot be treated as intermediate consumption. The same type of correction is necessary as in the case of goods for resale in S.11.

Adjustment (j) is a specific correction made in S.125_64D (financial leasing, consumer credit, mortgage loans, factoring etc.). A lot of companies active in these industries record (part of) interest revenue in turnover (70) instead of financial income (75). This correction aims to reclassify these flows (turnover/production is adjusted downwards - interest/property income adjusted upwards).

Adjustment (x1) is a specific correction made in S.125_64D in order to allocate part of the imputed production of the central Bank to this sector. The output of the central Bank is measured as the sum of its costs. This non-market output (total output less commissions and fees) of the Central Bank is allocated to the intermediate consumption of the financial intermediaries (S.122 and S.125) in proportion of their value added. The part of non-market output of S.121 allocated to P.2 in S.125 is recorded in this adjustment (in the heading 'purchases of goods and services')

Adjustment for FISIM

S.125 is a producer of FISIM as well as a consumer of FISIM.

These (exogenous) amounts are added to the rest of the production and intermediate consumption estimated with the annual business accounts. The production of FISIM appears in heading C_70 and intermediate consumption of FISIM in heading C_600/8+61. For S.126 and S.127, small amounts for P2_fisim are also estimated and inserted in the process.

3.4.2.3. MFI and investment funds (S.121_ S.124), insurance corporations (S.128) and pension funds (S.129)

The treatment of the specific accounting information for these sectors is explained in chapter 3.17.

3.4.2.4. Households (S.14)

For self-employed persons/unincorporated enterprises, the administrative aggregates are also converted into ESA 2010 aggregates. In some cases (dwelling services, private households with employees, originals, and illegal activities), the administrative figures are supplemented with exogenously estimated amounts (adjustments x1, x2, x3 and x5).

Since we have much less information available for the self-employed, adjustments are only calculated for goods for resale (d), bank charges (k), insurance premiums (l), wages in kind (p1), wage subsidies (031 and o32), tips/gratuities (q), black economy (y), specific deductions on employers' social contributions as wage subsidies (af) and FISIM. Business taxes and subsidies are also reconciled with the total amount for S.14 known from the general government account (aa). This is also the case for wages and salaries (b). Arbitrage adjustments (ad) can be necessary as well.

For 2016, the transition table is as follows:

Table 3.4.10: Transition from administrative/business aggregates to ESA 2010 aggregates for sector S.14

2016 (in € million)															
2016-2020-14.All Branches	C_70	C_71	C_72	C_73	C_74-740	C_A	C_600/8+61	C_609	C_641/8	C_B	C_62	C_640	C_740	C_C	C_D
Initial	46 543	0	309	0	2	46 855	19 434	0	0	19 434	1 451	154	265	27 421	26 081
(b)	0	0	0	0	0	0	0	0	0	0	-6	0	0	0	6
(d)	-6 894	0	0	0	0	-6 894	-6 894	0	0	-6 894	0	0	0	0	0
(k)	0	0	0	0	0	0	12	0	0	12	0	0	0	-12	-12
(l)	0	0	0	0	0	0	-138	0	0	-138	0	0	0	138	138
(o31)	-11	0	0	0	0	-11	0	0	0	0	0	0	11	-11	0
(o32)	-35	0	0	0	0	-35	0	0	0	0	0	0	35	-35	0
(p1)	5	0	0	0	0	5	0	0	0	0	5	0	0	5	0
(q)	109	0	0	0	0	109	0	0	0	0	46	0	0	109	64
(x1)	9 070	0	25 302	0	0	34 372	3 795	0	0	3 795	457	3 391	20	30 578	26 749
(x2)	1 374	0	0	0	0	1 374	154	0	0	154	0	138	0	1 220	1 082
(x3)	1 467	0	0	0	0	1 467	238	0	0	238	0	0	0	1 228	1 228
(x5)	71	0	0	0	0	71	44	0	0	44	0	0	0	27	27
(y)	6 725	0	0	0	0	6 725	2 756	0	0	2 756	293	0	0	3 969	3 676
(aa)	0	0	0	0	0	0	0	0	0	0	0	60	25	0	-36
(af)	0	0	0	0	0	0	0	0	0	0	62	0	62	0	0
(ad)	-141	0	0	0	0	-141	0	0	0	0	0	0	0	-141	-141
(fisim)	0	0	0	0	0	0	4 297	0	0	4 297	0	0	0	-4 297	-4 297
Total Adjustment	11 740	0	25 302	0	0	37 042	4 264	0	0	4 264	857	3 590	153	32 779	28 485
Final	58 283	0	25 611	0	2	83 897	23 697	0	0	23 697	2 308	3 743	418	60 200	54 566

The detail of the amounts added, that are missing in the administrative sources, can be seen in the following table (detail x1, x2, x3, x5).

2016 (in € million)												
Heading annual business accounts	Amount before adjustment	Adjustment (x1)	Dwelling services	Originals	Domestic staff	Adjustment (x2)	Adjustment (x3)	Production of cannabis	Trade in drugs	Prostitution	Adjustment (x5)	
C_70	46.543	9.070	9.070	0	0	1.374	1.467	113	458	895	71	
C_71	0	0	0	0	0	0	0	0	0	0	0	
C_72	309	25.302	24.749	96	457	0	0	0	0	0	0	
C_73	0	0	0	0	0	0	0	0	0	0	0	
C_74_740	2	0	0	0	0	0	0	0	0	0	0	
Operating income (CA)	46.855	34.372	33.819	96	457	1.374	1.467	113	458	895	71	
C_600/8+61	19.434	3.795	3.795	0	0	154	238	45	14	179	44	
C_609	0	0	0	0	0	0	0	0	0	0	0	
C_641/8	0	0	0	0	0	0	0	0	0	0	0	
Purchases of goods and services	19.434	3.795	3.795	0	0	154	238	45	14	179	44	
C_62	1.451	457	0	0	457	0	0	0	0	0	0	
C_640	154	3.391	3.391	0	0	138	0	0	0	0	0	
C_740	265	20	0	0	0	0	0	0	0	0	0	
Gross added value (CC)	27.421	30.578	30.024	96	457	1.220	1.228	68	444	716	27	
Gross operating surplus (C)	26.081	26.749	26.633	96	0	1.082	1.228	68	444	716	27	

Adjustment (x1) includes dwelling services (NACE/SUT 68B), originals (90A) and the wages – which are equal to production - paid for employing domestic staff (97A).

Adjustment (x2) corresponds to rents received by households letting real estate to companies (" professional" rents).

Adjustment (x3) covers the illegal activities sectorised in S14 (production of cannabis (01A), trade in drugs (47A) and prostitution (96A)).

Adjustment (x5): the thresholds for the VAT declaration are gradually increased, resulting in missing data. Through this correction, an estimate is made of what is below the thresholds.

The grossing up for non-observed economy (cor(y)) in terms of value added is € 3.969 million for S.14 in 2016. In relative terms, it is much greater than for S.11.

A large portion of the total intermediate consumption of FISIM (€ 4.297 million) is allocated to activity 68B (FISIM on mortgage loans).

3.4.2.5. Non-profit institutions serving households (S.15)

For S.15, business accounting aggregates are also transformed into ESA2010 aggregates, as can be seen in the next table.

Table 3.4.11: Transition from administrative/business aggregates to ESA 2010 aggregates for sector S.15

2016-2020-15.All Branches	C_70	C_71	C_72	C_73	C_74-740	C_A	C_600/8+61	C_609	C_641/8	C_B	C_62	C_640	C_740	C_C	C_D
Initial	572	0	0	5 037	239	5 849	2 127	1	408	2 536	2 901	132	0	3 313	280
(a1)	0	0	0	-298	0	-298	0	0	0	0	0	0	0	-298	-298
(a2)	23	0	0	-218	0	-196	0	0	0	0	0	0	0	-196	-196
(b)	0	0	0	0	0	0	0	0	0	0	-24	0	0	0	24
(h1)	0	0	0	0	0	0	0	0	-397	-397	0	0	0	397	397
(h2)	0	0	0	-1 603	0	-1 603	0	0	0	0	0	0	0	-1 603	-1 603
(i1)	0	0	25	0	0	25	-4	0	0	0	0	0	0	29	29
(k)	0	0	0	0	0	0	19	0	0	19	0	0	0	-19	-19
(l)	0	0	0	0	0	0	-4	0	0	-4	0	0	0	4	4
(m)	0	0	0	0	-4	-4	0	0	0	0	0	0	0	-4	-4
(n)	-157	0	0	-2 918	-163	-3 238	0	0	0	0	0	0	0	-3 238	-3 238
(p2)	0	0	0	0	0	0	-3	0	0	-3	3	0	0	3	0
(u)	0	0	0	0	0	0	-501	0	0	-501	0	0	0	501	501
(v)	-3	0	0	-85	-3	-91	-40	0	-11	-50	-37	0	0	-41	-4
(x1)	0	0	0	0	0	0	0	0	0	0	131	0	0	0	-131
(x4)	0	0	0	0	0	0	51	0	0	51	0	0	0	-51	-51
(aa)	0	0	0	0	0	0	-3	0	0	-3	0	0	0	3	3
(af)	0	0	0	0	0	0	0	0	0	0	126	0	126	0	0
(fisim)	0	0	0	0	0	0	21	0	0	21	0	0	0	-21	-21
(ae)	0	0	0	4 594	0	4 594	0	0	0	0	0	0	0	4 594	4 594
Total Adjustment	-138	0	25	-528	-170	-811	-462	0	-408	-870	198	0	126	59	-13
Final	435	0	25	4 509	69	5 038	1 665	1	0	1 666	3 099	132	126	3 373	267

Most of the corrections for sector S.15 have the same meaning as those for S.11. They are estimated using annual accounts (incl. annexes to NPI accounting schemes) or survey information (specific SBS for NPI's). Three corrections are specific for S.15-units:

Adjustment (x1): in Belgium, clergy members of officially recognized religions are remunerated by the Government. According to ESA 2010, these people are classified in sector S.15. Via adjustment (x1), their wages are added to sector S.15. In parallel, they are removed from sector S.13.

Adjustment (n): according to ESA 2010, operating subsidies received by S.15 from S.13 must be recorded as current transfers (D75). They must be removed from the turnover. In business accounts, these revenues can be registered in account 70, 73 or 74.

Adjustment (u): purchases of goods and services for others carried out in the context of the activities of non-market NPIs (S.15) should be deducted from intermediate consumption and transferred to item D.75 paid. This is because D.75 also includes donations in kind (see ESA §4.126). This correction coefficient is assessed based on the 'PURTHI' variable of the business survey among NPI's.

Adjustment (ae): this correction aims to align the production as calculated based on accounting information on the sum of costs.

In the case of non-market producers, the output is valued as the sum of costs (P2+D1+D29-D39+P51c). For S.15, a specific correction is needed in order to align the production to the sum of costs:

$$P2: 1666, D1: 3099, D29: 132, D39: 126 (-), P51c: 267 (= B2g)$$

$$P1 = D1 + P2 + (D29-D39) + P51c = € 5038 \text{ million.}$$

This implies that an adjustment of 4594 is made in correction (ae) in to obtain a total production of € 5038 million.

3.4.3. TRANSITION FROM ADMINISTRATIVE CONCEPTS TO ESA 2010 CONCEPTS FOR GENERAL GOVERNMENT

3.4.3.1. From public accounting to national accounts

For most public entities which are part of general government, almost complete accounting information is available (i.e., the "economic regrouping"), most often by categories of units⁷⁸. These data are processed in an integrated manner, so that all non-financial transactions are compiled only once, in accordance with both the institutional subsector approach and the industry approach. The distinction between administrative services, transport, education, and defence is available directly from the functional codes. This functional distinction facilitates the transition to activity data. The accounts by institutional subsectors and by industry are thus compiled simultaneously, ensuring complete consistency between the two perspectives. This makes it possible to obtain all the elements necessary for calculating GDP from three perspectives: taxes on production and imports (D.2), subsidies (D.3), gross fixed capital formation (P.51), wages (D.1) etc. More detailed analyses in terms of products within the framework of the SUT and of functions (COFOG) are done at later stages.

Differences in definitions and in the conceptual approach between the economic classification and ESA 2010 request some adjustments to bring the former in line with the latter. For these different accounting data (individual or aggregated), conversion tables between the available items and ESA 2010 categories are compiled. These conversion tables are updated at each accounting exercise to include innovations and changes.

The detailed descriptions of the calculations of the various flows are illustrated based on the classification used in 2016 by the Federal Government and by the Communities and Regions. In 2016 the economic groupings followed the rules described in the Manual on economic grouping, edition 2015⁷⁹.

For subsidised private/public schools⁸⁰, bodies for which complete accounting records are not available i.e., which appear only partially in economic regroupings, various resource and expenditure items are estimated using known values, on the assumption that the balance of funding of these bodies is zero.

The economic regroupings completely disregard the specific revenue (i.e., revenue other than transfers in budgets) and corresponding expenditure of schools, including boarding schools and school canteens. The following list shows the main categories of specific revenue for schools (i.e., other than subsidies paid by Communities and Regions):

- schools (state-controlled or independent)
 - gifts and bequests from households
 - revenue from celebrations and other events organised by parents' associations
 - gifts from religious organisations (for denominational private education)
 - miscellaneous activities by parents (photocopying, school trips, etc.)
 - rents for halls and sports facilities used by third parties outside of school hours
 - interest on financial assets (current and investment accounts)
 - school monitoring
 - pupil accommodation charges at boarding schools
 - meals consumed in refectories by outsiders
 - sales of goods and services produced by schools (mainly by technical and vocational departments).

Expenditure covered by this revenue includes the remuneration of certain staff, the operating costs of boarding schools and canteens, bursaries, and awards to deserving pupils, investments in information technology, etc.

Accounts currently include only the following headings as specific revenue:

- Part of gifts from households (the difference between investments of private educational establishments and investment subsidies from the Communities).

⁷⁸ The economic regroupings described above (cf. 3.1.4.4.1) represent data for a category of units. Only units not included in these regroupings are processed individually.

⁷⁹ In 2015, this manual was updated to include the changes linked to the introduction of the ESA 2010 and other changes which were deemed necessary.

⁸⁰ For universities and most high schools direct accounting information is available since 2011. This is also the case for schools under control of municipalities or provinces because they are included in the accounts of these entities.

- Course enrolment and examination fees, school monitoring, pupil accommodation charges at boarding schools and meals consumed in refectories by outsiders, estimated based on HBS data (source: DGSEI). The first two of these items are regarded as non-market education service sales, the other two as secondary market sales of hotel and restaurant services by non-market education. The corresponding expenditure is assumed to equal the resources and be part of intermediate consumption. As it is not possible to distinguish between education networks, all the transactions are assigned to independent education.
- An estimate for research contracts: this revenue is regarded as market secondary sales of research services by non-market education and the corresponding expenditure is assumed to represent remuneration. For the high schools, for which no direct information was available, an estimate based on the other high schools and universities is included.

ESA code	Denomination	Code economic grouping 2015
P11	Market output	16 partim+18 partim
P12	Output for own final use	-
P131	Payments for non-market output	16 partim+18 partim
P2	Intermediate consumption	12+14
P51	Gross fixed Capital Formation	13+7 partim (exp.) -17- 7 partim (rev.)
P1	Production	D1+P2+P51c+D29-D39
P3	Final consumption expenditure	P1-P11-P12-P131+D632+B2n
B2n	Net operating surplus	-
P51c	Consumption of fixed capital	-
D1	Compensation of employees	11 + 44.1
D2r	taxes on production and import	36
D3p	Subsidies	22+31+32
D4r	Property income (received)	26+27+28
D4p	Property income (paid)	21+24
D5r	Current taxes on income, wealth, etc	37 partim
D61r	Social contributions	37 partim
D6p	Social benefits	34 partim
D62	Social benefits, other than social benefits in kind	34 partim
D632	Social benefits in kind	34 partim
D7r	Other current transfers	38+39+4 (rev.)
D7p	Other current transfers (paid)	33+34 partim +35+4 (exp.)-44
D9r	Capital transfers	56+57+58+59+6 (rev.)
D91r	Capital taxes	56
D9p	Capital transfers (paid)	51+52+53+54+6 (exp.) +8 partim (exp.)

ESA code	Denomination	Code economic grouping 2015
NP	Acquisitions less disposals of non-produced assets	7 partim (exp.) 7 partim (rev.)
OTE	Total expenditure	P2+D1+D4+D62+D632+D3+D29p+D5p+D7+D8+P5+NP+D9p
OTR	Total revenue	D2+D5+D91r+D61r+P11+P12+P131+D3r+D4r+D7r+D9r
B9	Net lending /net borrowing	OTR-OTE

R = received; p = paid

rev. = revenue; exp. = expenditure

3.4.3.2. Entities not included in the economic groupings

Governments include more and more entities that are consolidated directly in the economic groupings or deliver similar information to the NAI. However, the implementation of the ESA2010, in September 2014, has changed considerably the scope of the S.13. Most of those new government units are integrated in the economic groupings of 2016. For those who are not, the NAI used the accounting information available at the central balance sheets office. The information of these accounts is collected electronically and nearly automatically integrated in the accounts following a semi-automatic conversion table.

Conversion table between business annual accounts and ESA

ESA Codes	Annual account codes
D.1	62
D.11	62-621-622-624=620+623
D.12	621+622+624
D.121	621+622
D.121 to S.1314	621
D.121 to S.129	622
D.122	624
P.2 SC	600/8+609+61+(640/8-640) + (8002+649+669) + 695
P.2 SA	0
D29 e	640
P.51C	630
P.52	-609+71
P.11	71
P.12	72
P.5111	8169
P.5113	-(8179-8309+763-663)
NP.1	8029-(8039-8109)
P.1	D1+P2+ P51c+D29-D39
P.13	D1+P2+P51C+D29-D39-P12
P.131 SC	70+74-740
P.131 SA	9900
P.132	P13-P131
P.32	P132
D.41 e SC	650
D.41 r SC	751
D.41 e SA	65
D.41 r SA	75
D.421 r	750

D.421 e	694 (t-1)
D.51 e	67/77
D39 r	740+9126
D92 r	15 (t)-15(t-1) +9 125

SC = Complete account, SA = short accounts, e = expenditure, r = revenue

REVENUE	=P11+P12+P131+D41r+D421r+D39r+D92r
EXPENDITURE	=D1+P2+D29e+P5111+P5113+P52+NP.1+D41e+D421e+D51e
B9	=REC-DEP

To be examined on a case by case

696	Could be treated as 694 or to be examined
794	To be treated as D.39r if recurrent, Otherwise D.99r if one-off
763	To be eliminated if this relates to financial assets or liabilities
663	To be eliminated if this relates to financial assets or liabilities
694	To be verified for superdividends
168	To be examined for D.92r
680	To be examined for D.92r
780	To be examined for D.92r
73(*)	Has to be treated as P.11 or D.73r

REVENUE	=70+71+72+73+74+751+750+9126+15(t)-15(t-1) + 9125
EXPENDITURE	=62+600/8+609+61+640/8+(8002+649+669) + 695+8169-(8179-8309+763-663)-609+71+8029-(8039-8109)+650+694(t-1)+67/77

(*) This code only exists in the complete schemes for NPI's

3.4.3.3. Recording on accruals basis

Resources of the government

The national accounts are mainly a system for recording economic events in terms of the monetary payments to which they give rise: payment for the purchase of a good, payment of a wage or salary, payment of a tax, etc. In some cases, there is a time lag between the economic event which gives rise to the payment and the payment itself. Therefore, a decision must be made as to the date of recording. In addition, the amount to be recorded may vary according to the choice of date. Thus, if a transfer was never paid due to the debtor's disappearance, there will be recording of an amount equal to the missing payment if the date of the economic event is chosen as the date of recording; conversely, no amount will be recorded if it is decided to use the actual date of payment. ESA 2010 is based on the principle that the economic event is decisive, and that flows should be entered on an accrual basis. As a principle, tax and para-fiscal revenues that are due but never collected should not be considered.

With social security administrations, the problem is quite simple. In most cases, they record the amounts in question on an accrual basis. In certain cases, social contributions are never paid. Which amount should be recorded: the amount declared, or the amount actually paid? As previously indicated, the basic principle is that taxes and social contributions which are due but never paid may have a positive impact on the deficit, so an adjustment is needed to eliminate the portion of social contributions which will never be paid.

The problem is more complicated in the case of taxes recorded in budgets on a cash basis. Some, such as VAT, are based on self-assessment whereby the taxpayer sends the tax authority a return showing the amount of tax payable, which he/she pays in due course. In the case of VAT, an adjustment is made for the time difference between the date of payment and the period to which the underlying transactions (sales and purchases) refer. For any given year, revenues relating to economic transactions which took place during the previous year must be deducted from the cash-based VAT amount; conversely, revenues in respect of economic transactions taking place during the year in question but collected the following year must be added. This approach, which gives the amount of VAT on a "time-adjusted cash" basis, is the option chosen⁸¹.

81 In practice, we simply time-shift revenues relating to the period between the date of the economic transaction which gives rise to the tax charge and the date on which the amount falls due. Adjustments for late payment are only made where the payments are substantial and the amounts are known.

For other taxes, particularly personal income tax and corporation tax, the authority issues assessments for payment. The date on which the assessment is issued is taken as the time of recording, rather than the year in which the revenue is generated. There is a problem with the amount to be recorded since assessments issued are usually for amounts higher than those collected. Here again it was decided to record only adjusted cash revenue relating to the period between the date on which the assessment is issued and the due date or final date for payment without penalty.

Within the 2019 benchmark revision, an adjustment was introduced for the contributions that are not paid to the government because of bankruptcies. An estimate was added for VAT, payroll taxes and social contributions due but not recoverable following bankruptcies.

Eurostat's GNI expert group reached the conclusion that the VAT due but not recoverable following bankruptcies should be included in the estimate of GDP, which effectively boiled down to imposing method a) of paragraph 4.27 of ESA 2010. An estimate of VAT revenue not collected because of bankruptcies was added, with this estimate being cancelled out simultaneously in the accounts sequence via the recording of a negative capital transfer receivable (see also section 7.1.3.6).

Likewise, to comply with the stipulations of ESA 2010 (§ 4.82 and 4.95) and not over-estimate households' disposable income, an estimate of payroll tax revenue and social contributions due but not recoverable following bankruptcies has been added to the initial aggregate, with the estimate being cancelled out simultaneously in the accounts sequence via the recording of a negative capital transfer receipt.

The following table lists the taxes recorded on a "time-adjusted cash" basis, and the number of months for which the time shift is made.

	Time shift	Subsectors involved
VAT (D211)	1 month	S.1311
Tax on stock exchange transactions (D.214C)	1 month from 01/04/2002	S.1311
Tobacco excise duties (D.2122C and D.214A)	Until 1996: 3 months 1997-2008: 2 months 2009-2014: 1 month Since 2015: 0 month	S.1311
Registration rights (D.214C)	1 month (since 1 January 2017 for Flemish region)	S.1312
Tax on income from immovable assets and supplements thereto (D.29A)	2 months	S.1312 and S.1313
Vehicle taxes (D.29B and D.59D)	Until 2011: 1 month Since 2012: 2 months in Flemish Region	S.1312

Expenditure of the government

Notwithstanding the harmonisation of the economic grouping, the public accounting systems differ between the entities. They can be cash/accrual or mixed (since 1999 for the Federal State and since 2010 for the Communities and Regions). In principle, the Federal and State level entities are gradually implementing an accrual recording, however at a different speed. The general principles are described in the Law of 16 May 2003 (wet van 16 mei 2013 tot vaststelling van de algemene bepalingen die gelden voor de begroting, de controle op de subsidies en voor de boekhouding van de gemeenschappen en de gewesten, alsook voor de organisatie van de controle door het Rekenhof/ Loi du 16 mai 2003 fixant les dispositions générales applicables aux budgets, au contrôle des subventions et à la comptabilité des communautés et des régions, ainsi qu'à l'organisation du contrôle de la Cour des comptes).

As well as the aforesaid adjustments applied systematically each year, particular adjustments to correct one-off occurrences are also applied.

The accounting systems for local authorities follow an accrual accounting.

3.4.3.4. Output and branches of activity of general government

The general government sector mainly produces non-market goods and services. Its output is measured as the sum of production costs. The sector may also, secondarily, be involved in the market output of goods or services, which is valued at basic prices.

This output of non-market goods and services is consumed by the sector which produces it (collective actual final consumption), by the household sector (individual actual final consumption) or by sectors which purchase part of it (payments in respect of other non-market output). Payments in respect of other non-market output correspond to sales by non-market activities which do not cover 50 % of their production costs (e.g., museum entry tickets, course enrolment and examination fees).

Market output covers sales by market activities (e.g., by the Belgian Official Gazette publishing house) and sales of goods and services by non-market activities which cover at least 50 % of production costs. These latter sales are only considered market sales if it is beyond doubt that the resulting revenue covers at least 50 % of production costs; sales where the production cost percentage covered is completely unknown are, by convention, treated as payments in respect of other non-market output. They are determined as a balancing item and therefore have an "overspill" effect.

Output for own final use covers in-house investments. Although this is prescribed by ESA 2010, it has not been possible to include a net operating surplus in the evaluation of output for own account.

This output for own account has no impact on the value added of the non-market activity which produces it. The same is clearly true of payments in respect of other non-market output and sales of market goods and services by non-market branches of activity.

The results for institutional units of general government are:

Output (P.1) =
 compensation of employees (D.1)
 + intermediate consumption (P.2)
 + consumption of fixed capital (P.51c)
 - other subsidies on production (D.39)

and:

Non-market output (P.13) =
 output (P.1)
 - market output (P.11)
 - output for own final use (P.12)

Other taxes on production (D.29) are deemed to be zero⁸² in the case of the output of general government, resulting in two equations:

⁸² These amounts are not zero, but they are negligible. As a reliable estimate is not possible, they are deemed to be zero.

Case where the output of an institutional unit is exclusively non-market:

- Gross value added = compensation of employees (D.1) + consumption of fixed capital (P.51c) - other subsidies on production (D.39)

Case of a local secondary kind-of-activity unit (KAU) which is a market producer:

- Gross value added = compensation of employees (D.1) + consumption of fixed capital (P.51c) + net operating surplus (B.2n)

The other subsidies on production received (D.39) are recorded in the state and local government sector. It concerns the reductions of employer's social contributions for specific groups of employees and reductions on the withholding tax for researchers. These amounts are first registered as social contributions received in the social security sector and as income tax in the Federal government and then registered as other subsidies on production. It concerns the activities 'administration' and 'education' at the State level, and the activity 'administration' at the local level.

The various activities in the general government sector appear in the following table:

A21 level	SUT level	Market or non-market	Sub-sectors
Water supply; sewerage, waste management and remediation activities (E)	Waste management (38A)	NM	S.1311/S.1312/ S.1313
Transportation and storage (H)	Public transport (49B)	NM	S.1312
	Management of transport infrastructures (52A)	NM	S.1311/S.1312/ S.1313
Information and communication (J)	Belgian Official Gazette (58A)	M	S.1311
	Public Broadcasting Corporations (RTBF, VRT and BRFB (60A)	NM	S.1312
Public administration and defence; compulsory social security (O)	General government, except defence and social security (84A) ⁸³	NM	S.1311/ S.1312/ S.1313
	Production of standing timber*	M	S.1313
	Defence(84B)	NM	S.1311
	Compulsory social security (84C)	NM	S.1314
Education (P)	Public-sector education (85A)	NM	S.1312/ S.1313

- Production of standing timber is treated as an increase in inventories during the production process (while the trees are growing), generating a net operating surplus. The sale of trees is thus recorded as a stock decrease.

Some activity categories were created to avoid gaps between industries in cases where units are reclassified to non-financial corporations (S.11) or to general government (S.13). This is for example the case for:

- in 1991, the regional transport companies (SRWT, TEC, De Lijn, STIB-MIVB) that took over from Société Nationale des Chemins de Fer Vicinaux (SNCV) and from the multi-commune public transport companies were classified in the general government sector
- in 1992, the national lottery was classified in the non-financial corporations' sector
- in 2002, public radio and television companies were reclassified in the general government sector
- in 2005, AQUAFIN was reclassified in the non-financial corporations' sector
- in 2014, Infrabel, the public company responsible for the railways infrastructures was reclassified in the general government sector
- in 2015, the branch "waste management" was created for the period beginning in 2009 in the framework of the NACE harmonization (for the years before 2009, the concerned units are classified in the activity "general government").

This new breakdown by activity improves the presentation of the activities of general government. At a time when there was much discussion on the use of public-private partnerships for future transport infrastructure

⁸³ It follows that non-market units of general government operating "Health and social work activities" (Q) and "Collective, social and personal services" (S), other than those listed in the table, are classified in the public administration (O).

developments (to avoid the recording of investment expenditure in the public sector accounts), it was hardly logical that infrastructures that were similar but operated by non-market public producers should be recorded under 'public administration' (O) and not under 'transportation and storage' (H).

Nevertheless, this presentation by branch of activity is not perfect, since many small units operating in 'health and social work' (Q) and 'other service activities' (S) remain classified 'public administration' (O).

The boundaries of non-market activities in the various subsectors are defined based on the previously mentioned functional classifications.

In the COFOG functional classification, fundamental scientific research is classified to "General services of general government" and applied scientific research is always treated as part of the function to which its purpose is related. Conversely, in the nomenclature of activities, "Education" includes fundamental scientific research by universities and certain institutional units which are in the general government sector⁸⁴.

⁸⁴ This method differs from ESA 2010, in which local kind-of-activity units (KAUs) in the general government sector which operate in scientific research (fundamental and/or applied) are included under "Research" (NACE M). This choice is justified solely on practical grounds relating to the availability of basic data under the functional classification.

3.4.3.5. Production account and generation of income account of general government

Activities of general government		2016
		(€ millions)
Total S.13		
	Output (P1)	80 196
	Market output (P11)	3 142
	Output for final use (P12)	3 216
	Non-market output (P13)	73 838
	Intermediate consumption (P.2)	17 517
	Gross value added (B1g)	62 679
	Consumption of fixed capital (P51c)	9 768
	Compensation of employees (D1)	53 620
	Other subsidies on production (D39)	-805
	Net operating surplus (B2n)	96
Waste management (section E - 38A)		
	Output (P1)	1 504
	Market output (P11)	689
	Output for final use (P12)	7
	Non-market output (P13)	808
	Intermediate consumption (P.2)	812
	Gross value added (B1g)	692
	Consumption of fixed capital (P51c)	144
	Compensation of employees (D1)	548
	Other subsidies on production (D39)	0
	Net operating surplus (B2n)	0
Public transport (section H - 49B)		
	Output (P1)	2 697
	Market output (P11)	0
	Output for final use (P12)	26
	Non-market output (P13)	2 671
	Intermediate consumption (P.2)	957
	Gross value added (B1g)	1 740
	Consumption of fixed capital (P51c)	438
	Compensation of employees (D1)	1 303
	Other subsidies on production (D39)	0
	Net operating surplus (B2n)	0
Management of transport infrastructures (section H - 52A)		
	Output (P1)	7 003
	Market output (P11)	494
	Output for final use (P12)	309
	Non-market output (P13)	6 200
	Intermediate consumption (P.2)	2 068
	Gross value added (B1g)	4 935
	Consumption of fixed capital (P51c)	2 918
	Compensation of employees (D1)	2 017
	Other subsidies on production (D39)	0
	Net operating surplus (B2n)	0

Belgian Official Gazette (section J - 58A)		
Output (P1)		53
Market output (P11)		53
Output for final use (P12)		
Non-market output (P13)		0
Intermediate consumption (P.2)		1
Gross value added (B1g)		52
Consumption of fixed capital (P51c)		0
Compensation of employees (D1)		5
Other subsidies on production (D39)		0
Net operating surplus (B2n)		48
Public Broadcasting Corporations (RTBF, VRT and BRFB) (section J - 60A)		
Output (P1)		827
Market output (P11)		289
Output for final use (P12)		20
Non-market output (P13)		518
Intermediate consumption (P.2)		418
Gross value added (B1g)		409
Consumption of fixed capital (P51c)		58
Compensation of employees (D1)		351
Other subsidies on production (D39)		0
Net operating surplus (B2n)		0
General government (Section O - 84A, 84B, 84C)		
Output (P1)		39 190
Market output (P11)		905
Output for final use (P12)		889
Non-market output (P13)		37 396
Intermediate consumption (P.2)		10 040
Gross value added (B1g)		29 151
Consumption of fixed capital (P51c)		3 331
Compensation of employees (D1)		26 367
Other subsidies on production (D39)		-596
Net operating surplus (B2n)		49
Public-sector education (section P - 85A)		
Output (P1)		28 922
Market output (P11)		711
Output for final use (P12)		1 965
Other non-market output (P13)		26 246
Intermediate consumption (P.2)		3 222
Gross value added (B1g)		25 701
Consumption of fixed capital (P51c)		2 879
Compensation of employees (D1)		23 030
Other subsidies on production (D39)		-209
Net operating surplus (B2n)		0

3.5. THE ROLES OF DIRECT AND INDIRECT ESTIMATION METHODS AND OF BENCHMARKS AND EXTRAPOLATIONS

The table below gives per NACE group/class and per category (subpopulation) the method used to estimate the administrative aggregates in (sub) sectors for which a centralised IT-application is used. Because specific accounting information is used for S121_S124 and S128_S129 these subsectors are not mentioned in this table (but also rely on direct methods and exhaustive sources). The same holds for S13.

SUT-tak	nace	S11/S125_S127/S15															S14			
		A1	E1	A2	B1	B2	BC	C1	C2	E2	B3	BL	H1	H2	H3	H4	RF	B3/A2	BL	
01A	01.1	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	RSZ1
01A	01.2	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	RSZ1
01A	01.3	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	RSZ1
01A	01.4	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	RSZ1
01A	01.5	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	ext	RSZ1
01A	01.6	JR	n.a.	BTW2	JR	BTW	JR	JR	BTW	n.a.	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
01A	01.7	JR	n.a.	BTW2	JR	BTW	JR	JR	BTW	n.a.	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
02A	02.1	JR	n.a.	BTW2	JR	BTW	JR	JR	BTW	n.a.	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
02A	02.2	JR	n.a.	BTW2	JR	BTW	JR	JR	BTW	n.a.	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
02A	02.3	JR	n.a.	BTW2	JR	BTW	JR	JR	BTW	n.a.	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
02A	02.4	JR	n.a.	BTW2	JR	BTW	JR	JR	BTW	n.a.	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
03A	03.1	JR	n.a.	BTW2	JR	BTW	JR	JR	BTW	n.a.	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
03A	03.2	JR	n.a.	BTW2	JR	BTW	JR	JR	BTW	n.a.	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
46A	05.1	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
46A	05.2	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
46A	06.1	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
46A	06.2	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
46A	07.1	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
46A	07.2	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
08A	08.1	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
08A	08.9	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
09A	09.1	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
09A	09.9	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
10A	10.1	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
10B	10.2	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
10C	10.3	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
10D	10.4	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
10E	10.5	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
10F	10.6	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
10G	10.71	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
10G	10.72	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
10G	10.73	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
10H	10.81	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
10H	10.82	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
10I	10.83	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
10I	10.84	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
10I	10.85	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
10I	10.86	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
10I	10.89	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
10J	10.9	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
11A	11.01_06	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
11B	11.07	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
12A	12.0	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
13A	13.1	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
13A	13.2	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
13A	13.3	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
13B	13.9	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
14A	14.11	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
14A	14.12_19	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
14A	14.2	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
14A	14.3	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
15A	15.11	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
15A	15.12	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	
15A	15.2	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1	

88A	88.1 + 88.991_9	JR	ESE	RSZ1	JR	JR	JR	JR	RSZ	ESE	RSZ1	RSZ1	JR	JR	JR	RSZ1	RSZ1	n.s.	n.s.
88A	88.91	JR	ESE	RSZ1	JR	JR	JR	JR	RSZ	ESE	RSZ1	RSZ1	JR	JR	JR	RSZ1	RSZ1	n.s.	RSZ1
88A	88.995	JR	ESE	RSZ1	JR	JR	JR	JR	RSZ	ESE	RSZ1	RSZ1	JR	JR	JR	RSZ1	RSZ1	n.s.	n.s.
90A	90.0	JR	ESE	RSZ1	JR	JR	JR	JR	RSZ	ESE	RSZ1	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1
91A	91.0	JR	ESE	RSZ1	JR	JR	JR	JR	RSZ	ESE	RSZ1	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1
92A	92.0	JR	ESE	RSZ1	JR	JR	JR	JR	RSZ	ESE	RSZ1	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1
93A	93.1	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1
93A	93.2	JR	ESE	BTW3	JR	BTW	JR	JR	BTW	ESE	BTW3	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1
94A	94.1	JR	ESE	RSZ1	JR	JR	JR	JR	RSZ	ESE	RSZ1	RSZ1	JR	JR	JR	RSZ1	RSZ1	n.s.	RSZ1
94A	94.2	JR	ESE	RSZ1	JR	JR	JR	JR	RSZ	ESE	RSZ1	RSZ1	JR	JR	JR	RSZ1	RSZ1	n.s.	RSZ1
94A	94.9	JR	ESE	RSZ1	JR	JR	JR	JR	RSZ	ESE	RSZ1	RSZ1	JR	JR	JR	RSZ1	RSZ1	n.s.	RSZ1
95A	95.1	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1
95A	95.2	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1
96A	96.0	JR	ESE	BTW2	JR	BTW	JR	JR	BTW	ESE	BTW2	RSZ1	JR	JR	JR	RSZ1	RSZ1	BTW1	RSZ1
97A	97.0	n.s.	ext.	n.s.															

The meaning of the “categories” and “methods” used are:

A1	Large corporations with full accounting model																		
E1	Large corporations without (usable) annual business accounts, but with SBS																		
A2	Large corporations without (usable) annual business accounts and without SBS																		
B1	SMS corporations with abbreviated or micro model and turnover and purchases mentioned and gross margin > 0																		
B2	SMEs that are not member of a VAT unit with abridged or micro model without turnover and purchases and gross margin > 0																		
C1	SMS corporations with abbreviated or micro model and turnover and purchases mentioned and gross margin < 0																		
C2	SMEs that are not member of a VAT unit with abridged or micro model without turnover and purchases and gross margin < 0																		
BC	SMEs that are member of a VAT unit with abridged or micro model without turnover and purchases																		
E2	SMS corporations without (usable) annual business accounts but with SBS																		
B3	SMS corporations without (usable) annual business accounts and without SBS																		
BL	Members of a VAT-unit without annual accounts																		
H1	NPI's with full accounting model																		
H2	NPI's with abbreviated accounting model and operating income and purchases mentioned																		
H3	NPI's with abbreviated accounting model, operating income and purchases not mentioned																		
H4	NPI's without annual accounts																		
JR	Annual business accounts (full, abbreviated or micro models)																		
ESE	Structural business survey																		
BTW1	Turnover and purchases from VAT-declarations																		
BTW2	Turnover from VAT-declarations, purchases extrapolated																		
RSZ1	Turnover and purchases extrapolated via NSSO wages																		
RSZ	Turnover extrapolated via wages, purchases derived (gross margin is known)																		
BTW	Turnover from VAT-declarations, purchases derived (gross margin is known)																		
EXT	External information																		
P.I.T.	Personal income tax																		

The main conclusions can be summarized as follows:

- Specific (external) information is used to estimate value added in agriculture, dwelling services, and households as employers of domestic personnel (NACE 97). For dwelling services, the methodology was fully revised within the 2016 benchmark revision
- The value added for S.14 unincorporated enterprises in industries other than agriculture is estimated via fiscal sources
 - VAT declarations for VAT-registered self-employed people
 - Personal income tax declarations for non-VAT-registered self-employed people
- The estimate of value added for financial corporations (S.125_S.127), non-financial corporations (S.11) and NPI's serving households (S.15) is based on annual accounts (categories A1, B1/C1, B2/C2, H1_H3). In the absence of (usable) annual accounts, the value added is estimated based on the SBS (categories E1 and E2), or indirectly estimated via the VAT turnover or via the NSSO wages (categories B3, BC, BL and H4)
- The estimate of value added for the MFI (S121_S123), investment funds (S.124), insurance companies and pensions funds (S128_S129) and the public sector is also based on direct sources and estimation methods.

3.6. THE MAIN APPROACHES TAKEN WITH RESPECT TO EXHAUSTIVENESS

The exhaustiveness of the estimate is guaranteed by the general procedure followed: use of a business register including all officially recorded units: corporations, self-employed people, NPI's and all other legal units.

A computation is made for underreporting/fiscal fraud in the (legal) economy (cf. 3.3.1.2. adjustments (y) for S.11 and S.14). The method used here is described in chapter 7.2. An estimate for the illegal economy (drugs, prostitution, and smuggling) is also added.

Exhaustiveness of the GDP is also obtained by correctly applying ESA 2010 definitions. In the output approach, this is achieved by a detailed estimate of all the transition components between administrative aggregates and the aggregates according to ESA 2010 (cf. 3.3). Two specific adjustments can be indicated: the adjustment for wages and salaries in kind, and the adjustment for gratuities (cf. 3.3 and 7.2).

Table 3.6.1: Exhaustiveness adjustment by NACE industry and by type – impact on value added

2016 (in € million)								
	N1	N2	N3	N4	N5	N6	N7	Total
A	0	68	124	0	0	41	4	237
B	0	0	0	0	0	0	3	3
C	0	713	0	0	0	456	559	1 728
D	0	0	0	0	0	0	65	65
E	0	0	0	0	0	12	21	33
F	0	0	0	0	0	4 411	155	4 566
G	0	444	0	0	0	4 040	583	5 067
H	0	0	0	0	0	211	125	336
I	0	0	0	0	0	1 439	673	2 112
J	0	0	0	0	0	185	270	455
K	0	0	0	0	0	13	78	91
L	0	0	0	0	0	375	20	395
M	0	0	0	0	0	1 085	311	1 395
N	0	0	0	0	0	562	175	738
O	0	0	0	0	0	0	0	0
P	0	0	0	0	0	24	6	31
Q	0	0	0	0	0	937	78	1 015
R	0	0	0	0	0	275	16	291
S	0	716	0	0	0	260	44	1 020
T	457	0	0	0	0	0	0	457
Total	457	1 942	124	0	0	14 327	3 185	20 035

N1: domestic personnel employed by households

N2: illegal economy

N3: production of vegetables in own gardens and of electricity by households

N6: adjustment for underreporting/fiscal fraud

N7: wages in kind and tips

3.7. AGRICULTURE, FORESTRY AND FISHING (A)

3.7.1. INTRODUCTION

In 2016, the value added of agriculture, forestry, and fishing (Section A) amounted to 2703 million or 0,7 % of the value added of all branches of activity combined. Over the years, agriculture became a very small portion of the total economic activity in Belgium. It was produced by two institutional sectors: non-financial corporations (S.11: € 1123 million) and households (S.14: € 1.419 million)⁸⁵. Forestry and fishing generate only very small amounts of value added in the Belgian economy (resp. € 94 and € 68 million).

Table 3.7.1: Gross value added in section A, by activity and by institutional sector (2016)

Industry	S.11			S.14			S.1		
	P.1	P.2	B1g	P.1	P.2	B1g	P.1	P.2	B1g
A	5 540	4 291	1 249	4 211	2 758	1 454	9 751	7 048	2 703
01A	5 070	3 948	1 123	4 104	2 686	1 419	9 175	6 633	2 541
02A	328	268	60	100	66	34	428	334	94
03A	142	75	67	7	6	1	149	81	68

An overview of the amounts according to administrative sources and after ESA2010 adjustments is given (separately for S.11 and S.14) in the next table.

2016 (in € million)															
S.11 - Industry A	C_70	C_71	C_72	C_73	C_74-740	C_A	C_600/8+61	C_609	C_641/8	C_B	C_62	C_640	C_740	C_C	C_D
A1	1 297	0	1	0	26	1 325	1 105	-3	2	1 103	122	4	4	221	99
E1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A2	4	0	0	0	0	4	3	0	0	3	1	0	0	1	0
B1	185	-1	0	0	4	188	138	1	1	140	16	1	1	48	31
B2	3 188	-9	0	0	47	3 226	2 376	-5	15	2 385	292	21	16	841	543
BC	106	0	0	0	3	109	78	0	0	78	16	0	0	30	14
C1	4	0	0	0	0	4	5	0	0	5	0	0	0	-1	-1
C2	79	0	0	0	0	79	95	0	1	96	4	1	0	-16	-21
E2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B3	477	0	0	0	0	477	356	0	1	357	37	4	3	120	83
BL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H1	9	0	0	4	2	16	7	0	0	8	8	0	0	8	0
H2	1	0	0	0	0	1	1	0	0	1	1	0	0	0	0
H3	4	0	0	1	0	5	2	0	0	2	2	0	0	3	0
H4	20	0	0	0	0	20	17	0	0	17	1	0	0	3	2
RF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total administrative aggregates	5 373	-11	1	6	83	5 452	4 183	-8	20	4 194	500	32	25	1 258	751
Adjustments															
(b)	0	0	0	0	0	0	0	0	0	0	-10	0	0	0	10
(g)	0	0	24	0	0	24	-2	0	0	-2	0	0	0	26	26
(k)	0	0	0	0	0	0	9	0	0	9	0	0	0	-9	-9
(o31)	-11	0	0	0	0	-11	0	0	0	0	0	0	11	-11	0
(p2)	0	0	0	0	0	0	-4	0	0	-4	4	0	0	4	0
(x1)	0	0	0	0	0	0	0	0	0	0	0	0	244	0	244
(y)	62	0	0	0	0	62	35	0	0	35	4	0	0	27	24
(af)	0	0	0	0	0	0	0	0	0	0	7	0	7	0	0
(ad)	12	0	0	0	0	12	23	0	0	23	0	0	0	-10	-10
(fisim)	0	0	0	0	0	0	35	0	0	35	0	0	0	-35	-35
Total final	5 437	-11	25	6	83	5 540	4 280	-8	20	4 291	504	32	286	1 249	1 000
ESA 2010 codes	P.11	P.11	P.12	P.11	P.11	P.1 Total	P.2	P.2	P.2	P.2 Total	D.1	D.29	D.39	B.1g	B.2g

2016 (in € million)															
S.14 - Industry A	C_70	C_71	C_72	C_73	C_74-740	C_A	C_600/8+61	C_609	C_641/8	C_B	C_62	C_640	C_740	C_C	C_D
Total administrative aggregates	3 868	0	197	0	0	4 066	2 605	0	0	2 605	71	24	231	1 461	1 597
Adjustments	146	0	0	0	0	146	153	0	0	153	3	0	3	-7	-7
(x3)	113	0	0	0	0	113	45	0	0	45	0	0	0	68	68
(y)	33	0	0	0	0	33	19	0	0	19	1	0	0	14	14
(af)	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0
(ad)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(fisim)	0	0	0	0	0	0	89	0	0	89	0	0	0	-89	-89
Total final	4 014	0	197	0	0	4 211	2 758	0	0	2 758	74	24	233	1 454	1 590
ESA 2010 codes	P.11	P.11	P.12	P.11	P.11	P.1 Total	P.2	P.2	P.2	P.2 Total	D.1	D.29	D.39	B.1g	B.2g

⁸⁵ For every section (A21), the detailed underlying aggregates by industry (A64, SUT-branch) and sector are shown.

Translated in terms of the process table, we obtain the following information:

	Basis for NA Figures											Other	Total (sources)
	Surveys & Censuses	Administrative Records	Combined Data	Extrapolation and Models							Total Extrap+ Models		
				Benchmark extrapolations	Commodity Flow Model	CFC(PIM)	Dwellings - stratification method	FISIM	Insurance	Other E&M			
A Agriculture, forestry and fishing													
P.1	8 582	664										75	9 321
P.2	6 190	437										36	6 663
B.1g	2 392	227										39	2 658

Data validation	Adjustments												Balancing	Total (adjustments)	Final estimate
	Conceptual				Exhaustiveness										
	Allocation of FISIM	Allocation of insurance	Other conceptual	Total conceptual	N1	N2	N3	N4	N5	N6	N7	Total exhaustiveness			
	0	0	13	13		113	197			95	0	406	12	431	9 751
	124	63	7	194		45	73			54	-4	168	23	386	7 048
	-124	-63	6	-181		68	124			41	4	237	-11	45	2 703

3.7.2. METHOD OF CALCULATION

For agriculture, estimates are largely based on the economic accounts of agriculture (EAA) which is survey based (survey & censuses). The economic accounts of agriculture cover NACE 011 to 015 (crop and animal production and mixed farming) but not 016 and 017 (support activities to agriculture and post-harvest crop activities and hunting and other services activities). For these industries - as well as for forestry (02) and fishing (03) - administrative sources (annual accounts and VAT-declarations) are used. An estimate of electricity production in horticulture is also made. It relies on specific sources (other).

In the corrections for exhaustiveness, amounts for the production for own final consumption of non-agricultural households (own grown fruits and vegetables) (N3) are recorded. The illegal production of cannabis is also registered (N2). In addition, an adjustment is made for fiscal fraud (N6)⁸⁶. As in all industries, the allocation of FISIM has a downward impact on value added.

The bridge table between the aggregates according to the agricultural accounts (EAA) and the aggregates according to the annual accounts (ESA2010) for agriculture (NACE 01) is shown in the next table.

2016 (in € million)	Administrative /survey information					Adjustments					Total adjustment	Final result
	EAA	nace 016+017	Self-production of own products	Electricity	Total	Illegal economy	Non-observed economy	Fisim	Other (except insurance)			
C_70	8 516	650	0	75	9 241	113	95	0	25	234	9 475	
C_71	-10	0	0	0	-11						-11	
C_72	1	0	197	0	198						198	
C_73	0	6	0	0	6						6	
C_74-740	75	8	0	0	83						83	
C_A	8 582	664	197	75	9 518	113	95	0	25	234	9 751	
C_600/8+61	6 245	434	73	36	6 788	45	54	124	26	250	7 037	
C_609	-9	1	0	0	-8						-8	
C_641/8	18	1	0	0	20						20	
C_B	6 254	437	73	36	6 799	45	54	124	26	250	7 048	
C_62	508	62	0	0	571						571	
C_640	51	4	0	0	55						55	
C_740	251	5	0	0	256						256	
C_C	2 329	227	124	39	2 719	68	41	-124	-1	-16	2 703	

The Economic Accounts for Agriculture (EAA) are the basic source for the output and intermediate consumption for branch 01 "Crop and animal production, hunting and related service activities". The EAA cover the agricultural output and intermediate consumption of all activities in NACE codes 011 until 015⁸⁷: growing of non-perennial

⁸⁶ Only for the activities not covered by the EAA (NACE 016, 017, 02 and 03).

⁸⁷ In 2016 a correction was made for an incorrectly classified enterprise.

crops (011), growing of perennial crops (012), and plant propagation (013), and animal production (014) and mixed farming (015). It also covers certain non-agricultural activities such as tourism organised at the farm. The growth of multi-annual plantations and animals is also dealt within the EAA.

There are no good sources to estimate the intermediate consumption in agricultural production for own use in Belgium. Based on expert judgement, the intermediate consumption in agricultural production for own use by households is estimated at 40 % of the auto-consumptive production by non-agricultural households.

Non-agricultural activities (not included in the EAA) are difficult to measure for agricultural enterprises. An estimate of the production of electricity supplied to the energy grid in terms of output and intermediate consumption is made using information from a variety of sources. Studies by VITO (the Flemish Institute for Technological Research) in the area of the Flemish energy balance and cogeneration were used as well as its statistics on the Flemish energy balance. Statistics on the Belgian energy balance and energy prices were obtained from Statbel (Statistics Belgium). Information on green certificates was obtained from the VREG (the Flemish Regulator of Electricity and Gas Market).

The energy supplied by enterprises in industry 01 to the electricity grid is mainly produced using cogeneration. The term cogeneration is used to describe the process in which the warmth, which arises during the production of electricity, is used as an input in another production process. This technique is used in horticulture to simultaneously produce warmth to heat greenhouses and electricity. The latter can be used as an input in the agricultural production process or can be supplied to the energy grid. Solar panels did not appear to be an important source for energy supply to the electricity grid. It was therefore not included in the estimation procedure. Output was estimated using information on the amount of electricity that was supplied to the electricity grid, electricity prices, the number of green certificates and the price of green certificates, which can all be found or derived from information in the above-mentioned sources. The main energy source used for cogeneration in horticulture is natural gas. The proportion of the gas that can be attributed to the production of electricity for the electricity grid is multiplied by the gas price to obtain the intermediate consumption.

Information on other non-agricultural activities performed by agricultural enterprises is difficult to obtain. Studies are scarce and often tied to a specific region. Since non-agricultural activities vary widely across regions, it is difficult to derive a nationwide estimate of their output and the intermediate consumption related to it. Moreover, information found in studies older than a few years has a risk of being obsolete due to changes in food safety legislation, tax rules, national and European subsidy schemes, and other rules. Furthermore, it is difficult to estimate the output and intermediary consumption of agricultural activities performed by enterprises in other industries which should be eliminated from the EAA. It is therefore assumed that the value of the non-agricultural activities, besides the energy supply to the electricity grid and those already incorporated in the EAA, performed by enterprises with primary NACE code between 011 and 015 is equal to that of the agricultural activities in other branches⁸⁸.

The household budget survey is used to estimate the production for own consumption by households, also referred to as auto consumption (AC). Auto consumption consists of auto consumption by non-agricultural households (produced in kitchen gardens) and the auto consumption by agricultural households. The former is estimated using the Household Budget Survey. This survey is held bi-annually from 2012 onwards. For non-survey years, the consumer price index for fruit and vegetables is applied to the estimate of the previous year. This estimate is adjusted once the next survey is available. The auto consumption by agricultural households is estimated using the evolution of the auto consumption by non-agricultural households.

3.8. MINING AND QUARRYING (B)

3.8.1. INTRODUCTION

Mining and quarrying are marginal activities in Belgium. Only a limited number of companies are active in NACE 08.1 (quarrying of stone, sand, and clay). The value added in this industry represents 0.1 % of total value added. It is assumed that there is no mineral exploration on the Belgian territory.

⁸⁸ Note that the agricultural activities performed by enterprises in other industries than agriculture are small. 92,32% of the agricultural surface area and 94.21 % of the cattle can be allocated to entities categorized in NACE code between 011 and 015.

Data validation	Adjustments												Balancing	Total (adjustments)	Final estimate
	Conceptual				Exhaustiveness										
	Allocation of FISIM	Allocation of insurance	Other conceptual	Total conceptual	N1	N2	N3	N4	N5	N6	N7	Total exhaustiveness			
	0		-112	-112						0	0	0	1	-110	656
	4	7	-103	-92						0	-3	-3	1	-94	417
	-4	-7	-9	-20						0	3	3	0	-17	240

3.8.2. METHOD OF CALCULATION

The estimate relies exclusively on administrative sources, and the general calculation method. Only a few adjustments are made.

3.9. MANUFACTURING (C)

3.9.1. INTRODUCTION

In 2016, the value added of manufacturing (Section C) amounted to € 53.145 million or 13,8 % of the value added of all branches of activity combined. It is produced by two institutional sectors: non-financial corporations (S.11: € 52.556 million), and households (S.14: € 590 million). The importance of unincorporated businesses (S.14) in manufacturing is very limited. A material portion of the activity is realised by unincorporated businesses only for bakeries (SUT10G), printing and reproduction of recorded media (SUT18A), manufacture of fabricated metal products (SUT25A and SUT 25B) manufacture of furniture (31A), other manufacturing (NACE 32) and repair and installation (NACE 33).

Table 3.9.1: Gross value added in section C, by activity and by institutional sector (2016)

2016 (in € million)									
Industry	S.11			S.14			S.1		
	P.1	P.2	B1g	P.1	P.2	B1g	P.1	P.2	B1g
C	212 574	160 018	52 556	1 521	932	590	214 096	160 950	53 145
10A	6 437	5 540	897	38	30	8	6 475	5 570	905
10B	492	397	95	1	1	0	493	398	95
10C	4 329	3 466	864	5	3	2	4 334	3 469	865
10D	3 599	3 390	209	0	0	0	3 599	3 390	209
10E	3 646	3 074	573	18	12	6	3 664	3 085	579
10F	2 836	2 362	473	7	6	2	2 843	2 368	475
10G	3 154	2 136	1 019	513	282	231	3 667	2 418	1 250
10H	4 088	3 132	957	15	9	6	4 104	3 141	963
10I	2 686	2 040	646	13	9	4	2 699	2 049	650
10J	3 272	2 911	361	9	7	1	3 280	2 918	362
11A	3 033	1 922	1 111	6	5	2	3 039	1 927	1 112
11B	1 705	1 149	556	0	0	0	1 705	1 149	556
12A	337	201	135	1	1	0	337	202	136
13A	1 016	730	286	15	9	6	1 031	739	292
13B	2 729	1 954	775	16	10	6	2 745	1 964	781
14A	683	474	209	20	12	8	703	486	217
15A	315	176	138	3	2	1	318	179	139
16A	3 354	2 523	831	85	59	26	3 439	2 581	857
17A	4 164	3 103	1 061	2	1	1	4 166	3 105	1 061
18A	2 816	1 882	934	117	67	50	2 933	1 949	984
19A	22 186	20 231	1 955	0	0	0	22 186	20 231	1 955
20A	20 040	14 642	5 398	0	0	0	20 040	14 642	5 398
20B	1 256	914	342	0	0	0	1 256	914	342
20C	112	60	52	0	0	0	112	60	52
20D	1 750	1 256	494	0	0	0	1 750	1 256	494
20E	1 592	1 181	411	1	0	0	1 593	1 181	412
20F	3 914	2 207	1 707	0	0	0	3 914	2 207	1 707
20G	517	447	70	0	0	0	517	447	70
21A	18 897	12 473	6 425	1	0	0	18 898	12 473	6 425
22A	708	474	235	0	0	0	709	474	235
22B	7 378	5 241	2 137	6	3	2	7 384	5 245	2 139
23A	1 537	988	549	2	1	1	1 538	989	549
23B	557	297	260	3	2	1	560	299	261
23C	1 441	948	492	0	0	0	1 441	948	492
23D	3 520	2 377	1 143	24	14	11	3 545	2 390	1 154
24A	8 873	7 391	1 482	2	1	1	8 875	7 392	1 483
24B	8 881	7 609	1 272	1	1	1	8 882	7 610	1 273
25A	8 060	5 752	2 308	127	81	46	8 186	5 832	2 354
25B	2 675	1 711	964	105	65	41	2 781	1 776	1 005
25C	1 543	975	568	18	11	7	1 560	986	575
26A	1 274	766	508	4	2	1	1 277	768	509
26B	1 264	794	470	2	1	1	1 266	795	471
26C	1 525	1 002	523	2	1	1	1 526	1 003	523
27A	2 279	1 471	808	8	5	3	2 287	1 476	810
27B	811	509	302	2	1	1	812	510	302
28A	5 544	3 446	2 099	12	9	3	5 557	3 455	2 102
28B	4 036	2 676	1 360	19	15	5	4 056	2 691	1 365
29A	9 564	8 457	1 107	1	1	0	9 564	8 457	1 107
29B	4 820	3 702	1 118	12	10	2	4 832	3 712	1 119
30A	27	19	8	1	1	0	28	20	8
30B	199	146	52	0	0	0	199	146	52
30C	1 821	1 076	746	0	0	0	1 821	1 076	746
30D	183	149	34	1	1	0	184	150	35
31A	2 134	1 507	627	98	61	37	2 232	1 569	663
32A	506	400	106	41	28	13	547	428	119
32B	1 468	880	587	49	25	25	1 517	905	612
33A	4 996	3 286	1 710	97	68	29	5 093	3 354	1 739

The process table for the total of manufacturing industry is summarized in the next tables:

Basis for NA Figures												
	Surveys & Censuses	Administrative Records	Combined Data	Extrapolation and Models							Other	Total (sources)
				Benchmark extrapolations	Commodity Flow Model	CFC (PIM)	Dwellings - stratification method	FISIM	Insurance	Other E&M		
Manufacturing												
P.1	545	249 841								449	449	250 834
P.2	379	194 252								327	327	194 959
B.1g	165	55 588								122	122	55 875

Adjustments													Final estimate		
Data validation	Conceptual				Exhaustiveness							Balancing		Total (adjustments)	
	Allocation of FISIM	Allocation of insurance	Other conceptual	Total conceptual	N1	N2	N3	N4	N5	N6	N7				Total exhaustiveness
	-2 272	0	-36 291	-36 291		767				1 004	19	1 789	35	-36 738	214 096
	4	1 382	582,4	-36 014	-34 049	53				548	-540	61	-25	-34 008	160 950
	-2 276	-1 382	-582	-278	-2 242	713				456	559	1 728	60	-2 730	53 145

3.9.2. METHOD OF CALCULATION

The aggregates of the production and primary distribution of income account for section C are shown in the following table. For non-financial corporations (S.11) and households (S.14), they follow the general method. Because large corporations are preponderant in manufacturing, category A1 - for which all the relevant information is available in the annual accounts – represents 87 % of total value added (C_C) in manufacturing (€ 45.897 million compared to a total of € 52.502 million).

2016 (in € million)															
S.11 - Industry C	C_70	C_71	C_72	C_73	C_74-740	C_A	C_600/8+61	C_609	C_641/8	C_B	C_62	C_640	C_740	C_C	C_D
A1	210 314	628	3 378	0	10 410	224 731	178 423	-308	719	178 834	25 549	813	338	45 897	19 873
E1	495	2	0	0	7	504	346	0	0	346	69	2	1	159	89
A2	1 416	2	2	0	53	1 473	1 152	10	23	1 186	193	3	1	287	92
B1	1 285	-3	0	0	26	1 308	892	-3	10	899	265	8	2	409	139
B2	15 103	0	9	0	4	15 116	10 330	1	103	10 434	2 932	85	28	4 682	1 693
BC	1 613	0	0	0	7	1 620	1 115	0	15	1 130	324	5	1	490	162
C1	10	0	0	0	3	14	18	0	0	18	2	0	0	-4	-7
C2	198	0	0	0	0	198	243	0	3	247	13	5	0	-48	-66
E2	39	0	0	0	0	40	36	-4	1	33	4	0	0	7	3
B3	1 598	0	0	0	10	1 608	1 154	-3	6	1 157	191	8	2	451	254
BL	434	2	0	0	8	444	324	-1	3	325	84	1	1	119	34
H1	89	0	0	1	17	107	54	0	10	64	17	1	0	43	26
H2	2	0	0	1	0	3	2	0	0	2	1	0	0	1	0
H3	12	0	0	1	1	15	7	0	0	7	4	0	0	7	3
H4	2	0	0	0	0	3	2	0	0	2	1	0	0	1	0
RF	2	0	0	0	0	2	0	0	0	0	2	0	0	2	0
Total administrative aggregates	232 613	632	3 390	4	10 547	247 186	194 098	-308	893	194 684	29 650	931	374	52 502	22 295
Adjustements	-35 246	0	919	-3	-282	-34 612	-34 482	-25	-159	-34 665	922	-277	1 468	54	876
(b)	0	0	0	0	0	0	0	0	0	0	-17	0	0	0	17
(c)	-255	0	0	0	0	-255	-128	0	0	-128	0	0	0	-127	-127
(d)	-33 991	0	0	0	0	-33 991	-33 991	0	0	-33 991	0	0	0	0	0
(e)	0	0	0	0	-82	-82	0	0	-154	-154	0	0	0	73	73
(f)	0	0	0	0	-31	-31	-94	0	0	-94	0	0	0	63	63
(g)	0	0	375	0	0	375	-357	0	0	-357	0	0	0	731	731
(h1)	0	0	0	0	0	0	-35	0	0	-35	0	0	0	35	35
(i1)	0	0	557	0	0	557	-209	0	0	-209	0	0	0	766	766
(i2)	0	0	-14	0	0	-14	0	0	0	0	0	0	0	-14	-14
(i3)	0	0	-34	0	0	-34	0	0	0	0	0	0	0	-34	-34
(k)	0	0	0	0	0	0	299	0	0	299	0	0	0	-299	-299
(l)	0	0	0	0	0	0	-195	0	0	-195	0	0	0	195	195
(m)	0	0	0	0	-150	-150	0	0	0	0	0	0	0	-150	-150
(n)	0	0	0	-3	0	-3	0	0	0	0	0	0	3	-3	0
(o1)	-599	0	0	0	0	-599	-435	0	0	-435	0	-164	0	-164	0
(o2)	-65	0	0	0	0	-65	-25	0	0	-25	0	-40	0	-40	0
(o31)	-1 154	0	0	0	0	-1 154	0	0	0	0	0	0	1 154	-1 154	0
(o4)	0	0	41	0	0	41	0	0	0	0	0	0	0	41	41
(p1)	19	0	0	0	0	19	0	0	0	0	19	0	0	19	0
(p2)	0	0	0	0	0	0	-540	0	0	-540	540	0	0	540	0
(r)	0	0	0	0	0	0	0	0	0	0	3	0	0	0	-3
(v)	-1 005	-1	-5	0	-20	-1 031	-810	0	-5	-815	-141	0	0	-216	-76
(w)	0	1	0	0	0	1	0	-25	0	-25	0	0	0	26	26
(x3)	767	0	0	0	0	767	53	0	0	53	8	0	0	713	705
(x4)	0	0	0	0	0	0	17	0	0	17	0	0	0	-17	-17
(x6)	0	0	0	0	0	0	97	0	0	97	0	0	0	-97	-97
(y)	740	0	0	0	0	740	394	0	0	394	90	0	0	346	256
(aa)	-14	0	0	0	0	-14	27	0	0	27	0	-75	14	-42	47
(ab)	272	0	0	0	0	272	124	0	0	124	264	1	141	148	24
(af)	0	0	0	0	0	0	0	0	0	0	156	0	156	0	0
(ad)	39	0	0	0	0	39	-25	0	0	-25	0	0	0	64	64
(fisim)	0	0	0	0	0	0	1 350	0	0	1 350	0	0	0	-1 350	-1 350
Total final	197 366	633	4 310	0	10 265	212 574	159 617	-332	734	160 018	30 572	654	1 842	52 556	23 171
ESA 2010 codes	P.11	P.11	P.12	P.11	P.11	P.1 Total	P.2	P.2	P.2	P.2 Total	D.1	D.29	D.39	B.1g	B.2g

2016 (in € million)															
S.14 - Industry C	C_70	C_71	C_72	C_73	C_74-740	C_A	C_600/8+61	C_609	C_641/8	C_B	C_62	C_640	C_740	C_C	C_D
B3	1 376	0	0	0	0	1 376	862	0	0	862	125	9	1	514	382
Total administrative aggregates	1 376	0	0	0	0	1 376	862	0	0	862	125	9	1	515	382
Adjustements	145	0	0	0	0	145	70	0	0	70	21	4	8	75	58
(d)	-115	0	0	0	0	-115	-115	0	0	-115	0	0	0	0	0
(l)	0	0	0	0	0	0	-3	0	0	-3	0	0	0	3	3
(o31)	-3	0	0	0	0	-3	0	0	0	0	0	0	3	-3	0
(x5)	3	0	0	0	0	3	2	0	0	2	0	0	0	1	1
(y)	264	0	0	0	0	264	154	0	0	154	17	0	0	110	93
(ad)	-4	0	0	0	0	-4	0	0	0	0	0	0	0	-4	-4
(fisim)	0	0	0	0	0	0	32	0	0	32	0	0	0	-32	-32
Total final	1 522	0	0	0	0	1 522	932	0	0	932	146	13	10	590	441
ESA 2010 codes	P.11	P.11	P.12	P.11	P.11	P.1 Total	P.2	P.2	P.2	P.2 Total	D.1	D.29	D.39	B.1g	B.2g

Illegal activities (N2) in NACE C represent the value-added generated by the production of XTC and amphetamines (excluding trade margins, which are included in NACE G). The breakdown of value-added by industry of illegal activities can be summarised as follows:

	XTC	Cocaine	Heroin	Amphetamines	Cannabis	Prostitution	Smuggling	TOTAL
A					67,9			68
C	673			41				713
G	61	73	14	29	141		126	444
S						716		716
Total B1g	734	73	14	70	208	716	126	1942

More detailed information on the compilation of illegal activities can be found in chapter 7.

3.10. ELECTRICITY, GAS, STEAM AND AIR CONDITIONING SUPPLY (D)

3.10.1. INTRODUCTION

In 2016, the value added in the energy sector (Section D) amounted to € 6 209 million or 1.6 % of the value added of all branches of activity combined. It was produced by two institutional sectors: the non-financial corporations (S.11) and the household (S.14). Within the 2019 benchmark revision, the electricity produced by solar panels installed by households was added to the compilation process. The generation, transmission, and distribution of electric power (SUT branch 35A) represents 98 % of the total activity in section D (SUT branch 35B concerns the distribution of gas through mains).

Table 3.10.1: Gross value added in section D, by activity and by institutional sector (2016)

2016 (in € million)									
Industry	S.11			S.14			S.1		
	P.1	P.2	B1g	P.1	P.2	B1g	P.1	P.2	B1g
D	12 215	6 555	5 661	680	131	549	12 895	6 686	6 209
35A	11 809	6 274	5 535	680	131	549	12 489	6 406	6 084
35B	406	280	126	0	0	0	406	280	126

The process table for section D:

Basis for NA Figures													
	Surveys & Censuses	Administrative Records	Combined Data	Extrapolation and Models								Other	Total (sources)
				Benchmark extrapolations	Commodity Flow Model	CFC (PIM)	Dwellings stratification method	FISIM	Insurance	Other E&M	Total Extrap+ Models		
Electricity, gas, steam and air conditioning supply													
P.1	0	50 846									789	789	51 636
P.2	0	27 048									144	144	27 193
B.1g	0	23 798									645	645	24 443

Adjustments															
Data validation	Conceptual				Exhaustiveness							Balancing	Total (adjustments)	Final estimate	
	Allocation of FISIM	Allocation of insurance	Other conceptual	Total conceptual	N1	N2	N3	N4	N5	N6	N7				Total exhaustiveness
-18 243	0		-20 512	-20 512						0	0	0	15	-38 740	12 895
-377	78	67	-20 213	-20 068						0	-65	-65	3	-20 507	6 686
-17 866	-78	-67	-300	-444						0	65	65	12	-18 234	6 209

For this industry, there is an important (recurrent) adjustment on the figures for one important unit without annual accounts (data validation adjustment). The other conceptual adjustments mainly reflect a correction on turnover and purchases in order to take into account the trading activities (in gas and electricity) of some large companies (see cor (z)).

3.10.2. METHOD OF CALCULATION

For S.11, the standard approach is followed.

2016 (in € million)															
S.11 - Industry D	C_70	C_71	C_72	C_73	C_74-740	C_A	C_600/8+61	C_609	C_641/8	C_B	C_62	C_640	C_740	C_C	C_D
A1	29 122	-8	318	0	910	30 343	24 432	5	354	24 790	1 851	273	6	5 552	3 434
E1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A2	1 232	0	5	0	21	1 258	1 189	0	2	1 190	33	5	0	67	29
B1	59	0	0	0	1	60	40	0	0	41	0	1	0	20	19
B2	321	0	0	0	0	321	182	0	1	183	4	1	0	138	133
BC	14	0	0	0	0	14	7	0	0	7	0	0	0	7	7
C1	11	0	0	0	1	12	14	0	0	14	1	1	0	-2	-4
C2	6	0	0	0	0	6	9	0	0	9	0	0	0	-3	-3
E2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B3	589	0	0	0	0	589	504	0	0	504	8	1	0	85	76
BL	0	0	0	0	93	93	4	0	0	4	76	0	0	89	12
H1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H4	16	0	0	0	0	16	9	0	0	9	0	0	0	7	7
RF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total administrative aggregates	31 370	-8	323	0	1 027	32 712	26 389	4	358	26 752	1 974	283	6	5 960	3 709
Adjustments	-20 299	0	-92	0	-106	-20 497	-20 007	-5	-185	-20 197	68	-29	24	-300	-315
(b)	0	0	0	0	0	0	0	0	0	0	42	0	0	0	-42
(c)	-12	0	0	0	0	-12	-1	0	0	-1	0	0	0	-11	-11
(d)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(e)	0	0	0	0	-74	-74	0	0	-183	-183	0	0	0	110	110
(f)	0	0	0	0	-1	-1	-26	0	0	-26	0	0	0	25	25
(g)	0	0	33	0	0	33	-17	0	0	-17	0	0	0	50	50
(h1)	0	0	0	0	0	0	-2	0	0	-2	0	0	0	2	2
(i1)	0	0	58	0	0	58	-7	0	0	-7	0	0	0	66	66
(i2)	0	0	-9	0	0	-9	0	0	0	0	0	0	0	-9	-9
(i3)	0	0	-176	0	0	-176	0	0	0	0	0	0	0	-176	-176
(k)	0	0	0	0	0	0	163	0	0	163	0	0	0	-163	-163
(l)	0	0	0	0	0	0	-45	0	0	-45	0	0	0	45	45
(m)	0	0	0	0	-14	-14	0	0	0	0	0	0	0	-14	-14
(o31)	-22	0	0	0	0	-22	0	0	0	0	0	0	22	-22	0
(o4)	0	0	12	0	0	12	0	0	0	0	0	0	0	12	12
(p2)	0	0	0	0	0	0	-65	0	0	-65	65	0	0	65	0
(v)	-1 127	0	-11	0	-17	-1 155	-970	-5	-2	-977	-41	0	0	-178	-138
(x4)	0	0	0	0	0	0	12	0	0	12	0	0	0	-12	-12
(x6)	0	0	0	0	0	0	5	0	0	5	0	0	0	-5	-5
(z)	-19 153	0	0	0	0	-19 153	-19 153	0	0	-19 153	0	0	0	0	0
(aa)	0	0	0	0	0	0	18	0	0	18	0	-29	0	-18	11
(af)	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0
(ad)	15	0	0	0	0	15	3	0	0	3	0	0	0	12	12
(fisim)	0	0	0	0	0	0	77	0	0	77	0	0	0	-77	-77
Total final	11 071	-8	231	0	921	12 215	6 382	0	173	6 554	2 042	254	30	5 661	3 395
ESA 2010 codes	P.11	P.11	P.12	P.11	P.11	P.1 Total	P.2	P.2	P.2	P.2 Total	D.1	D.29	D.39	B.1g	B.2g

For S.14, as part of the 2019 benchmark revision, the production of electricity by households was included in the national accounts. This electricity production used to be marginal but began to increase significantly from 2009, notably because of government incentives.

Households directly consume some of the electricity that they produce, and if they produce more than they consume, they feed the surplus electricity into the public network. A reverse electricity meter records the corresponding value for the households. Analysis of the available data reveals that – up to now – households produce their electricity almost exclusively by means of photovoltaic panels.

The value of the electricity **production** is determined partly by the quantity and price of the electricity produced and partly by the production subsidies that households receive from the government.

In the past, the three Regions granted substantial subsidies to produce renewable energy, which includes the electricity generated by solar panels. In many cases, the subsidy was based on the capacity – the installed power – of the photovoltaic installation. The installed capacity was used to indicate the approximate *quantity*, to which an adjustment coefficient was applied to take account of the efficiency-related difference between the installed capacity and the power actually produced.

The *price* of the electricity produced corresponds to the energy component of the price paid by a consumer household. As electricity producers, households do not set the prices; it therefore seemed appropriate to assess the price of the electricity that they supply to the electricity grid via the energy component of the overall electricity price for the average end user.

Subsidies paid to households by the distribution network operators were added in order to supplement the estimate of production.

The **intermediate consumption** relating to the production of electricity by households was then estimated. It corresponds to the cost of maintaining and cleaning the installations, and the “prosumer”-tariff in Flanders. That tariff comprises a payment introduced in 2015 for use of the distribution network. The rationale is that owners of (small) solar panel installations use the distribution network both to feed in the surplus electricity that they produce and to draw electricity from the grid when they are not producing it themselves.

3.11. WATER SUPPLY; SEWERAGE, WASTE MANAGEMENT AND REMEDIATION ACTIVITIES (E)

3.11.1. INTRODUCTION

In 2016, the value added in industry E was equal to € 3.683 million or 1 % of the value added of all branches of activity combined. It was produced by three institutional sectors: non-financial corporations (S.11: € 2.980 million), government (S.13: € 692 million) and households (S.14: € 11 million).

Table 3.11.1: Gross value added in section E, by activity and by institutional sector (2016)

2016 (in € million)												
Industry	S.11			S.14			S.13			S.1		
	P.1	P.2	B1g	P.1	P.2	B1g	P.1	P.2	B1g	P.1	P.2	B1g
E	8 838	5 858	2 980	42	31	11	1 504	812	692	10 383	6 700	3 683
36A	2 738	1 634	1 104	0	0	0	0	0	0	2 738	1 634	1 104
37A	1 325	656	669	6	3	3	0	0	0	1 331	659	672
38A	2 176	1 433	743	10	7	3	1 504	812	692	3 689	2 252	1 437
38B	2 290	1 940	350	24	19	5	0	0	0	2 314	1 959	355
39A	309	195	114	2	2	1	0	0	0	312	197	115

The process table for section E:

Basis for NA Figures													
	Surveys & Censuses	Administrative Records	Combined Data	Extrapolation and Models								Other	Total (sources)
				Benchmark extrapolations	Commodity Flow Model	CFC(PIM)	Dwellings-stratification method	FISIM	Insurance	Other E&M	Total Extrapolations		
Water supply; sewerage, waste management and remediation activities													
P.1	0	10 363				144					296	439	10 802
P.2	0	6 911				0					207	207	7 118
B.1g	0	3 452				144					89	233	3 684

Adjustments															
Data validation	Conceptual				Exhaustiveness							Balancing	Total (adjustments)	Final estimate	
	Allocation of FISIM	Allocation of insurance	Other conceptual	Total conceptual	N1	N2	N3	N4	N5	N6	N7				Total exhaustiveness
-15	0		-439	-439						28	0	28	7	-419	10 383
-26	57	41	-486	-388						16	-21	-5	1	-418	6 700
11	-57	-41	47	-51						12	21	33	6	-1	3 683

The amounts appearing in the column ‘CFC (PIM)’ corresponds to the consumption of fixed capital estimated for S13-units in this industry.

3.11.2. METHOD OF CALCULATION

The aggregates of the production and primary distribution of income account for section E are set out in the following table (S.11 and S.14). For the non-market producers in this industry categorized in S.13, the production is estimated as the sum of costs, based on administrative data sources. The aggregates for non-financial

corporations and for households are derived via the general method (cf. 3.3). Some of the adjustments for sector S.14 are not visible, as they are lower than € 0.5 million.

2016 (in € million)															
S.11 - Industry E	C_70	C_71	C_72	C_73	C_74-740	C_A	C_600/8+61	C_609	C_641/8	C_B	C_62	C_640	C_740	C_C	C_D
A1	6 830	-51	97	0	300	7 176	4 815	7	67	4 888	1 050	78	168	2 288	1 327
E1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A2	299	0	12	0	19	330	205	0	5	210	110	4	15	120	21
B1	103	0	0	0	3	106	80	0	1	82	12	1	1	24	12
B2	817	0	0	0	0	817	557	0	8	564	111	8	5	253	139
BC	76	0	0	0	0	76	55	0	1	55	12	0	0	20	8
C1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C2	16	0	0	0	0	16	22	0	0	22	2	0	0	-6	-8
E2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B3	331	0	0	0	0	331	170	0	2	172	11	19	13	159	143
BL	270	0	0	0	14	284	195	0	1	196	48	5	0	88	35
H1	71	0	0	1	11	83	80	0	0	80	5	9	0	3	-11
H2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H3	10	0	0	0	1	11	10	0	0	10	0	0	0	1	0
H4	10	0	0	0	1	11	11	0	0	11	1	1	0	1	-1
RF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total administrative aggregates	8 833	-51	109	1	350	9 243	6 200	7	84	6 291	1 363	125	202	2 951	1 666
Adjustments	-423	-2	50	-1	-29	-405	-400	-6	-28	-434	128	-13	24	29	-62
(b)	0	0	0	0	0	0	0	0	0	0	101	0	0	0	-101
(c)	-1	0	0	0	0	-1	-1	0	0	-1	0	0	0	-1	-1
(d)	-161	0	0	0	0	-161	-161	0	0	-161	0	0	0	0	0
(e)	0	0	0	0	-4	-4	0	0	-28	-28	0	0	0	24	24
(f)	0	0	0	0	-2	-2	-12	0	0	-12	0	0	0	10	10
(g)	0	0	7	0	0	7	-1	0	0	-1	0	0	0	8	8
(h1)	0	0	0	0	0	0	-1	0	0	-1	0	0	0	1	1
(h2)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(i1)	0	0	35	0	0	35	-26	0	0	-26	0	0	0	61	61
(i2)	0	0	-1	0	0	-1	0	0	0	0	0	0	0	-1	-1
(k)	0	0	0	0	0	0	29	0	0	29	0	0	0	-29	-29
(l)	0	0	0	0	0	0	-15	0	0	-15	0	0	0	15	15
(m)	0	0	0	0	-22	-22	0	0	0	0	0	0	0	-22	-22
(n)	0	0	0	-1	0	-1	0	0	0	0	0	0	1	-1	0
(o31)	-12	0	0	0	0	-12	0	0	0	0	0	0	12	-12	0
(o4)	0	0	9	0	0	9	0	0	0	0	0	0	0	9	9
(p2)	0	0	0	0	0	0	-21	0	0	-21	21	0	0	21	0
(v)	-35	-2	0	0	0	-37	-27	0	-1	-27	-7	0	0	-10	-3
(w)	0	0	0	0	0	0	0	-6	0	-6	0	0	0	6	6
(x4)	0	0	0	0	0	0	1	0	0	1	0	0	0	-1	-1
(x6)	0	0	0	0	0	0	3	0	0	3	0	0	0	-3	-3
(y)	27	0	0	0	0	27	16	0	0	16	2	0	0	11	10
(z)	-250	0	0	0	0	-250	-250	0	0	-250	0	0	0	0	0
(aa)	-2	0	0	0	0	-2	9	0	0	9	0	-13	2	-11	4
(ab)	2	0	0	0	0	2	1	0	0	1	3	0	2	2	0
(af)	0	0	0	0	0	0	0	0	0	0	8	0	8	0	0
(ad)	7	0	0	0	0	7	1	0	0	1	0	0	0	6	6
(fisim)	0	0	0	0	0	0	56	0	0	56	0	0	0	-56	-56
Total final	8 410	-53	159	0	322	8 838	5 800	2	56	5 858	1 491	112	226	2 980	1 604
ESA 2010 codes	P.11	P.11	P.12	P.11	P.11	P.1 Total	P.2	P.2	P.2	P.2 Total	D.1	D.29	D.39	B.1g	B.2g

2016 (in € million)															
S.14 - Industry E	C_70	C_71	C_72	C_73	C_74-740	C_A	C_600/8+61	C_609	C_641/8	C_B	C_62	C_640	C_740	C_C	C_D
B3	41	0	0	0	0	41	30	0	0	30	2	0	0	11	9
Total administrative aggregates	41	0	0	0	0	41	30	0	0	30	2	0	0	11	9
Adjustments	1	0	0	0	0	1	1	0	0	1	0	0	0	0	-1
(y)	1	0	0	0	0	1	1	0	0	1	0	0	0	0	0
(fisim)	0	0	0	0	0	0	1	0	0	1	0	0	0	-1	-1
Total final	42	0	0	0	0	42	31	0	0	31	2	0	0	11	9
ESA 2010 codes	P.11	P.11	P.12	P.11	P.11	P.1 Total	P.2	P.2	P.2	P.2 Total	D.1	D.29	D.39	B.1g	B.2g

3.12. CONSTRUCTION (F)

3.12.1. INTRODUCTION

In 2016, the value added in construction (Section F) was € 19 678 million or 5.1 % of the value added of all branches of activity combined. It was produced by two institutional sectors: non-financial corporations (S11: € 17 089 million) and households (S14: € 2 590 million).

Table 3.12.1: Gross value added in section F, by activity and by institutional sector (2016)

2016 (in € million)									
Industry	S.11			S.14			S.1		
	P.1	P.2	B1g	P.1	P.2	B1g	P.1	P.2	B1g
F	63 305	46 216	17 089	6 387	3 797	2 590	69 692	50 013	19 678
41A	22 221	17 587	4 633	678	429	250	22 899	18 016	4 883
42A	7 918	5 906	2 011	94	55	39	8 011	5 961	2 050
43A	2 238	1 531	707	332	191	141	2 570	1 723	848
43B	13 551	9 014	4 537	1 872	1 127	745	15 423	10 141	5 282
43C	10 093	7 092	3 001	2 171	1 283	889	12 264	8 374	3 890
43D	7 285	5 086	2 199	1 240	713	527	8 524	5 799	2 726

Process table (section F):

Basis for NA Figures												
	Surveys & Censuses	Administrative Records	Combined Data	Extrapolation and Models							Other	Total (sources)
				Benchmark extrapolations	Commodity Flow Model	CFC(PIM)	Dwellings - stratification method	FISIM	Insurance	Other E&M		
Construction												
P.1	131	62 859								100	100	63 090
P.2	114	46 684								70	70	46 868
B.1g	17	16 175								30	30	16 222

Adjustments															
Data validation	Conceptual				Exhaustiveness							Balancing	Total (adjustments)	Final estimate	
	Allocation of FISIM	Allocation of insurance	Other conceptual	Total conceptual	N1	N2	N3	N4	N5	N6	N7				Total exhaustiveness
-1 288	0		-2 243	-2 243						10 344	0	10 344	-212	6 602	69 692
-1 419	538	333	-2 041	-1 169						5 933	-155	5 778	-45	3 145	50 013
131	-538	-333	-202	-1 074						4 411	155	4 566	-167	3 457	19 678

A striking feature of the process table in the construction industry is the important amounts of the exhaustiveness adjustments and more particular N6. This item covers adjustments for underreporting/fiscal fraud of businesses active in this industry as well as an amount for own account construction and renovation of dwellings. More information regarding the exhaustiveness adjustments in construction can be found in chapter 7.

3.12.2. METHOD OF CALCULATION

The standard approach is followed in section F.

2016 (in € million)															
S.11 - Industry F	C_70	C_71	C_72	C_73	C_74-740	C_A	C_600/8+61	C_609	C_641/8	C_B	C_62	C_640	C_740	C_C	C_D
A1	26 419	477	55	0	697	27 649	20 983	188	120	21 291	4 522	92	26	6 357	1 770
E1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A2	110	1	0	0	3	114	83	0	0	84	29	0	0	31	1
B1	2 150	-13	0	0	29	2 166	1 598	7	17	1 622	320	12	3	544	215
B2	23 526	-90	0	0	41	23 477	16 574	49	205	16 828	3 879	65	31	6 649	2 735
BC	1 327	-2	0	0	2	1 327	954	1	15	970	251	4	0	357	101
C1	43	-2	0	0	2	42	50	0	1	51	1	1	0	-9	-11
C2	529	0	0	0	0	529	630	0	8	638	15	8	1	-109	-130
E2	131	-1	0	0	0	131	114	0	1	114	9	0	0	17	7
B3	2 430	-1	0	0	0	2 430	1 761	0	9	1 770	211	12	3	660	440
BL	71	1	0	0	1	73	54	0	0	54	13	0	0	19	6
H1	8	0	0	0	0	8	7	0	0	7	0	0	0	1	1
H2	2	0	0	0	0	3	1	0	0	1	0	0	0	2	1
H3	6	0	0	0	0	7	4	0	0	4	1	0	0	2	1
H4	11	0	0	0	0	11	8	0	0	8	1	0	0	2	2
RF	4	0	0	0	0	4	0	0	0	0	4	0	0	4	0
Total administrative aggregates	56 768	371	56	0	775	57 970	42 822	245	377	43 444	9 256	194	64	14 525	5 139
Adjustments	5 819	-371	133	0	-246	5 335	2 959	-79	-108	2 772	897	-20	187	2 563	1 874
(b)	0	0	0	0	0	0	0	0	0	0	-13	0	0	0	13
(c)	-27	0	0	0	0	-27	-67	0	0	-67	0	0	0	40	40
(d)	-184	0	0	0	0	-184	-184	0	0	-184	0	0	0	0	0
(e)	0	0	0	0	-76	-76	0	0	-104	-104	0	0	0	28	28
(f)	0	0	0	0	-20	-20	-34	0	0	-34	0	0	0	14	14
(g)	0	0	41	0	0	41	-6	0	0	-6	0	0	0	46	46
(h1)	0	0	0	0	0	0	-16	0	0	-16	0	0	0	16	16
(i1)	0	0	90	0	0	90	-58	0	0	-58	0	0	0	148	148
(i2)	0	0	-1	0	0	-1	0	0	0	0	0	0	0	-1	-1
(k)	0	0	0	0	0	0	86	0	0	86	0	0	0	-86	-86
(l)	0	0	0	0	0	0	-123	0	0	-123	0	0	0	123	123
(m)	0	0	0	0	-125	-125	0	0	0	0	0	0	0	-125	-125
(o31)	-60	0	0	0	0	-60	0	0	0	0	0	0	60	-60	0
(o4)	0	0	5	0	0	5	0	0	0	0	0	0	0	5	5
(p1)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(p2)	0	0	0	0	0	0	-155	0	0	-155	155	0	0	155	0
(s)	-538	0	0	0	0	-538	-468	-70	0	-538	0	0	0	0	0
(t)	351	-351	0	0	0	0	0	0	0	0	0	0	0	0	0
(u)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(v)	-1 309	-19	-2	0	-25	-1 355	-1 052	-9	-4	-1 066	-230	0	0	-289	-60
(w)	0	-1	0	0	0	-1	0	0	0	0	0	0	0	-1	-1
(x4)	0	0	0	0	0	0	3	0	0	3	0	0	0	-3	-3
(x6)	0	0	0	0	0	0	88	0	0	88	0	0	0	-88	-88
(y)	7 772	0	0	0	0	7 772	4 590	0	0	4 590	848	0	0	3 182	2 334
(z)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(aa)	-2	0	0	0	0	-2	-10	0	0	-10	0	-20	2	8	30
(ab)	18	0	0	0	0	18	6	0	0	6	23	0	12	12	1
(ac)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(af)	0	0	0	0	0	0	0	0	0	0	113	0	113	0	0
(ad)	-202	0	0	0	0	-202	-45	0	0	-45	0	0	0	-158	-158
(fisim)	0	0	0	0	0	0	403	0	0	403	0	0	0	-403	-403
Total final	62 587	0	189	0	529	63 305	45 781	166	269	46 216	10 153	174	251	17 089	7 013
ESA 2010 codes	P.11	P.11	P.12	P.11	P.11	P.1 Total	P.2	P.2	P.2	P.2 Total	D.1	D.29	D.39	B.1g	B.2g

2016 (in € million)															
S.14 - Industry F	C_70	C_71	C_72	C_73	C_74-740	C_A	C_600/8+61	C_609	C_641/8	C_B	C_62	C_640	C_740	C_C	C_D
B3	3 820	0	0	0	0	3 820	2 330	0	0	2 330	173	16	5	1 489	1 304
BL	12	0	0	0	0	12	7	0	0	7	1	0	0	5	5
Total administrative aggregates	3 832	0	0	0	0	3 832	2 338	0	0	2 338	174	16	5	1 494	1 308
Adjustments	2 555	0	0	0	0	2 555	1 460	0	0	1 460	72	8	14	1 095	1 029
(b)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	-1
(d)	-7	0	0	0	0	-7	-7	0	0	-7	0	0	0	0	0
(k)	0	0	0	0	0	0	1	0	0	1	0	0	0	-1	-1
(l)	0	0	0	0	0	0	-12	0	0	-12	0	0	0	12	12
(o31)	-1	0	0	0	0	-1	0	0	0	0	0	0	1	-1	0
(y)	2 572	0	0	0	0	2 572	1 343	0	0	1 343	62	0	0	1 229	1 167
(aa)	0	0	0	0	0	0	0	0	0	0	0	8	2	0	-6
(af)	0	0	0	0	0	0	0	0	0	0	10	0	10	0	0
(ad)	-9	0	0	0	0	-9	0	0	0	0	0	0	0	-9	-9
(fisim)	0	0	0	0	0	0	135	0	0	135	0	0	0	-135	-135
Total final	6 387	0	0	0	0	6 387	3 797	0	0	3 797	246	24	18	2 590	2 337
ESA 2010 codes	P.11	P.11	P.12	P.11	P.11	P.1 Total	P.2	P.2	P.2	P.2 Total	D.1	D.29	D.39	B.1g	B.2g

The recommendations from the GNP Committee Task Force on Construction (CPNB/202) related to exhaustiveness are applied.

Independent estimates (based on at least two methodologies applied to separate data sources) are produced and confronted to each other for validation purposes. Administrative data sources (annual accounts, VAT returns) are used to estimate construction output (see chapter 3). On the expenditure side, a "price x quantity" approach (i.e., number of housing starts x corresponding prices) is used to estimate investments in new residential buildings (see section 5.10.3.4.1). These results are confronted to each other for validation purposes.

Therefore, proper quantity times price methods are applied (e.g., building permits) to make estimates of new building work or to produce alternative estimates for validation purposes.

The supply and demand of building materials such as cement are investigated for validating construction. The balancing exercise in the context of establishing the S-U tables makes it possible to check the results obtained and, if necessary, to adjust them.

The estimates of total revenue from subcontracting activities and total expenditure on subcontracting with the construction sector are made and used. Administrative data sources are used in order to estimate construction output. This implies that revenue of subcontractors is included in their annual accounts or VAT return. Expenditure on subcontracting is, on the other hand, included in the administrative data of the project owner.

The repairs and improvements to dwellings from households are estimated in a SUT context. The exhaustiveness method is detailed in section 7.1.3.10.

There is no specific survey for construction activities abroad designed for national accounts purposes. However, the BoP survey (F01DGS) collects information on:

- construction services running less than one year carried out abroad by residents (+ subcontracting contracts)
- construction services running for more than one year carried out in Belgium, by non-residents (+ subcontracting contracts)
- construction work carried out on a site in Belgium by a resident contractor on behalf of a non-resident contracting authority, excluding subcontracting contracts

The construction activity carried out abroad by domestic staff for a period of less than one year is recorded as domestic output via administrative data sources.

3.13. WHOLESALE AND RETAIL TRADE; REPAIR OF MOTOR VEHICLES AND MOTORCYCLES (G)

3.13.1. INTRODUCTION

In 2016, the value added of trade and repair of motor vehicles (Section G) was € 43 194 million or 12.3 % of the value added of all branches of activity combined. It was produced by two institutional sectors: non-financial corporations (S11: € 40 512 million) and households (S14: € 2 682 million).

Table 3.13.1: Gross value added in section G, by activity and by institutional sector (2016)

2016 (in € million)									
Industry	S.11			S.14			S.1		
	P.1	P.2	B1g	P.1	P.2	B1g	P.1	P.2	B1g
G	90 065	45 453	44 612	3 527	914	2 614	93 592	46 367	47 225
45A	13 969	7 773	6 196	720	327	394	14 689	8 099	6 590
46A	50 058	26 478	23 580	429	50	379	50 487	26 528	23 959
46B	1 459	739	721	15	9	5	1 474	748	726
47A	24 105	10 294	13 811	2 319	508	1 811	26 424	10 801	15 622
47B	474	170	304	45	20	24	518	190	328

Process table for industry G:

Basis for NA Figures													
	Surveys & Censuses	Administrative Records	Combined Data	Extrapolation and Models								Other	Total (sources)
				Benchmark extrapolations	Commodity Flow Model	CFC(PIM)	Dwellings-stratification method	FISIM	Insurance	Other E&M	Total Extrap+ Models		
Wholesale and retail trade; repair of motor vehicles and motorcycles													
P.1	4 845	440 360									552	552	445 758
P.2	4 241	392 863									477	477	397 581
B.1g	604	47 498									75	75	48 176

Adjustments															
Data validation	Conceptual				Exhaustiveness								Balancing	Total (adjustments)	Final estimate
	Allocation of FISIM	Allocation of insurance	Other conceptual	Total conceptual	N1	N2	N3	N4	N5	N6	N7	Total exhaustiveness			
-11 922	0		-347 016	-347 016	458				6 033	0		6 491	281	-352 166	93 592
-10 048	645	443	-343 927	-342 838	14				1 993	-583		1 425	247	-351 215	46 367
-1 875	-645	-443	-3 090	-4 178	444				4 040	583		5 067	35	-951	47 225

3.13.2. METHOD OF CALCULATION

As in other industries, the basis for NA figures are primarily administrative records.

Regarding adjustments, some quite important data validation adjustments are made, as well as conceptual and exhaustiveness adjustments. Turnover and purchases must be adjusted downwards with large amounts in order to transform turnover into trade margins, and purchases of goods and services into intermediate consumption (cor (d)).

N2 covers trade margins estimated for drugs dealers and smugglers. N6 covers the adjustment for fiscal fraud/underreporting.

The largest correction on turnover and purchases in this industry is the correction for trade margins (cor (d)). This correction aims at transforming the commercial turnover into trade margins and the total purchases of goods and services (incl. goods for resale) into intermediate consumption (purchases of goods and services excl. goods for resale). This correction is estimated by combining information from the annual accounts and VAT-declarations (total turnover and purchases) and the results of the SBS⁸⁹ (turnover by activity – commercial, services, industrial production- and purchases by type).

We illustrate this with a fictitious example for a company active in wholesale trading, which also has some secondary industrial and service output. We assume that all the goods and services purchased are imported and that the total of goods and services sold are exported. Only the headings useful to derive trade margins are shown in the example.

⁸⁹ The SBS refers to the content of the Minimum Standard Chart of Accounts all Belgian companies have to follow in their accounting system.

other services (secondary output)	5
industrial goods (secondary output)	5
composition of intermediate consumption	9
raw materials	1
consumables	1
services	7

Non-trade industries may also realise trade margins as secondary output. It can be assumed that most trade margins in these branches are on wholesale activities. This assumption is supported by the results of the SBS, which gives a detailed overview of turnover broken down by activity (e.g., commercial activity). The following table gives an overview of the importance of correction (d) by industry. The calculation of correction (d) includes non-trade units.

Table 3.13.2: Adjustment (d) by industry for sectors S.11+S.14

2016		
Industry	€ million	%
Manufacturing (C)	-34 106	9,1%
Trade (G)	-331 654	88,0%
Other industries	-10 989	2,9%
Total adjustment (d)	-376 749	

Apart from trade (section G), there only seems to be a significant commercial activity in manufacturing (section C).

The standard approach is followed to derive the production and primary distribution of income account in section G.

For NACE G, independent estimates from the demand and the supply side are produced. They are confronted with each other for validation purposes. Estimates for the supply side are based on annual accounts (Central balance sheet office) and other administrative data, according to the general estimation method. Estimates for the demand side are based on totally different data sources. Validation against expenditure estimates takes place within the supply and use framework.

So, the turnover of the retail trade is compared and made consistent with the tradable consumption of households. Again, the validation against expenditure estimates takes place within the supply and use framework. The estimates for final consumption expenditure of households are also based on different indicators, of which HBS and a survey on retail trade.

The estimates for enterprises active in repairs of motor vehicles are calculated based on annual accounts (Central balance sheet office) and other administrative data (following the general estimation method). Validation against the expenditure approach (P.3 – see description in chapter 5.7.3.2.7) takes also place within the supply and use framework.

2016 (in € million)															
S.11 - Industry G	C_70	C_71	C_72	C_73	C_74-740	C_A	C_600/8+61	C_609	C_641/8	C_B	C_62	C_640	C_740	C_C	C_D
A1	310 913	598	308	0	10 347	322 167	292 430	-1 982	716	291 165	16 838	3 464	155	31 002	10 855
E1	3 543	2	0	0	27	3 572	3 313	-207	1	3 107	285	24	30	465	186
A2	6 365	0	1	0	131	6 497	5 894	-38	12	5 869	407	8	0	629	214
B1	6 132	-5	0	0	63	6 190	5 489	-118	29	5 399	448	20	4	791	327
B2	67 618	0	0	0	0	67 618	57 568	0	358	57 927	5 147	219	48	9 691	4 373
BC	5 084	0	0	0	4	5 088	4 386	-7	39	4 418	395	10	0	670	265
C1	159	0	0	0	3	162	181	-3	1	179	5	1	0	-17	-23
C2	1 408	0	0	0	0	1 408	1 581	0	14	1 595	52	13	2	-187	-250
E2	1 249	1	5	0	18	1 273	1 125	-2	12	1 134	76	4	0	138	59
B3	10 730	0	0	0	10	10 740	9 622	1	21	9 643	885	26	8	1 097	193
BL	435	0	0	0	9	444	404	-5	1	400	25	1	0	44	18
H1	19	0	0	7	1	27	7	0	0	8	16	0	0	19	3
H2	9	0	0	5	1	14	7	0	0	7	6	0	0	7	1
H3	7	0	0	3	0	11	4	0	0	4	6	0	0	7	1
H4	18	0	0	1	0	19	15	0	0	15	3	0	0	4	1
RF	21	0	0	0	0	21	0	0	0	0	21	0	0	21	0
Total administrative aggregates	413 710	596	315	15	10 614	425 250	382 026	-2 362	1 204	380 869	24 617	3 790	248	44 381	16 222
Adjustments	-335 146	27	460	-15	-512	-335 186	-335 831	672	-256	-335 416	1 194	-3 132	504	230	2 672
(b)	0	0	0	0	0	0	0	0	0	0	37	0	0	0	-37
(c)	-244	0	0	0	0	-244	-260	0	0	-260	0	0	0	16	16
(d)	-325 072	0	0	0	0	-325 072	-325 747	675	0	-325 072	0	0	0	0	0
(e)	0	0	0	0	0	-81	-81	0	0	-237	-237	0	0	156	156
(f)	0	0	0	0	-109	-109	-180	0	0	-180	0	0	0	71	71
(g)	0	0	171	0	0	171	-286	0	0	-286	0	0	0	457	457
(h1)	0	0	0	0	0	0	-51	0	0	-52	0	0	0	52	52
(i1)	0	0	373	0	0	373	-319	0	0	-319	0	0	0	692	692
(i2)	0	0	-57	0	0	-57	0	0	0	0	0	0	0	-57	-57
(i3)	0	0	-10	0	0	-10	0	0	0	0	0	0	0	-10	-10
(k)	0	0	0	0	0	0	218	0	0	218	0	0	0	-218	-218
(l)	0	0	0	0	0	0	-170	0	0	-170	0	0	0	170	170
(m)	0	0	0	0	-137	-137	0	0	0	0	0	0	0	-137	-137
(n)	0	0	0	-14	0	-14	0	0	0	0	0	0	14	-14	0
(o1)	-7 461	0	0	0	0	-7 461	-4 610	0	0	-4 610	0	-2 851	0	-2 851	0
(o2)	-170	0	0	0	0	-170	36	0	0	36	0	-206	0	-206	0
(o31)	-249	0	0	0	0	-249	0	0	0	0	0	0	249	-249	0
(o32)	-2	0	0	0	0	-2	0	0	0	0	0	0	2	-2	0
(o4)	0	0	8	0	0	8	0	0	0	0	0	0	0	8	8
(p2)	0	0	0	0	0	0	-583	0	0	-583	583	0	0	583	0
(r)	0	0	0	0	0	0	0	0	0	0	8	0	0	0	-8
(s)	-53	0	0	0	0	-53	-32	-21	0	-53	0	0	0	0	0
(v)	-7 151	21	-25	0	-185	-7 340	-6 531	26	-19	-6 524	-426	0	0	-816	-390
(w)	0	6	0	0	0	6	0	-8	0	-8	0	0	0	14	14
(x4)	0	0	0	0	0	0	10	0	0	10	0	0	0	-10	-10
(x6)	0	0	0	0	0	0	128	0	0	128	0	0	0	-128	-128
(y)	4 947	0	0	0	0	4 947	1 695	0	0	1 695	759	0	0	3 252	2 493
(aa)	-6	0	0	0	0	-6	34	0	0	34	0	-75	6	-40	41
(ab)	1	0	0	0	0	1	0	0	0	0	1	0	1	1	0
(af)	0	0	0	0	0	0	0	0	0	0	232	0	232	0	0
(ad)	314	0	0	0	0	314	247	0	0	247	0	0	0	68	68
(fisim)	0	0	0	0	0	0	570	0	0	570	0	0	0	-570	-570
Total final	78 564	623	775	1	10 102	90 064	46 195	-1 689	947	45 453	25 811	658	751	44 612	18 894
ESA 2010 codes	P.11	P.11	P.12	P.11	P.11	P.1 Total	P.2	P.2	P.2	P.2 Total	D.1	D.29	D.39	B.1g	B.2g

S.14 - Industry G	C_70	C_71	C_72	C_73	C_74-740	C_A	C_600/8+61	C_609	C_641/8	C_B	C_62	C_640	C_740	C_C	C_D
A2	70	0	0	0	2	72	71	0	0	70	2	0	0	2	0
B3	8 445	0	0	0	0	8 445	6 976	0	0	6 976	287	33	6	1 469	1 155
BL	68	0	0	0	0	68	62	0	0	62	1	0	0	6	5
Total administrative aggregates	8 583	0	0	0	2	8 585	7 108	0	0	7 108	290	33	6	1 477	1 161
Adjustments	-5 058	0	0	0	0	-5 058	-6 195	0	0	-6 195	86	16	20	1 137	1 054
(b)	0	0	0	0	0	0	0	0	0	0	-2	0	0	0	2
(d)	-6 582	0	0	0	0	-6 582	-6 582	0	0	-6 582	0	0	0	0	0
(k)	0	0	0	0	0	0	2	0	0	2	0	0	0	-2	-2
(l)	0	0	0	0	0	0	-15	0	0	-15	0	0	0	15	15
(o31)	-3	0	0	0	0	-3	0	0	0	0	0	0	3	-3	0
(o32)	-1	0	0	0	0	-1	0	0	0	0	0	0	1	-1	0
(x3)	458	0	0	0	0	458	14	0	0	14	0	0	0	444	444
(x4)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(x5)	15	0	0	0	0	15	13	0	0	13	0	0	0	3	3
(y)	1 087	0	0	0	0	1 087	298	0	0	298	75	0	0	788	713
(aa)	0	0	0	0	0	0	0	0	0	0	0	16	4	0	-12
(af)	0	0	0	0	0	0	0	0	0	0	13	0	13	0	0
(ad)	-33	0	0	0	0	-33	0	0	0	0	0	0	0	-33	-33
(fisim)	0	0	0	0	0	0	75	0	0	75	0	0	0	-75	-75
Total final	3 524	0	0	0	2	3 527	914	0	0	914	376	49	26	2 614	2 215
ESA 2010 codes	P.11	P.11	P.12	P.11	P.11	P.1 Total	P.2	P.2	P.2	P.2 Total	D.1	D.29	D.39	B.1g	B.2g

3.14. TRANSPORTATION AND STORAGE (H)

3.14.1. INTRODUCTION

In 2016, the value added of transport and storage (Section H) amounted to € 21 466 million, i.e., 5. 6% of the value added of all branches of activity combined. It was produced by three institutional sectors, S.11 (€ 14 583 million), S.13 (€ 6 675 million) and S.14 (€ 208 million).

Table 3.14.1: Gross value added in section H, by activity and by institutional sector (2016)

Industry	2016 (in € million)											
	S.11			S.14			S.13			S.1		
	P.1	P.2	B1g	P.1	P.2	B1g	P.1	P.2	B1g	P.1	P.2	B1g
H	45 683	31 099	14 583	478	270	208	9 700	3 025	6 675	55 860	34 395	21 466
49A	3 462	2 101	1 362	0	0	0	0	0	0	3 462	2 101	1 362
49B	1 323	630	693	100	52	49	2 697	957	1 740	4 121	1 638	2 483
49C	11 739	7 789	3 950	229	140	89	0	0	0	11 968	7 930	4 038
50A	1 922	1 354	569	1	1	1	0	0	0	1 924	1 354	570
50B	197	129	69	10	4	6	0	0	0	207	132	75
51A	3 534	3 001	533	4	3	1	0	0	0	3 538	3 004	534
52A	19 595	14 168	5 428	43	24	19	7 003	2 068	4 935	26 641	16 260	10 382
53A	3 909	1 929	1 980	90	48	43	0	0	0	4 000	1 977	2 023

The process table for section H:

	Basis for NA Figures											Other	Total (sources)	
	Surveys & Censuses	Administrative Records	Combined Data	Extrapolation and Models							Total Extrapolation Models			
				Benchmark extrapolations	Commodity Flow Model	CFC(PIM)	Dwellings stratification method	FISIM	Insurance	Other E&M				
Transportation and storage														
P.1	424	56 922				3 356					78	3 434	60 780	
P.2	182	38 087				0					52	52	38 321	
B.1g	242	18 835				3 356					26	3 382	22 459	

Data validation	Adjustments											Balancing	Total (adjustments)	Final estimate	
	Conceptual				Exhaustiveness										
	Allocation of FISIM	Allocation of insurance	Other conceptual	Total conceptual	N1	N2	N3	N4	N5	N6	N7				Total exhaustiveness
	-2 745	0	-2 539	-2 539						343	10	353	11	-4 920	55 860
	-1 947	300	-2 545	-1 986						133	-115	18	-12	-3 927	34 395
	-799	-300	-259	6	-553					211	125	336	23	-993	21 466

The amounts appearing in the column CFC (PIM) correspond to the consumption of fixed capital estimated via PIM for S13-units belonging to this industry.

3.14.2. METHOD OF CALCULATION

For non-financial corporations and self-employed (S.11 and S.14), the compilation of the aggregates of the production and primary distribution of income account follows the general method

2016 (in € million)															
S.11 - Industry H	C_70	C_71	C_72	C_73	C_74-740	C_A	C_600/8+61	C_609	C_641/8	C_B	C_62	C_640	C_740	C_C	C_D
A1	34 269	-4	176	0	1 932	36 374	25 222	-71	167	25 318	7 215	224	261	11 056	3 878
E1	381	0	0	0	38	419	178	0	1	180	210	2	2	239	29
A2	770	0	0	0	28	799	686	5	2	693	105	1	1	105	-1
B1	701	-1	0	0	15	715	444	0	6	449	173	9	2	266	87
B2	7 295	-1	0	0	103	7 397	4 947	-1	66	5 012	1 428	70	24	2 385	911
BC	427	0	0	0	7	434	278	0	5	282	101	3	0	152	48
C1	6	0	0	0	0	6	6	0	0	6	0	0	0	-1	-1
C2	57	0	0	0	0	57	75	0	1	76	4	2	0	-18	-24
E2	5	0	0	0	0	5	2	0	0	2	2	0	0	2	0
B3	1 607	0	0	0	1	1 608	1 278	0	3	1 281	215	9	6	327	109
BL	59	0	0	0	3	63	42	0	0	43	12	1	0	20	8
H1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H2	9	0	0	3	1	13	8	0	0	9	2	0	0	4	2
H3	5	0	0	1	0	6	2	0	0	2	3	0	0	4	1
H4	14	0	0	1	0	15	10	0	0	10	4	0	0	5	2
RF	1	0	0	0	0	1	0	0	0	0	1	0	0	1	0
Total administrative aggregates	45 606	-6	177	4	2 130	47 911	33 178	-66	252	33 363	9 476	321	297	14 548	5 048
Adjustments	-2 253	6	221	0	-201	-2 228	-2 228	-11	-25	-2 264	289	-64	337	36	147
(b)	0	0	0	0	0	0	0	0	0	0	99	0	0	0	-99
(c)	-2	0	0	0	0	-2	-3	0	0	-3	0	0	0	1	1
(d)	-2 000	0	0	0	0	-2 000	-2 000	0	0	-2 000	0	0	0	0	0
(e)	0	0	0	0	-77	-77	0	0	-24	-24	0	0	0	-53	-53
(f)	0	0	0	0	-23	-23	-184	0	0	-184	0	0	0	161	161
(g)	0	0	4	0	0	4	-9	0	0	-9	0	0	0	13	13
(h1)	0	0	0	0	0	0	-7	0	0	-7	0	0	0	7	7
(h2)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(i1)	0	0	212	0	0	212	-106	0	0	-106	0	0	0	317	317
(i2)	0	0	-14	0	0	-14	0	0	0	0	0	0	0	-14	-14
(i3)	0	0	-2	0	0	-2	0	0	0	0	0	0	0	-2	-2
(k)	0	0	0	0	0	0	77	0	0	77	0	0	0	-77	-77
(l)	0	0	0	0	0	0	-105	0	0	-105	0	0	0	105	105
(m)	0	0	0	0	-89	-89	0	0	0	0	0	0	0	-89	-89
(o1)	-35	0	0	0	0	-35	0	0	0	0	0	-35	0	-35	0
(o31)	-254	0	0	0	0	-254	0	0	0	0	0	0	254	-254	0
(o32)	-2	0	0	0	0	-2	0	0	0	0	0	0	2	-2	0
(o4)	0	0	20	0	0	20	0	0	0	0	0	0	0	20	20
(p1)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(p2)	0	0	0	0	0	0	-115	0	0	-115	115	0	0	115	0
(q)	9	0	0	0	0	9	0	0	0	9	0	0	0	9	0
(v)	-258	0	0	0	-13	-271	-193	0	-1	-194	-59	0	0	-77	-18
(w)	0	0	0	0	0	0	0	-11	0	-11	0	0	0	11	11
(x4)	0	0	0	0	0	0	3	0	0	3	0	0	0	-3	-3
(x6)	0	0	0	0	0	0	20	0	0	20	0	0	0	-20	-20
(y)	287	0	0	0	0	287	111	0	0	111	50	0	0	176	126
(aa)	-5	0	0	0	0	-5	4	0	0	4	0	-29	5	-9	25
(af)	0	0	0	0	0	0	0	0	0	0	76	0	76	0	0
(ad)	12	0	0	0	0	12	-12	0	0	-12	0	0	0	24	24
(fisim)	0	0	0	0	0	0	290	0	0	290	0	0	0	-290	-290
Total final	43 352	0	397	4	1 929	45 682	30 950	-78	227	31 099	9 765	256	633	14 583	5 195
ESA 2010 codes	P.11	P.11	P.12	P.11	P.11	P.1 Total	P.2	P.2	P.2	P.2 Total	D.1	D.29	D.39	B.1g	B.2g

2016 (in € million)															
S.14 - Industry H	C_70	C_71	C_72	C_73	C_74-740	C_A	C_600/8+61	C_609	C_641/8	C_B	C_62	C_640	C_740	C_C	C_D
B3	424	0	0	0	0	424	245	0	0	245	34	5	1	179	141
Total administrative aggregates	424	0	0	0	0	424	245	0	0	245	34	5	1	179	141
Adjustments	54	0	0	0	0	54	25	0	0	25	5	2	3	28	24
(d)	-4	0	0	0	0	-4	-4	0	0	-4	0	0	0	0	0
(l)	0	0	0	0	0	0	-4	0	0	-4	0	0	0	4	4
(q)	1	0	0	0	0	1	0	0	0	0	0	0	0	1	1
(x5)	1	0	0	0	0	1	1	0	0	1	0	0	0	1	1
(y)	57	0	0	0	0	57	22	0	0	22	3	0	0	35	32
(ad)	-1	0	0	0	0	-1	0	0	0	0	0	0	0	-1	-1
(fisim)	0	0	0	0	0	0	10	0	0	10	0	0	0	-10	-10
Total final	478	0	0	0	0	478	270	0	0	270	39	7	4	207	165
ESA 2010 codes	P.11	P.11	P.12	P.11	P.11	P.1 Total	P.2	P.2	P.2	P.2 Total	D.1	D.29	D.39	B.1g	B.2g

For general government, detailed information on the sources and methods of calculation is available in section 3.21. The data related to transportation are identified using the economic codes and the functional codes (Cofog) allocated to the specific transactions or units (such as the consolidated regional transport companies).

3.15. ACCOMMODATION AND FOOD SERVICE ACTIVITIES (I)

3.15.1. INTRODUCTION

In 2016, the value added of hotels, restaurants, and catering activities (Section I) amounted to 7147 million, 1.9 % of the value added of all branches of activity combined. It was produced by two institutional sectors: non-financial corporations (S.11: € 5614 million) and households (S.14: € 1533 million).

Table 3.15.1: Gross value added in section I, by activity and by institutional sector (2016)

2016 (in € million)									
Industry	S.11			S.14			S.1		
	P.1	P.2	B1g	P.1	P.2	B1g	P.1	P.2	B1g
I	13 860	8 246	5 614	3 337	1 804	1 533	17 197	10 050	7 147
55A	2 582	1 223	1 359	155	66	89	2 737	1 289	1 448
56A	11 278	7 023	4 256	3 182	1 738	1 444	14 460	8 761	5 700

The process table for section I:

Basis for NA Figures															
	Surveys & Censuses	Administrative Records	Combined Data	Extrapolation and Models								Other	Total (sources)		
				Benchmark extrapolations	Commodity Flow Model	CFC(PIM)	Dwellings stratification method	FISIM	Insurance	Other E&M	Total Extrap+ Models				
Accommodation and food service activities															
P.1	31	14 382									154	154	14 566		
P.2	16	9 086									85	85	9 187		
B.1g	14	5 296									69	69	5 379		
Adjustments															
Data validation	Conceptual				Exhaustiveness							Balancing	Total (adjustments)	Final estimate	
	Allocation of FISIM	Allocation of insurance	Other conceptual	Total conceptual	N1	N2	N3	N4	N5	N6	N7				Total exhaustiveness
	-29	0	-198	-198						2 227	647	2 874	-17	2 630	17 197
	-18	159	62	-93	127					788	-25	763	-10	862	10 050
	-12	-159	-62	-105	-325					1 439	673	2 112	-7	1 768	7 147

Important adjustments are made for fiscal fraud/underreporting (N6) as well as for tips (N7).

3.15.2. METHOD OF CALCULATION

In section I, the standard approach is followed concerning the compilation of ESA2010 aggregates. The correction (d) for trade margins is low, which implies that most purchase of food, beverages etc. in this industry are not treated as goods for resale but as goods destined for consumption.

2016 (in € million)															
S.11 - Industry I	C_70	C_71	C_72	C_73	C_74-740	C_A	C_600/8+ 61	C_609	C_641/8	C_B	C_62	C_640	C_740	C_C	C_D
A1	2 727	0	2	0	212	2 941	1 686	-5	14	1 695	964	41	5	1 246	246
E1	15	0	0	0	0	15	8	0	0	8	8	0	0	7	-1
A2	30	0	0	0	2	33	17	0	0	17	18	1	0	15	-3
B1	636	-5	0	0	8	639	464	-23	3	444	133	7	0	195	56
B2	6 969	0	0	0	0	6 969	4 512	0	47	4 559	1 622	78	6	2 410	716
BC	264	0	0	0	0	264	167	0	4	171	58	2	0	93	33
C1	17	0	0	0	0	17	23	-2	0	20	1	0	0	-3	-4
C2	106	0	0	0	0	106	129	0	1	131	7	3	0	-25	-35
E2	15	0	0	0	0	16	9	0	0	9	4	0	0	7	2
B3	1 028	0	0	0	1	1 029	697	0	3	700	187	11	1	329	131
BL	77	0	0	0	2	79	50	0	0	50	24	1	0	29	4
H1	30	0	0	18	3	50	17	0	0	17	16	0	0	33	17
H2	29	0	0	16	3	49	22	0	1	23	18	1	0	26	7
H3	49	0	0	15	2	66	31	0	1	31	26	1	0	35	8
H4	52	0	0	13	4	69	30	0	1	32	26	1	0	38	11
RF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total administrative aggregates	12 045	-5	2	62	239	12 342	7 860	-31	77	7 906	3 111	149	12	4 435	1 188
Adjustments	1 599	5	5	-50	-40	1 518	351	0	-11	340	843	-15	133	1 179	484
(b)	0	0	0	0	0	0	0	0	0	0	-4	0	0	0	4
(c)	-2	0	0	0	0	-2	-1	0	0	-1	0	0	0	-1	-1
(d)	-22	0	0	0	0	-22	-22	0	0	-22	0	0	0	0	0
(e)	0	0	0	0	-2	-2	0	0	-11	-11	0	0	0	9	9
(f)	0	0	0	0	-15	-15	-29	0	0	-29	0	0	0	15	15
(h1)	0	0	0	0	0	0	-3	0	0	-3	0	0	0	3	3
(h2)	0	0	0	-9	0	-9	0	0	0	0	0	0	0	-9	-9
(i1)	0	0	5	0	0	5	-12	0	0	-12	0	0	0	17	17
(k)	0	0	0	0	0	0	20	0	0	20	0	0	0	-20	-20
(l)	0	0	0	0	0	0	-19	0	0	-19	0	0	0	19	19
(m)	0	0	0	0	-23	-23	0	0	0	0	0	0	0	-23	-23
(n)	0	0	0	-41	0	-41	0	0	0	0	0	0	41	-41	0
(o31)	-19	0	0	0	0	-19	0	0	0	0	0	0	19	-19	0
(p1)	40	0	0	0	0	40	0	0	0	40	0	0	0	40	0
(p2)	0	0	0	0	0	0	-25	0	0	-25	25	0	0	25	0
(q)	502	0	0	0	0	502	0	0	0	502	0	0	0	502	0
(t)	-5	5	0	0	0	0	0	0	0	0	0	0	0	0	0
(v)	-64	0	0	0	0	-65	-39	0	0	-39	-20	0	0	-25	-5
(x4)	0	0	0	0	0	0	1	0	0	1	0	0	0	-1	-1
(x6)	0	0	0	0	0	0	19	0	0	19	0	0	0	-19	-19
(y)	1 175	0	0	0	0	1 175	373	0	0	373	229	0	0	802	573
(z)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(aa)	-1	0	0	0	0	-1	11	0	0	11	0	-15	1	-12	5
(af)	0	0	0	0	0	0	0	0	0	0	71	0	71	0	0
(ad)	-3	0	0	0	0	-3	-10	0	0	-10	0	0	0	7	7
(fisim)	0	0	0	0	0	0	88	0	0	88	0	0	0	-88	-88
Total final	13 644	0	7	11	198	13 860	8 211	-30	65	8 246	3 954	133	145	5 614	1 672
ESA 2010 codes	P.11	P.11	P.12	P.11	P.11	P.1 Total	P.2	P.2	P.2	P.2 Total	D.1	D.29	D.39	B.1g	B.2g

2016 (in € million)															
S.14 - Industry I	C_70	C_71	C_72	C_73	C_74-740	C_A	C_600/8+ 61	C_609	C_641/8	C_B	C_62	C_640	C_740	C_C	C_D
B3	2 190	0	0	0	0	2 190	1 322	0	0	1 322	223	24	1	868	623
BL	5	0	0	0	0	5	3	0	0	3	1	0	0	2	2
Total administrative aggregates	2 195	0	0	0	0	2 195	1 325	0	0	1 325	223	24	1	870	624
Adjustments	1 141	0	0	0	0	1 141	479	0	0	479	140	12	15	662	526
(b)	0	0	0	0	0	0	0	0	0	0	-2	0	0	0	2
(d)	-2	0	0	0	0	-2	-2	0	0	-2	0	0	0	0	0
(k)	0	0	0	0	0	0	1	0	0	1	0	0	0	-1	-1
(l)	0	0	0	0	0	0	-6	0	0	-6	0	0	0	6	6
(o31)	-1	0	0	0	0	-1	0	0	0	0	0	0	1	-1	0
(p1)	5	0	0	0	0	5	0	0	0	5	0	0	0	5	0
(q)	101	0	0	0	0	101	0	0	0	42	0	0	0	101	59
(y)	1 052	0	0	0	0	1 052	415	0	0	415	83	0	0	637	555
(aa)	0	0	0	0	0	0	0	0	0	0	0	12	2	0	-9
(af)	0	0	0	0	0	0	0	0	0	0	12	0	12	0	0
(ad)	-14	0	0	0	0	-14	0	0	0	0	0	0	0	-14	-14
(fisim)	0	0	0	0	0	0	71	0	0	71	0	0	0	-71	-71
Total final	3 337	0	0	0	0	3 337	1 804	0	0	1 804	363	35	16	1 533	1 151
ESA 2010 codes	P.11	P.11	P.12	P.11	P.11	P.1 Total	P.2	P.2	P.2	P.2 Total	D.1	D.29	D.39	B.1g	B.2g

Production estimates are based on annual accounts (Central balance sheet office) and other administrative data (following the general estimation method). Validation against expenditure estimates takes place within the supply and use framework. There is no price X quantity approach.

3.16. INFORMATION AND COMMUNICATION (J)

3.16.1. INTRODUCTION

In 2016, the value added of information and communication services (Section J) amounted to € 15866 million, that is to say 4.1 % of the value added of all branches of activity combined. It was produced by three institutional sectors: non-financial corporations (S.11: € 15196 million), Government (S.13: public broadcasting corporations and Belgian Official Gazette: € 461 million) and households (S.14: € 210 million).

Table 3.16.1: Gross value added in section J, by activity and by institutional sector (2016)

2016 (in € million)												
Industry	S.11			S.14			S.13			S.1		
	P.1	P.2	B1g	P.1	P.2	B1g	P.1	P.2	B1g	P.1	P.2	B1g
J	33 441	18 245	15 196	372	162	210	880	419	461	34 692	18 826	15 866
58A	3 029	1 850	1 179	19	10	9	53	1	52	3 101	1 861	1 240
59A	2 547	1 428	1 119	44	17	27	0	0	0	2 591	1 445	1 146
60A	829	547	282	2	1	1	827	418	409	1 658	966	692
61A	11 433	6 342	5 090	46	30	16	0	0	0	11 479	6 373	5 107
62A	14 128	7 392	6 737	201	77	124	0	0	0	14 329	7 468	6 861
63A	1 475	686	789	59	27	32	0	0	0	1 534	714	821

The process table for section J:

Basis for NA Figures													
	Surveys & Censuses	Administrative Records	Combined Data	Extrapolation and Models								Other	Total (sources)
				Benchmark extrapolations	Commodity Flow Model	CFC(PIM)	Dwellings stratification method	FISIM	Insurance	Other E&M	Total Extrapolations		
Information and communication													
P.1	250	35 024				58					522	581	35 855
P.2	190	21 130				0					335	335	21 656
B.1g	60	13 894				58					187	246	14 199

Adjustments															
Data validation	Conceptual				Exhaustiveness							Balancing	Total (adjustments)	Final estimate	
	Allocation of FISIM	Allocation of insurance	Other conceptual	Total conceptual	N1	N2	N3	N4	N5	N6	N7				Total exhaustiveness
-607	0		-820	-820						269	0	269	-3	-1 162	34 692
-476	220	69	-2 465	-2 176						83	-270	-187	9	-2 830	18 826
-131	-220	-69	1 645	1 355						185	270	455	-12	1 668	15 866

3.16.2. METHOD OF CALCULATION

The estimate for the S.13 part is a sum of cost approach (except for the Belgian Official Gazette which is considered as a market unit). It concerns the public broadcasting corporations (see 3.21 for the method of calculation). In S.11 and S.14 the standard procedure is followed:

2016 (in € million)															
S.11 - Industry J	C_70	C_71	C_72	C_73	C_74-740	C_A	C_600/8+61	C_609	C_641/8	C_B	C_62	C_640	C_740	C_C	C_D
A1	23 047	42	830	0	1 079	24 998	14 472	-35	312	14 749	5 527	91	52	10 250	4 684
E1	229	0	2	0	2	232	177	0	3	180	42	0	0	52	11
A2	296	1	5	0	40	343	232	0	1	233	79	1	1	110	30
B1	625	0	0	0	21	646	410	-1	8	416	149	6	2	229	77
B2	5 293	0	0	0	0	5 293	3 299	0	60	3 359	963	28	19	1 934	963
BC	393	0	0	0	1	394	248	0	5	252	73	1	0	142	68
C1	14	-1	0	0	1	14	24	0	0	24	2	0	0	-10	-12
C2	143	0	0	0	0	143	213	0	3	215	24	2	1	-72	-99
E2	18	0	0	0	0	18	10	0	0	10	3	0	0	8	4
B3	1 194	0	0	0	3	1 197	781	0	7	788	215	6	4	408	191
BL	443	0	2	0	31	476	306	0	3	309	125	11	2	167	33
H1	86	0	0	15	16	118	62	0	3	64	48	0	0	54	5
H2	19	0	0	11	3	33	15	0	0	15	16	0	0	18	2
H3	21	0	0	21	2	43	20	0	0	20	22	0	0	23	0
H4	23	0	0	20	2	46	26	0	0	26	18	0	0	20	1
RF	1	0	0	0	0	1	0	0	0	0	1	0	0	1	0
Total administrative aggregates	31 845	43	838	67	1 201	33 994	20 295	-36	404	20 662	7 307	147	81	13 332	5 958
Adjustments	-2 050	-43	1 657	-40	-77	-553	-2 309	0	-108	-2 417	387	-15	145	1 864	1 638
(b)	0	0	0	0	0	0	0	0	0	0	94	0	0	0	-94
(c)	-5	0	0	0	0	-5	-3	0	0	-3	0	0	0	-2	-2
(d)	-1 684	0	0	0	0	-1 684	-1 684	0	0	-1 684	0	0	0	0	0
(e)	0	0	0	0	-39	-39	0	0	-107	-107	0	0	0	68	68
(f)	0	0	0	0	-14	-14	-9	0	0	-9	0	0	0	-4	-4
(g)	0	0	403	0	0	403	-147	0	0	-147	0	0	0	550	550
(h1)	0	0	0	0	0	0	-13	0	0	-13	0	0	0	13	13
(h2)	0	0	0	-3	0	-3	0	0	0	0	0	0	0	-3	-3
(i1)	0	0	845	0	0	845	-126	0	0	-126	0	0	0	970	970
(i2)	0	0	-190	0	0	-190	0	0	0	0	0	0	0	-190	-190
(i3)	0	0	-48	0	0	-48	0	0	0	0	0	0	0	-48	-48
(k)	0	0	0	0	0	0	87	0	0	87	0	0	0	-87	-87
(l)	0	0	0	0	0	0	-26	0	0	-26	0	0	0	26	26
(m)	0	0	0	0	-21	-21	0	0	0	0	0	0	0	-21	-21
(n)	0	0	0	-35	0	-35	0	0	0	0	0	0	35	-35	0
(o31)	-73	0	0	0	0	-73	0	0	0	0	0	0	73	-73	0
(o32)	-1	0	0	0	0	-1	0	0	0	0	0	0	1	-1	0
(o4)	0	0	51	0	0	51	0	0	0	0	0	0	0	51	51
(p2)	0	0	0	0	0	0	-270	0	0	-270	270	0	0	270	0
(r)	0	0	0	0	0	0	0	0	0	0	34	0	0	0	-34
(t)	29	-29	0	0	0	0	0	0	0	0	0	0	0	0	0
(v)	-568	-13	0	-2	-4	-586	-463	0	0	-463	-87	0	0	-123	-36
(x1)	0	0	596	0	0	596	0	0	0	0	0	0	0	596	596
(x4)	0	0	0	0	0	0	3	0	0	3	0	0	0	-3	-3
(x6)	0	0	0	0	0	0	31	0	0	31	0	0	0	-31	-31
(y)	256	0	0	0	0	256	81	0	0	81	41	0	0	175	134
(aa)	-2	0	0	0	0	-2	9	0	0	9	0	-15	2	-11	6
(af)	0	0	0	0	0	0	0	0	0	0	34	0	34	0	0
(ad)	-2	0	0	0	0	-2	9	0	0	9	0	0	0	-11	-11
(fisim)	0	0	0	0	0	0	212	0	0	212	0	0	0	-212	-212
Total final	29 795	0	2 496	27	1 123	33 441	17 986	-37	296	18 245	7 694	132	226	15 196	7 596
ESA 2010 codes	P.11	P.11	P.12	P.11	P.11	P.1 Total	P.2	P.2	P.2	P.2 Total	D.1	D.29	D.39	B.1g	B.2g

2016 (in € million)															
S.14 - Industry J	C_70	C_71	C_72	C_73	C_74-740	C_A	C_600/8+61	C_609	C_641/8	C_B	C_62	C_640	C_740	C_C	C_D
B3	374	0	0	0	0	374	167	0	0	167	6	2	1	206	199
Total administrative aggregates	374	0	0	0	0	374	167	0	0	167	6	2	1	206	199
Adjustments	-2	0	0	0	0	-2	-5	0	0	-5	0	1	1	3	3
(d)	-17	0	0	0	0	-17	-17	0	0	-17	0	0	0	0	0
(l)	0	0	0	0	0	0	-1	0	0	-1	0	0	0	1	1
(x5)	4	0	0	0	0	4	2	0	0	2	0	0	0	2	2
(x6)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(y)	13	0	0	0	0	13	3	0	0	3	0	0	0	10	10
(aa)	0	0	0	0	0	0	0	0	0	0	0	1	0	0	-1
(af)	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0
(ad)	-1	0	0	0	0	-1	0	0	0	0	0	0	0	-1	-1
(fisim)	0	0	0	0	0	0	8	0	0	8	0	0	0	-8	-8
Total final	371	0	0	0	0	371	162	0	0	162	6	3	2	210	202
ESA 2010 codes	P.11	P.11	P.12	P.11	P.11	P.1 Total	P.2	P.2	P.2	P.2 Total	D.1	D.29	D.39	B.1g	B.2g

Given the sources and methods used, information related to the Mini-One-Stop-Shop have not been used for estimating output of these services.

3.17. FINANCIAL AND INSURANCE ACTIVITIES (K)

3.17.1. INTRODUCTION

In 2016, the value added of financial and insurance activities (Section K) reached € 24397 million, 6.4 % of the value added of all branches of activity combined. It was produced by two institutional sectors: financial corporations (S.12: € 24316 million) and households (S.14: € 81 million).

Table 3.17.1: Gross value added in section K by institutional (sub)sector (2016)

2016 (in € million)									
Industry	S.12			S.14			S.1		
	P.1	P.2	B1g	P.1	P.2	B1g	P.1	P.2	B1g
K	48 859	24 542	24 316	140	60	81	48 999	24 602	24 397
S121+S122	19 545	6 938	12 607				19 545	6 938	12 607
S123	20	13	7				20	13	7
S124	1 984	1 794	189				1 984	1 794	189
S125	5 392	1 394	3 998				5 392	1 394	3 998
S126	10 549	6 899	3 649				10 549	6 899	3 649
S127	625	973	-349				625	973	-349
S128	10 487	6 278	4 209				10 487	6 278	4 209
S129	258	252	6				258	252	6
S14	0	0	0	140	60	81	140	60	81

The process table for K:

Basis for NA Figures												
	Surveys & Censuses	Administrative Records	Combined Data	Extrapolation and Models							Other	Total (sources)
				Benchmark extrapolations	Commodity Flow Model	CFC (PIM)	Dwellings - stratification method	FISIM	Insurance	Other E&M		
Financial and insurance activities												
P.1	1 804	25 083	0					12 827	9 578	1 305	23 711	50 598
P.2	7	22 174	0					0		1 628	1 628	23 810
B.1g	1 797	2 909	0					12 827	9 578	-323	22 083	26 788

Adjustments															
Data validation	Conceptual				Exhaustiveness							Balancing	Total (adjustments)	Final estimate	
	Allocation of FISIM	Allocation of insurance	Other conceptual	Total conceptual	N1	N2	N3	N4	N5	N6	N7				Total exhaustiveness
338	0		-1 899	-1 899						13	0	13	-51	-1 599	48 999
-163	614	765	-365	1 013						0	-78	-78	20	792	24 602
501	-614	-765	-1 535	-2 913						13	78	91	-70	-2 391	24 397

In section K, FISIM covers 25% of the total production (before adjustments), and insurance about 20%. As in other industries, administrative and business accounting information is decisive to estimate the production account. The calculation methods by subsector are detailed in the following section.

3.17.2. METHOD OF CALCULATION

3.17.2.1. Production and allocation of FISIM

Total output of financial services includes two elements: commissions and income from financial intermediation services. Although commission remuneration for services has grown over recent years, a large portion of financial services are still invoiced implicitly: neither their value nor their volume nor their prices are observed directly.

Financial corporations thus cover part of their expenditure and produce an operating surplus by setting the interest rates they charge on funds lent at a higher value than the rates they pay on funds borrowed and by setting the interest rates they give on deposits at a lower value than the rates they pay on funds borrowed. SNA 2008 and ESA 2010 use the concept of financial intermediation services indirectly measured (FISIM) to evaluate financial services that are not explicitly invoiced. They require to allocate FISIM among user sectors.

The system of national accounts is based on the principle that each time output is recorded there has necessary to be explicit recording of use of that output elsewhere. This implies that production of FISIM gives rise to one or other of the following uses: intermediate consumption, final consumption, or exports. This treatment ensures that the levels of GDP and GNI take FISIM into account in the same way as any other output⁹⁰.

FISIM output is calculated on deposits received and loans granted by financial intermediaries belonging to the subsectors of other monetary financial institutions (S.122) and other financial intermediaries except insurance enterprises and pension funds (S.125). FISIM output is also calculated on deposits received and loans granted by financial intermediaries belonging to the sector of the rest of the world (S.2).

Only the management of loans and deposits generates output insofar as the interest rates applied to them are controlled by financial intermediaries and therefore include remuneration for the latter's intermediation services. The financial transactions are F.2 (currency and deposits) and F.4 (loans). The decision to confine the calculation of FISIM to loans and deposits is based on the following:

- FISIM are not calculated on securities other than AF.2 and AF.4, because financial intermediaries do not control the interest rates on them
- Interest on deposits and loans is readily identifiable, with a clear distinction between the rates on loans (higher) and those applied to deposits (lower). This distinction is important, since the FISIM breakdown method is based on the difference between the implicit interest rates on deposits and loans and a reference rate. This distinction is less clear in the case of bonds and securities.

Non-performing loans are included in the stocks of instrument AF.4. Therefore, interests are calculated on these amounts, and are included in the calculation of FISIM. Note that the amount of non-performing loans is very low compared to the total stocks of loans (much less than 1% of the total).

The financial intermediation of insurance companies and pension funds (S.128 and S.129) is of a different kind from that of subsectors S.122 and S.125. These organisations are excluded from FISIM calculation insofar as their main activity does not consist in receiving deposits and granting loans. Financial auxiliaries (S.126) are financial corporations but not financial intermediaries, so they do not produce intermediation services. Mutual funds (S.123 and S.124) are excluded from the scope of FISIM calculation, as well as holdings (S.127).

Finally, the central bank (S.121) is excluded from FISIM calculation: its output is measured as the sum of its costs (Regulation (EC) 448/98). This treatment arises from the very specific nature of monetary intermediation conducted by a central bank as a public financial corporation which is a monetary authority in that it issues bank notes and sometimes coins and manages the whole or part of the country's foreign exchange reserves. The central bank's income is mainly generated by seigniorage.

The FISIM calculation method is based on calculating the margin defined as the difference between the interest rates received on loans and paid on deposits and a reference rate supposed to represent a "pure" interest rate exclusive of risk premiums and intermediation services.

For each counterpart sector, the value of FISIM consumed may be formalised as follows:

$$\text{FISIM on loans: } + [r'_{L,Si} - rr'] * Y'_{L,Si}$$

$$\text{FISIM on deposits: } - [r'_{D,Si} - rr'] * Y'_{D,Si}$$

where $r'_{L,Si}$ is the implicit rate on loans granted to sector i in period t

$r'_{D,Si}$ is the implicit rate on deposits of sector i in period t

⁹⁰ Commission Regulation (EC) No 1889/2002 of 23 October 2002 stated the arrangements for FISIM allocation by user sector pursuant to Council Regulation (EC) No 448/98 of 16 February 1998 amending and supplementing Regulation (EC) No 223/96 as regards the breakdown of FISIM among user sectors within the scope of the System of National and Regional Accounts (ESA 1995).

rr^t is the reference rate

$Y_{L,Si}^t$ and $Y_{D,Si}^t$ are respectively the average outstanding amount of loans and deposits of sector i

The sum of FISIM on loans and deposits is often presented as (I) with the reference rate rr^t being generally higher than the rate on deposits and lower than the rate on loans

$$\left[r_{L,Si}^t - rr^t \right] * Y_{L,Si}^t + \left[rr^t - r_{D,Si}^t \right] * Y_{D,Si}^t \quad (I)$$

FISIM are generated independently on the assets and liabilities side of the balance sheet of financial intermediaries. The amount of loans on which FISIM are calculated may be higher or lower than the deposits. For some intermediaries who finance themselves from other financial intermediaries or on the financial markets, FISIM may even be generated only on loans.

Outstanding amounts of deposits and loans and the corresponding interest are broken down by counterpart sector in order to allocate FISIM among user sectors. The basic data required for FISIM calculation are briefly as follows:

- a table of average outstanding amounts of loans and deposits by counterpart sector
- a table of interest received and paid by counterpart sector, corresponding to the table of outstanding amounts
- an internal reference rate and an external reference rate (see below).

The data on outstanding amounts of loans and deposits come from quarterly financial accounts, which give reliable information by counterpart sector (*who-to-whom matrices*).

The table of interest received and paid by counterpart sector is not directly available. We have available data on interests for some sectors as S.121, S.122, S.123, S.124, S.128, S.129 and S.13. For the other sectors, in order to complete this interest matrix, we combine the table of average outstanding amounts with a table of interest rates available. These interest rates come from diverse sources and are determined for each sector, for each counterpart sector, for each financial asset, for two maturity types (short term and long term) and for each currency separately. Thereby, we make sure the chosen interest rate is the most appropriate for the corresponding outstanding amounts.

In conclusion, the statistical data on average stocks required for the calculation of FISIM are available by user sector. The accrued interest flows are used when available and supplemented when necessary by estimations based on rates sector-specific, weighted according to the maturity breakdown.

The *internal reference rate (IRR)* is the implicit rate on interbank claims between resident financial intermediaries. The *external reference rate (ERR)* used for calculating FISIM imports and exports is calculated as a weighted average of the rates on interbank claims and debts between resident and non-resident financial intermediaries. S.122 and S.125 interbank claims and debts (and relating interest) are considered when calculating the reference rates.

From the 2012-2016 GNI verification cycle, Belgium got a specific reservation:

- Subsector S.125 (ESA 2010) should be included in the calculation of the internal reference rate
- Subsector S.125 (ESA 2010) should be included in the calculation of the external reference rate or evidence should be provided that its non-inclusion in the external reference rate does not significantly distort the level of GNI.

A method to address both outstanding aspects of the reservation was developed and implemented. The calculation model for FISIM was fully redesigned in 2016. The interest matrix, which is the main input for the computation of FISIM, was updated based on revised series from the financial accounts for the years 2011 onwards. The new interest matrix impacted the FISIM calculation through:

- the update of the estimated interest flows for individual institutional sectors
- the changes in reference rates, which depend on the estimated interest flows for some sectors.

As concerns the modifications of the reference rates, it should be noted that the inclusion of the subsector S.125 in their calculation resulted in the upward revision of the internal reference rate. The revision to the external reference rate was negligible because of a minor share of this subsector in the total stock of loans and deposits between the relevant resident and non-resident financial institutions (S.122+S.125).

The calculated reference rates for 2016 are the following:

	<i>2016 - Q1</i>	<i>2016 - Q2</i>	<i>2016 - Q3</i>	<i>2016 - Q4</i>
IRR	0,24 %	0,19 %	0,14 %	0,19 %
ERR	0,15 %	0,11 %	0,06 %	0,06 %

FISIM calculation thus covers the following items:

- calculation of the interest matrix
- calculation of internal and external reference rates
- calculation of FISIM produced by resident financial intermediaries for use by domestic sectors: relations of resident financial intermediaries with resident customers
- calculation of FISIM exports: relations between resident financial intermediaries and non-resident customers including non-resident financial intermediaries
- calculation of FISIM imports: relations between non-resident financial intermediaries and resident customers.

In each case above, FISIM is calculated as the difference between the expected interest (stocks * reference rate) and the interest payable, for each sector separately. The calculation is made for deposits and for loans separately, as it has a different impact on the property income.

The households' sector (S.14) in the national accounts covers households as consumers and as producers. Distinguishing FISIM as consumption for final use (P.3) from FISIM as intermediate consumption (P.2) entails allocating the data on households based on whether they act as:

- consumers (final consumption of FISIM)
- owners of unincorporated businesses (intermediate consumption of FISIM)
- producers of housing services (intermediate consumption of FISIM).

Data are available for each type of loans (mortgage loans or other loans), but not for each type of customers of the loans (household or self-employed). We therefore associate the mortgage loans to producers of housing services, and divide the residual loans between households and self-employed, based on a survey.

Thus, FISIM is calculated separately for each user sector. FISIM by resident institutional sector is obtained as the sum of FISIM on loans granted to the institutional sector and of FISIM on deposits of the institutional sector. FISIM on the loans granted to the resident institutional sector is equal to interest receivable on loans minus (loan stocks * internal reference rate). FISIM on the deposits of the resident institutional sector is equal to (deposit stocks * internal reference rate) minus interest payable on deposits. The internal reference rate is calculated as the ratio of interest receivable on loans between (and within) S.122 and S.125 to stocks of loans between (and within) S.122 and S.125. The exported FISIM is calculated as the sum of FISIM on loans granted to non-residents and FISIM on the deposits of non-residents. FISIM on loans granted to non-residents is equal to interest receivable - (loan stock * external reference rate). FISIM on the deposits of non-residents is equal to (deposit stocks * external reference rate). FISIM imported by each institutional sector is calculated as the sum of FISIM imported for loans and FISIM imported for deposits. FISIM imported for loans is equal to interest receivable by non-resident financial intermediaries - (loan stocks * external reference rate). FISIM imported for deposits is equal to (deposit stocks * external reference rate) - interest payable by non-resident financial intermediaries. The external reference rate (used to calculate FISIM exports and imports) is calculated as the ratio of interest on loans plus interest on deposits between resident FIs and non-resident FIs, to the stock of loans plus the stock of deposits between resident FIs and non-resident FIs. The flows of interest between and within the subsectors S.122 and S.125 and between resident FIs and non-resident FIs as well as the corresponding stocks of loans and deposits impact the production of FISIM only through the internal and external reference rates. The allocation of FISIM (domestically produced and imported) is based on reliable information, in particular as concerns allocation among the sectors/uses having an impact on GNI. FISIM allocated to households is broken down into intermediate consumption (households in their capacity as owners of dwellings and of unincorporated enterprises) and final consumption. Finally, the correction to interest received from and paid to the rest of the world are made to offset the FISIM effect on trade.

The loans from the European Stability Mechanism and International Monetary Fund are excluded from the imports of FISIM. The loans from the European Investment Bank (and European Investment Fund) as well as loans from other international banks classified in S125 are included in imports of FISIM.

Outstanding amounts for financial lease are included in instrument AF.4. Related interests and FISIM are therefore automatically calculated for these amounts. The FISIM part of the rental payments is allocated to uses in the same way as for other loans.

The allocation of FISIM to its users entails the reclassification of part of the interest payments as payments for services, and as a result has an impact on GDP and GNI. There is no impact on saving and the net lending/borrowing of the units involved.

In the goods and services account the identity between resources and uses of FISIM can be verified:

The production and allocation of fisim	
(2016 - mln €)	
	2016
P1 (S122+S125)	12 827
P1S122	10 456
P1S125	2 371
<i>P1S13</i>	<i>942</i>
<i>P1S15</i>	<i>21</i>
P7	739
P2	9 016
S11	4 104
S123+S124+S127	422
S126	45
S128+S129	148
<i>S13</i>	<i>942</i>
S14	4 297
<i>dwelling services</i>	<i>3 294</i>
<i>unincorporated businesses</i>	<i>1 003</i>
<i>S15</i>	<i>21</i>
P3	1 846
P3S14	883
P3S13	942
P3S15	21
P6	2 705

The impact of the allocation of FISIM on GDP is equal to P.1 – P.2 (not including P2. of non-market producers S.13 and S.15, which give rise to an equivalent increase in production):
12827 - 9016 = **3811 € million.**

The impact of the allocation of FISIM on GNI is equal to the impact on P.3 (S.14+S.13+S.15) or **€ 1846 million**, as the impact on exports and imports is offset when considering the cross-border exchange of interest (D.41).

3.17.2.2. Central Bank (S.121)

The National Bank of Belgium represents a sub-sector of financial corporations on its own. The sequence of the Central Bank account is estimated based on its business report and accounting data delivered by the Controlling Department.

The Central bank carries out a range of tasks in the general public interest, most of which are not directly charged for. For this reason, in the national accounts, its output is valued via the sum of its production costs (i.e., intermediate consumption, compensation of employees, other taxes less subsidies on production and consumption of fixed capital). It is then possible to distinguish within this global output figure the part that is directly invoiced (Central Balance Sheet Office,) and the part that is not. This second part is referred to as imputed production.

According to Council Regulation No. 448/98, the Central Bank cannot be considered as a producer of financial services indirectly measured (FISIM).

Output for own final use covers production of software for internal use⁹¹.

Total output (P.1) is estimated as sum of costs (P.2+D.1+D.29-D.39+P.51c):

Market output (proceeds of sales: P.11) is derived from business accounting information:

Output for own final use (P.12) is an exogenous estimate:

Software produced for own final use (P.12)	Exogenous amount	11
--------------------------------------------	------------------	----

The imputed production (which is also considered as a part of market output) is obtained as a residual:

		Amount (2016) in € million
P.1	Sum of cost	418
P.11	P.1- P.12	407
Market output sold	Proceeds of sales	161
Imputed output	residual	258
P.12	Exogenous amount	11

The commissions and fees for directly invoiced services (€ 161 million) are paid by financial and non-financial corporations and by non-resident units.

The imputed output (which has not been sold: € 258 million) is, by convention, allocated to the intermediate consumption of S.122 and S.125 in proportion to the respective value added of each of these subsectors.

The Central Bank's intermediate consumption consists of general expenditures adjusted for the following items:

- Remuneration of special representatives, the Board of Directors, attendance fees of the members of the Council of Regency and the Board of Censors are included in staff costs in the corporate report. However, these should be booked as intermediate consumption accorded to ESA (payment for services rendered).
- Gifts should not be considered as intermediate consumption expenses but rather as transfers (§4.165 ESA2010). These should therefore be withdrawn from the computation of intermediate consumption.
- Fines should be booked under other miscellaneous current transfers (D.759) in accordance with §4.132 ESA2010.
- Taxes included in general expenses should be excluded from the computation of the intermediate consumption and imputed to other taxes on production.

Value added of the Central bank:

		Amount (2016) in € million
P.1	Production	418
P.2	Intermediate consumption (-)	-77
B.1g	Value added	341

3.17.2.3. Deposit taking corporations (S.122)

Credit institutions need a license from the National Bank of Belgium in order to operate in the country. A list of the authorized credit institutions is published monthly on the National Bank of Belgium's website. These units form together a subset of the financial corporations' sector, namely "deposit-taking corporations except the central bank" (S.122).

Sources

The estimation of the production account of deposit-taking corporations is based on two sources of information. First, we use business accounting data provided by credit institutions to the National Bank of Belgium in its

⁹¹ An estimate is done for all financial corporations, non-financial corporations, and government via a standardized approach.

capacity of prudential supervisor, known as “Scheme A”. Second, additional information is collected in the yearly survey called “Bank Structural Business Survey”.

Territoriality

The profit and loss account from the Scheme A includes banking activities both inside (domestic branches) and outside the country (foreign branches). From a national account perspective, only the valued added created within the borders of the state should be considered. Therefore, banking activities realized abroad need to be eliminated from accounting data. This is done by computing a territory coefficient based on the Bank Structural Business Survey (abbreviated SBS). This coefficient reflects the share of banks’ salaries paid in Belgium over total wages. In the SBS, we don’t have the distinction between income/expenses of the domestic branches and income/expenses of the non-resident branches.

For products and charges, the SBS makes only the distinction between transactions with residents or with non-residents. The only element available in SBS for calculating the territory coefficient is the ‘wages paid in Belgium’ related to ‘total wages paid’.

Estimation of the deposit-taking corporations’ output (P.1)

In 2016, about 55 % of deposit-taking corporations market output came from financial intermediation services indirectly measured (FISIM). The remaining 45 % consisted mainly of commissions on financial services (direct payments charged by the institutions). Accounting and survey data used in the output estimation need to be adjusted for deposit-taking corporations’ activities abroad through the application of the territory coefficient (see point ‘Territoriality’ above).

	Source	Amount (2016) in € million
Bank commissions	Scheme A	6654
+ Loan fees other than interest income	Bank SBS	145
+ Margins on the sales and purchases of foreign currencies	Bank SBS	557
+ Margins on the sales and purchases of precious metals	Bank SBS	-26
+ Employees’ contribution to social services costs	Bank SBS	18
+ Recovered costs from clients (credit card expenses, etc.)	Bank SBS	105
+ Income derived from activities other than financial services (IT services, real estate sales, etc.)	Bank SBS	99
+ Recovered costs from related entities	Bank SBS	433
+ Recovered costs from other entities and institutions	Bank SBS	20
+ Invoice to delegated agents (advertisement, etc.)	Bank SBS	17
+ Other operating income	Bank SBS	188
+ Output of electronic money institutions[1]	Exogenous estimate	69
+ R&D output	Exogenous estimate	3
+ Financial intermediation services indirectly measured (FISIM)	Exogenous estimate	10456
+ Output for own final use (P.12)	Exogenous estimate	389
= TOTAL OUTPUT		19127

Margins on the sales and purchases of foreign currencies and precious metal are also included in deposit-taking corporations’ market output. According to §3.56 ESA 2010, these should not cover holding gains and losses.

The details of “Income derived from activities other than financial services” are specified in the SBS. Sales of real estate and dwelling services are excluded. Only items related to output according to ESA 2010 are included. Some adjustments are made to exclude amounts that would not fit into ESA 2010 definition of production.

	Source	Amount (2016) in € million
Positive balance derived from the sale of precious metals to clients	Bank SBS	7
- Negative balance derived from the sale of precious metals to clients	Bank SBS	-33
+ Positive balance derived from the sale of currencies to clients	Bank SBS	780
- Negative balance derived from the sale of currencies to clients	Bank SBS	-223
= Margins on sales and purchases of foreign currencies and precious metals		531

Margins on the trading of financial assets

The output from financial services in acquiring and disposing of financial assets and liabilities in financial markets is included in the present estimation process and is valued in accordance with the ESA2010 §3.73, i.e., as a margin between buying and selling prices.

In December 2020, the Virtual Group on the estimation of margins on buying and selling transactions, organised by the WGES, published a report, and presented some suggestions for compiling trading margins in the balance of payments. These recommendations and suggestions were followed to compile an estimate for the output of this type of services.

As a first step, one must identify whether market making behaviours by residents are present. As a result of these first investigations, it could be concluded that the number of financial institutions having market making desk activities is very limited in Belgium.

In addition, it is assumed that the margins between buying and selling prices of financial assets are included in the business accounts data used to estimate the added value of the financial sector.

Estimation of the deposit-taking corporation's intermediate consumption (P.2)

The bulk of deposit-taking corporations' intermediate consumption is other operational expenses and commissions paid for financial services⁹².

	Source	Amount (2016) in € million
Commissions paid for financial services	Scheme A	2811
+ Other operational expenses	Scheme A	6216
- Renting of land	Bank SBS	0
- Share of liability insurance policy unrelated to the provided service	Calculations	-30
+ P.2 of electronic money institutions	Calculations	59
- Computer software expenses	Bank SBS	-50
- Gifts	Bank SBS	1
- Contribution to the protection of depositors' savings system booked in other operational expenses	S.13 account	-574
- Realized losses booked in other operational costs	Bank SBS	0
- Depreciations booked in other operational costs	Bank SBS	9
- Losses incurred through theft or fraud	Bank SBS	2
- Operational fiscal expenses	Scheme A	908
- Other operational expenses (that are not P.2)	Bank SBS	-191
+ Directors' remuneration	Bank SBS	38
+ Directors' fees	Scheme A	16
+ Loan fees other than interest income	Bank SBS	68
+ Non-deductible VAT	Calculations	32
+ Allocation of the imputed output of the Central Bank	S.121 account	186
+ Investment fund implicit management fees	ICBs' account	11
- Taxes on credit institutions and investment funds	S.13 account	813
TOTAL OF INTERMEDIATE CONSUMPTION		6861

Accounting and survey data used in the intermediate consumption estimation procedure need to be adjusted in order to take only into account the domestic deposit-taking corporations' activities. This is done through the application of the territory coefficient (see point 'Territoriality' above).

Expenses related to land rent should be withdrawn from the intermediate consumption and booked as property income (§3.90 ESA 2010).

⁹² From 2013 onwards, a tax must be paid by credit institutions on the net amount of Investment Funds covering life insurance contracts. A second tax is due on the average amount owned by the institution against its clients (Memento Fiscal 2017 pp. 238 and 245)

Only the share of the insurance premium linked to the service provision should be considered in the intermediate consumption (§ 3.89 ESA2010). Remuneration for the insurance service is estimated within the scope of the insurance corporations' account.

Gifts bestowed by deposit-taking corporations should not be considered as intermediate consumption expenses but rather as transfers (§4.165 ESA2010). These should therefore be withdrawn from the computation of intermediate consumption.

Similarly, contributions made by deposit-taking corporations to the system of depositors' savings protection ought to be considered as other taxes on production (D.29) and should hence be eliminated from intermediate consumption expenses. The amount of these contributions is derived from the General government's account.

Intermediate consumption is valued at purchasers' prices (§3.91 ESA 2010). Non-deductible VAT should therefore be considered in the estimation of the intermediate consumption. The share of non-deductible VAT paid on the intermediate consumption of good and services is calculated on basis of the Bank SBS.

According to §3.89 ESA 2010, imputed output of the central bank should be entirely allocated to the intermediate consumption of other financial intermediaries, among which deposit-taking corporations. A share of the central bank non-market output, proportional to the weight of deposit-taking corporations' value added in comparison to other financial intermediaries, is imputed to deposit-taking corporations' intermediate consumption.

Investment funds implicitly charge shareholders management fees which should be booked in deposit-taking corporations' intermediate consumption. To comply with BPM6, implicit management imported fees charged by foreign investment funds to deposit-taking corporations are added to their intermediate consumption.

The value added is therefore equal to:

	Amount (2016) in € million
Output (P.1)	19127
- Intermediate consumption (P.2)	-6861
Gross value added (B.1g)	12266

3.17.2.4. Money market funds (S.123) and non- money market investment funds (S.124)

Investment funds (IF) are controlled by the Financial Services and Market Authority (FSMA) in Belgium. An exhaustive list of IF active in Belgium is published on FSMA's website.

Investment funds are classified into two separate sub-sectors of the financial corporations' sector. According to §2.79 of the ESA 2010, investment funds which are primarily engaged in financial intermediation are classified as money market funds (S.123). In Belgium, this sub-sector is made up of segments of collective investment undertakings which invest mainly in short-term instruments, essentially deposits and short-term fixed income securities. It is up to the FSMA to determine, in accordance with the instructions of the European Securities and Market Authority, whether an IF is regarded as monetary or non-monetary. IF that fall into the latter category are classified in the non-money market investment funds (S.124).

The estimation of investment funds' value added is based on quarterly data gathered by the FSMA. This data is available by type of investment funds' segment i.e., stock, indices, funds of funds, real estate, monetary, bond and other.

Since 2008, a new type of investment funds called institutional investment funds has appeared. These are exclusively dedicated to professionals and institutional investors (Royal Decree of December 7, 2007) and are all classified in S.124. Institutional investment funds value added is estimated on basis of their (non-standardized) annual accounts, available at the Central Balance Sheet Office.

IF are considered as pure financial intermediaries; hence their net lending/borrowing is close to zero. Part of the output is accounted for by commissions (other revenues) received by the fund. The other part, known as imputed output, consists of costs which are not covered by commissions.

2016 (in € million)	Source	MMF (S.123)	Non-MMF (S.124)	Total
Commissions (a)	FSMA	0	84	84
Costs not covered by commissions (imputed output) (b)	FSMA	20	1.899	1.919
<i>Of which Intermediate consumption (P.2)</i>		13	1.794	1.807
<i>Investment funds tax (D.29)</i>		7	115	122
<i>Other taxes (D.29)</i>		7	182	189
Total output (P.1) (a) + (b)		20	1.983	2003
Intermediate consumption (P.2)		13	1794	1807
Gross value added (B.1g)		7	189	196

3.17.2.5. Other financial intermediaries (S.125), financial auxiliaries (S.126)⁹³ and captive financial institutions and money lenders (S.127)

These units deposit the same standardized annual accounts as the non-financial corporations. It implies that the standard compilation process is the same as in other non-financial industries. However, a few specific corrections are applied.

2016 (in € million)															
S.125-S.126-S.127 - Industry K	C_70	C_71	C_72	C_73	C_74-740	C_A	C_600/8+61	C_609	C_641/8	C_B	C_62	C_640	C_740	C_C	C_D
A1	9 514	0	19	0	730	10 262	6 598	-39	220	6 779	1 480	56	1	3 483	1 948
E1	367	0	0	0	10	377	124	0	2	125	95	2	0	251	153
A2	310	0	0	0	82	392	289	0	8	297	74	0	0	95	21
B1	223	0	0	0	13	236	115	0	5	120	60	3	0	116	53
B2	2 364	-2	0	0	107	2 469	1 219	1	42	1 262	564	18	0	1 207	626
BC	522	-1	0	0	30	551	287	0	26	313	134	2	0	238	103
C1	4	0	0	0	2	6	10	0	1	10	3	1	0	-4	-8
C2	20	0	0	0	0	20	57	0	3	59	5	2	0	-40	-46
E2	16	0	0	0	0	16	12	0	0	12	1	2	0	4	2
B3	1 038	0	0	0	45	1 083	414	0	8	421	161	12	0	662	489
BL	1 280	0	0	0	25	1 305	833	0	3	836	97	4	0	469	368
H1	0	0	0	0	1	1	21	0	4	26	0	0	0	-24	-25
H2	7	0	0	2	1	9	8	0	1	8	0	0	0	1	0
H3	4	0	0	0	0	4	2	0	2	4	2	1	0	1	-2
H4	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
RF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total administrative aggregates	15 670	-3	19	2	1 045	16 733	9 988	-38	324	10 274	2 677	102	2	6 459	3 682
Adjustements	-258	0	169	0	-79	-167	-908	40	-139	-1 007	-131	0	16	840	987
(b)	0	0	0	0	0	0	0	0	0	0	-20	0	0	0	20
(d)	-699	0	0	0	-10	-709	-750	41	0	-709	0	0	0	0	0
(e)	0	0	0	0	-37	-37	0	0	-101	-101	0	0	0	64	64
(f)	0	0	0	0	0	0	-7	0	0	-7	0	0	0	7	7
(g)	0	0	10	0	0	10	16	0	0	16	0	0	0	-5	-5
(h1)	0	0	0	0	0	0	-6	0	0	-6	0	0	0	6	6
(i1)	0	0	173	0	0	173	-21	0	0	-21	0	0	0	194	194
(i2)	0	0	-1	0	0	-1	0	0	0	0	0	0	0	-1	-1
(i3)	0	0	-14	0	0	-14	0	0	0	0	0	0	0	-14	-14
(j)	-532	0	0	0	0	-532	0	0	0	0	0	0	0	-532	-532
(k)	0	0	0	0	0	0	329	0	0	329	0	0	0	-329	-329
(l)	0	0	0	0	0	0	-16	0	0	-16	0	0	0	16	16
(m)	0	0	0	0	-2	-2	0	0	0	0	0	0	0	-2	-2
(p2)	0	0	0	0	0	0	-78	0	0	-78	78	0	0	78	0
(v)	-1 347	0	0	0	-30	-1 377	-913	0	-39	-952	-205	0	0	-425	-220
(x1)	0	0	0	0	0	0	60	0	0	60	0	0	0	-60	-60
(x4)	0	0	0	0	0	0	23	0	0	23	0	0	0	-23	-23
(aa)	0	0	0	0	0	0	-20	0	0	-20	0	0	0	20	20
(af)	0	0	0	0	0	0	0	0	0	0	16	0	16	0	0
(ad)	-51	0	0	0	0	-51	20	0	0	20	0	0	0	-70	-70
(fisim)	2 371	0	0	0	0	2 371	454	0	0	454	0	0	0	1 917	1 917
Revisie	-258	0	169	0	-79	-167	-908	40	-139	-1 007	-131	0	16	840	987
Total final	15 412	-3	189	2	967	16 566	9 080	2	185	9 267	2 546	102	17	7 299	4 668
ESA 2010 codes	P.11	P.11	P.12	P.11	P.11	P.1 Total	P.2	P.2	P.2	P.2 Total	D.1	D.29	D.39	B.1g	B.2g

Adjustment (j): Elimination of interest booked in turnover:

Some financial corporations book interest received in account 70 (turnover) instead of 75 (financial income). In the national accounts, however, interest received must be booked in D.41 (interest income) only. This correction aims at eliminating interest income from production and transferring it to property income (D41). This correction is only estimated for credit institutions with a full accounting scheme sectorised in S.125.

A theoretical interest income is estimated by combining balance sheet information (outstanding amounts of interest generating financial assets) with theoretical yield percentages (by type of asset). This theoretical interest income is then compared with the interest accounted for in the financial revenue (account 751). The difference between the theoretical interest and the interest accounted for in financial income is supposed to be recorded

⁹³ Excluding S.126_nace 70 (activities of head offices) which are part of section M.

in turnover. This amount is then removed from turnover (70: -) and added to the financial income (75: +). This correction amounts to € 532 million in 2016.

Adjustment (x1): allocation of imputed production of S.121

Imputed production of S.121 is assigned to P.2 of S.122 and S.125 according to ESA2010. The breakdown of this imputed production is done using the proportion of the value added (B.1g) in each subsector.

3.17.2.6. Insurance corporations (S.128) and pension funds (S.129)

The population of NACE 65 includes the following units:

- Belgian insurance (or reinsurance) companies, subject to the supervision of the National Bank
- Branches of European insurance (or reinsurance) companies (not subject to the supervision of the National Bank)
- Pension funds subject to the supervision of the FSMA (Financial Services and Markets Authority)
- Free and supplementary health insurance subject to the supervision of the Office for the Supervision of Mutual Societies
- Mutual insurance companies
- The *Office Nationale du Dueroire*⁹⁴ [Belgian export credit insurance institution] (excluding activities on behalf of the State)
- Others (Fonds Commun de Garantie Automobile, Bureau Belge des Experts Automobiles, etc.).

As regards output, the insurance calculation methodology differs according to whether the output concerns life insurance, non-life insurance or reinsurance.

Among these various types of insurance, it is also necessary to be able to identify social insurance organised collectively for a group, where participation in the scheme is generally obligatory or encouraged by a third party (ESA 2010 § 16.02). Apart from social security schemes funded by the government which are classified in sector S.13, there are schemes set up or managed by employers for their employees in Belgium, mainly for supplementary pensions (group insurance and pension funds) but also for other forms of insurance (such as health group-insurance policies). These schemes form an integral part of the insurance and pension fund sector in the national accounts. Amounts of social contributions and social benefits are calculated for them.

3.17.2.6.1. Method of calculating output P.11

Under ESA 2010, the method of calculating output differs according to the type of insurance:

- non-life insurance: insurance against fire, road accidents, water damage, natural disasters, etc.
- life insurance: insurance covering death, survivors (including second pillar supplementary pensions and individual life insurance constituting the third pillar of pensions in Belgium).
- reinsurance: reinsurance is treated as non-life insurance, and all reinsurance flows are recorded in the accounts, in contrast to the ESA95.

3.17.2.6.1.1. Non-life insurance

Non-life insurance output is calculated by the following formula:

$$\begin{array}{r} \text{premiums earned} \\ \text{plus premium supplements} \\ \text{less adjusted claims incurred} \end{array}$$

In the output calculations, this method of calculating non-life insurance is implemented in detail for each type of insurance and according to the various types of insurance undertaking (Belgian companies, branches of foreign companies, etc.) and products.

In order to conduct the appropriate product analysis and comply with GNIG/027 Rev.1 recommendation 3 regarding allocation of output to users, the non-life production of Belgian insurance companies and foreign branches is estimated for 43 by-products of the 10 groups of classes of non-life insurance business⁹⁵.

⁹⁴ Since 2017 Dueroire or Credendo – Export Credit Agency.

⁹⁵ As set out in the article 63 of the Council Directive 91/674/EEC of 19 December 1991 on the annual accounts and consolidated accounts of insurance undertakings.

A detailed example of the calculation of the different variables is presented below for the largest non-life insurance group of classes, namely motor third-party liability insurance. The calculation is based on the non-life detailed technical accounts available for Belgian insurance companies subject to the National Bank's supervision. The headings of the detailed technical accounts used are given in the various tables.

This example will be followed by a summary table for the total non-life insurance output.

Premiums earned

The premiums earned are the premiums written during the year less the change (less increase or plus decrease) in the reserves for premium unearned between the beginning and the end of the accounting year.

Non-life insurance, motor third-party liability– direct business in Belgium, € million, 2016

Accounting schedule headings	Accounting codes	2016
Premiums written	710.1	2.229
(-) Change in the reserves for unearned premium	710.3	-2,8
Premiums earned	710.1 - 710.3	2.232

Premium supplements

Premium supplements are the income earned from the investment of the insurance technical reserves of the insurers, which represent liabilities towards policyholders. The premium supplements do not include the income earned by the investment of own funds. The accounting items also allows the exclusion of holding gains and losses without further adjustments.

An "own funds/technical reserve" ratio is calculated for companies active in non-life insurance. That ratio can be used to calculate the proportion of investment income relating to the investment of own funds, that proportion then being deducted from the total investment income, leaving only the premium supplements corresponding to income from the investment of the insurance technical reserves.

Reinsurance flows must be recorded gross according to the ESA 2010 methodology. The direct insurer and the reinsurer earn property income from investing their technical reserves. Property income is transferred by the reinsurer to the direct insurer who then adds this amount to its own property income earned and further distributes it to the policyholder (ESA 2010 §16.76). This flow is labelled as "reinsurance supplement" in the table.

Non - life insurance supplements of licensed companies under the supervision of National Bank, direct insurance in Belgium, € million, 2016⁹⁶

Accounting schedule headings	Accounting codes	2016
Income from investments in dependent companies	712.1	44
(+) Income from other investments	712.2	736
(-) Theoretical rent	712.212	3
(-) Investment charges, excluding financial provision and investment management charges	614.1 – 614.13 – 614.14	129
(-) Income from investment of insurers own funds	Calculation	53
Technical account supplementary premiums		595
(+) Other supplementary premiums allocated to non-life	Calculation	39
(+) Reinsurance supplement	Calculation	1
Total premium supplements		635

Premium supplements are allocated to the different non-life insurance products according to their share in technical provisions.

⁹⁶ The "theoretical rent" is defined as "the rent that would have been received, on normally market conditions, as the building has been rent to a third in place to be partly of fully occupied by the company itself". This amount of "Theoretical rent" is not taken into account in the calculation of the premium supplements.

Adjusted claims incurred

Claims can be distinguished between claims paid and claims incurred (ESA 2010 §16.34).

Non-life insurance claims incurred are calculated as the claims paid plus the change (plus increase or less decrease) in the reserves for claims outstanding between the beginning and the end of the accounting year.

Adjusted claims are calculated according to the "geometrically weighted moving averages" method over a 5-year period. Use of this method makes it possible to smooth out the claims over the period but gives a bigger weighting to more recent observations compared to older ones. This provides a more constant output value since the annual fluctuations in claims are evened out. That corresponds to an anticipation method, as a given insurer sets its premium *ex ante* according to the claims expected based on past claims. Use of this method therefore obviates the need for equalisation provisions (provisions formed in anticipation of future claims).

The European Central Bank handbook⁹⁷ was used for the theoretical and practical aspects of this method.

The starting point is the following econometric comparison:

$$NLR_t = w_1 LR_{t-1} + w_2 LR_{t-2} + \dots + e_t$$

where $w_i = \alpha(1 - \alpha)^{i-1}$ and e_t is the error term.

The terms LR_t represent *the claims incurred ratios*, the ratio between *actual claims incurred* and *earned premiums*. The ECB handbook calls NLR_t the *expected claims incurred ratio* but to avoid any confusion between the different names, this text will refer to the *adjusted claims incurred ratio*.

The use of ratios offers one specific advantage. The ratio between claims and premiums provides a criterion which is unaffected by inflation. The calculation of the *adjusted claims incurred ratio* is therefore relatively independent of inflation in any given year. If that ratio is multiplied by the premiums in the year for which the *adjusted claims incurred* are to be calculated, there is no need to make any other adjustment for inflation. Of course, it is not possible to allow for every fluctuation in inflation, but a subsequent adjustment for inflation appears unnecessary.

α is the *smoothing parameter* and, given enough observations (minimum 30), could be estimated by an econometric method. If there are insufficient observations, a calibration method is necessary. A value for α between 0.1 and 0.3 is therefore defined in advance, and then the smoothing parameter value that gives the best results is verified. Tests have revealed that the value $\alpha=0.3$ is the most appropriate for practically all categories of non-life insurance.⁹⁸

The procedure for calculating the *adjusted claims incurred* can be summed up in the following steps⁹⁹:

1. Calculation of the *earned premiums*. (1) as the premiums written less the change (less increase or plus decrease) in the reserves for premium unearned (2).
2. Calculation of the actual claims incurred (5) as the claims paid (3) plus the change (plus increase or less decrease) in claims outstanding and other technical provisions (4).
3. Calculation of the *actual claims incurred ratio* (6) for each year. This is the ratio between *actual claims incurred* (5) and *earned premiums* (1).
4. The value of the *smoothing parameter* α is set at 0.3 and the geometric weightings are defined by means of this parameter α . Via normalisation, the sum of the geometric weightings must be equal to 1

⁹⁷ "Financial Production, Flows and Stocks in the System of National Accounts"; United Nations- European Central Bank, 2014 - Chapter 3 (non-life insurance) (ST/ESA/STAT/SER.F/113).

⁹⁸ The value of the smoothing parameter cannot exceed 0.3 since values higher than 0.3 may indicate the presence of a serial correlation in the data set. The US Bureau of Economic Analysis also uses the value 0.3 for its estimates.

⁹⁹ The calculation presented here is based on the UN/ECB handbook. In that handbook, supplements are likewise smoothed over time. However, the ESA 2010 stipulates at 16.51 "premium supplements are less volatile than claims and no adjustment for volatility is necessary."

Smoothing parameter			X/T
A	0.300	X1	0.361
$\alpha^* (1-\alpha)$	0.210	X2	0.252
$\alpha^* (1-\alpha)(1-\alpha)$	0.147	X3	0.177
$\alpha^* (1-\alpha)(1-\alpha)(1-\alpha)$	0.103	X4	0.124
$\alpha^* (1-\alpha)(1-\alpha)(1-\alpha)(1-\alpha)$	0.072	X5	0.087
Total	0.832	T	1.000

- Multiplication of the actual claims incurred ratio (LR) (6) by the corresponding geometric weighting to obtain the adjusted claims incurred ratio (NLR) (7).
- Multiplication of the adjusted claims incurred ratio (7) obtained via the premiums for the year concerned in order to obtain the adjusted claims (8).

In the event of catastrophes, the losses incurred shall not affect the value of claims. The catastrophic losses shall be recorded as a capital transfer from the insurer to the policyholder.

In accordance with ESA 2010 paragraph 16.36 and 16.42, claims management costs are excluded from the calculation of adjusted claims. The claims management costs are separately identified and reported in the P&L accounts of insurance companies, allowing the appropriate exclusion of the latter in the calculation process.

Adjusted claims: Motor, third-party liability - Direct business in Belgium, € million, 2016

		Accounting codes	2016
Gross premiums written	(a)	710.1	2.229
Change in the reserves for premiums unearned (increase (+))	(b)	710.3	-3
Earned Premiums	(c)=(a)-(b)		2.232
Claims paid	(d)	610.111	1.309
change in claims outstanding	(e)	610.21	124
Change in other technical provision	(f)	611.21/611.11	0
Actual claims	(d)+(e)+(f)		1.433
Adjusted claims incurred ratio (NLR)	(g)		67%
Adjusted claims	(h)=(c)*(g)		1.492

The output of non-life insurance for *Motor, third party liability* in the above example is therefore:

	2016
Premiums earned	2.232
(+) Premium supplement	163
(-) Adjusted claims incurred	1492
Output P11	903

Total non-life insurance input

The methodology detailed above is the one used for calculating the output of Belgian companies subject to National Bank supervision. The calculation of output in the case of other types of non-life insurance and other types of company follows the same methodology.

In the case of Belgian insurance companies, the basic data come from the detailed annual accounts. These reports mention international activities, but it is only direct foreign activities (DFA) that should be taken into account.

It is therefore necessary to exclude activities conducted via foreign branches. That information is obtained by the combination of two data sources: the structural survey, which allows a distinction between these two types

of international activity for each necessary accounting item needed for the output calculation process (earned premiums, premiums supplements and adjusted claims). Reports provided by the National banks over premium earned carried on the “Freedom to provide services” are then used for the breakdown of DFA output by groups of classes.

In the case of branches of foreign companies active in Belgium, the results of the annual structural survey are used to calculate output. Given that the structural survey only provides aggregates data for all type of products, the production breakdown by products observed for Belgian companies is applied to the output of branches of foreign companies.

Table summarising total non-life insurance output, € million, 2016

	a	b	c	d
Licensed insurance companies, including branches of foreign companies.	12.315	681	7.395	5.601
1. <i>Accident and health</i>	3.461	300	2.409	1.352
2. <i>Motor, third-party liability</i>	2.449	175	1.614	1.010
3. <i>Motor, other classes</i>	1.506	14	974	545
4. <i>Marine, aviation and transport</i>	128	4	79	54
5. <i>Fire and other damage to property</i>	2.904	72	1.431	1.545
6. <i>Third party liability</i>	828	81	388	521
7. <i>Credit and suretyship</i>	120	4	104	21
8. <i>Legal expenses</i>	537	23	217	343
9. <i>Assistance</i>	266	3	115	154
10. <i>Miscellaneous</i>	116	4	64	57
other undertakings	1.463	47	1.015	495
Total non-life insurance output	13.778	728	8.410	6.097

- a. Premiums earned
- b. (+) Premium supplements
- c. (-) Adjusted claims incurred
- d. (=) Output of non-life insurance P11

The non-life insurance output therefore comes to € 6.097 million for the year 2016.

3.17.2.6.1.2. Life insurance

The output of direct life insurance is calculated separately as:

- *Premiums earned*
- plus *Premium supplements*
- minus *Benefits due*
- minus *increases (plus decrease) in technical reserves and with-profits insurance.*

In the calculation of output, holding gains and losses are excluded.

The method is applied in detail by type of insurance (unit-linked or non-unit linked, individual life or collective life) and by type of insurance company (Belgian companies, branches of foreign companies, etc.).

A detailed example of the calculation of the different variables is presented below for the largest category of life insurance, namely life insurance direct business in Belgium carried out by companies under the supervision of the National Bank of Belgium. Data are derived from the life detailed technical accounts. The headings of the detailed technical accounts used are given in the various tables. A summary table for total life insurance output is presented in the last section.

Premiums earned

The premiums earned are the premiums written during the year less the change (less increase or plus decrease) in the reserves for premium unearned between the beginning and the end of the accounting year.

Premium earned - direct business in Belgium, € million, 2016

Accounting schedule headings	Accounting codes	2016
Premiums written	720.1	14.269
(+) Change in the reserves for unearned premium	720.3	0
Premiums earned	720.1 - 720.3	14.269

Premium supplements

Premium supplements are the income earned from the investment of the insurance technical reserves of the insurers, which represent liabilities towards policyholders. The premium supplements do not include the income earned by the investment of own funds.

An "own funds/technical reserve" ratio is calculated for companies active in life insurance. This ratio can be used to calculate the proportion of investment income relating to the investment of own funds, that proportion then being deducted from the total investment income, leaving only the premium supplements corresponding to income from the investment of the insurance technical reserves.

Reinsurance flows have to be recorded gross according to the ESA 2010 methodology. The direct insurer and the reinsurer earn property income from investing their technical reserves. Property income is transferred by the reinsurer to the direct insurer who then adds this amount to its own property income earned and further distributes it to the policyholder (ESA 2010 §16.76). This flow is labelled as "reinsurance supplement" in the table.

Premium supplements - direct business in Belgium, € million, 2016

Accounting schedule headings	Accounting codes	2016
Income from investments in dependent companies	722.1	448
(+) Income from other investments	722.2	6.575
(-) Theoretical rent	722.212	26
(-) Investment charges, excluding financial provision	624.1 – 624.13	719
(-) Income from investment of insurers own-funds		303
Technical account supplementary premiums		6.026
(+) Other supplementary premiums	Non-Tech. account	337
(+) Reinsurance supplement		0,2
Non-Technical account supplementary premiums		337
Total premium supplements		6.364

Benefits due

The amount of the life insurance benefits due is calculated as the benefits paid during the period plus the change in the provisions for claims and profit-sharing.

Benefits due, € million, 2016

Accounting schedule headings	Accounting codes	2016
Benefits paid	620.111	17.565
(+) Profit-sharing and rebates	622.1	12
Benefits due		17.578

Change in life technical reserves and with-profits insurance

The change in technical reserves and profit-sharing is calculated as the sum of the changes in the class 21 (non-unit linked products) and class 23 (unit-linked) life-insurance technical provision and the change in the provision for profit-sharing, with due regard for transfers from reserves.

The change in the technical reserves is then adjusted to exclude gains and losses.

In the case of class 23, gains and losses are clearly identifiable in the life technical accounts.

In the case of “class 21” (non-unit linked) products with guaranteed rate of return, a specific adjustment is necessary to exclude the changes in the so called “flashing light provision” of the output calculation formula.

This provision, aggregated with life-insurance provision on the liabilities side on insurer’s balance sheet, was introduced in 2011 and imposed by the regulator (National Bank of Belgium) to mitigate risks in the prolonged low interest rate environment. It requires a gradual build-up of additional technical provision.

To do so, insurers must replace their initial discount rate on class 21 existing contracts by a “Flash rate” calibrated at 80 percent of the average yield over the last five years of the ten-year Belgian sovereign bonds.

The additional provision is calculated as the difference between the amount of technical provision based on the “Flash rate” and the same amount based on the initial rate.

Allocations to the “Flashing Light Provision” are thus the result of changes of key model assumptions in the actuarial calculations and must therefore be considered as revaluation (ESA 2010 §6.61) and excluded from the increase/decrease of technical reserves in the output calculation formula.

Changes in technical reserves and with-profits insurance – direct business in Belgium, 2016, in € million

		2016
Change in the life insurance provision, other technical provision and provision for profit sharing	A	1319,4
(-) Net realized/unrealized holding gains/losses + net change in flashing light provision	B	1349,4
Total change in technical provision due to reevaluation and holding gains/losses	C	1.349
Change in technical reserves excluding reevaluation and holding gains/losses	=A-C	-30

Total life insurance output

The methodology used for calculating the life insurance of Belgian companies subject to National Bank supervision is presented in detail above. The same methodology is used for other types of life insurance, according to the various types of company.

In the case of Belgian insurance companies, the basic data come from the detailed annual accounts. These report international activities, but it is only direct foreign activities (DFA) that should be taken into account. It is therefore necessary to exclude activities conducted via foreign branches. The information obtained from the structural survey permits a distinction between these two types of international activity, so that only the direct foreign activities are included.

In the case of branches of foreign companies active in Belgium, the results of the annual structural survey are used to calculate output.

Table summarising total life insurance output, 2016, in € million

	a	b	c	d	e
Belgian companies	14.269	6.312	18.034	-30	2.577
Belgian companies DFA	54	26	108	-34	7
Branches of foreign companies	242	33	75	70	129
Total life insurance output	14.565	6.371	18.216	6	2.714

- a. Premiums earned
- b. (+) Premium supplements
- c. (-) Benefits due
- d. (-) Change in life technical reserves and with-profits insurance
- e. (=) Output of life insurance P.11

Life insurance output therefore comes to € 2.713,6 million for the year 2016.

3.17.2.6.1.3. Pension funds

The Pension funds sector only includes *Institutions for occupational retirement provision* (IORP) under the supervision of the *Financial Services and Markets Authority* (FSMA).

According to the law, IORP can't make any profit. We cannot consider that these institutions set the amount of contribution with the aim of generating a margin that can be retained for their intermediation services. The employers remain responsible for any shortfall in funds while any excess must be allocated to the funds buffer ('own funds') and cannot return to employers (Households are considered as the ultimate owner of these own funds).

Hence, the output is estimated by the "sum of cost" method, in accordance with *ESA2010 §3.74 d*); 2).

The output formula can be summarized as Output = IC + Compensation for employees, and includes the following components:

Pension funds sector – output, 2016 in € million

			2016
<i>Miscellaneous goods and services</i>	a	+	45
<i>Other operating expenses</i>	b	+	4
<i>Reinsurance service charge</i>	c	+	15
<i>Fisim</i>	d	+	4
<i>Imputed management costs of mutual funds</i>	e	+	184
<i>Compensation of employees</i>	f	+	6
<i>Return on fixed capital</i>	g	+	0
	Total output	≡	258

Items a and b are derived from the *P&L accounts* of IORPs provided by the FSMA, others are exogeneous inputs¹⁰⁰.

3.17.2.6.1.4. Reinsurance

According to the ESA 2010, life and non-life reinsurance must be recorded "gross", i.e., including all flows between the reinsurer and the direct insurer. It must be treated as non-life insurance. The statistical method for calculating claims ex ante (adjusted claims incurred) must be used for reinsurance in the same way as for non-life insurance.

When estimating reinsurance, it is necessary to distinguish between active and passive reinsurance. In active reinsurance, the reinsurer takes on the risk, whereas in passive reinsurance the direct insurer passes on the risk to a reinsurer (by taking out a reinsurance policy).

Active reinsurance output can be estimated by using the available accounts data. Passive reinsurance is harder to estimate owing to the lack of information, particularly on passive reinsurance supplements. That is why the Eichmann method¹⁰¹ is used to calculate reinsurance. It is an alternative method that solves the problem of estimating passive reinsurance.

Description of the Eichmann method

First, reinsurers are divided into two classes, namely specialist reinsurers (reinsurance companies that only engage in reinsurance activities) and non-specialist reinsurers (insurance companies whose main activity is direct insurance, but which also engage in reinsurance activities). These two classes can then be subdivided into active and passive reinsurance transactions effected either with resident insurance companies (domestic) or with non-resident insurance companies (foreign) according to the following table.

¹⁰⁰ For more details regarding these exogeneous inputs, please refer to the paragraphs concerning reinsurance, FISIM, imputed management costs of mutual funds and compensation of employees in the present inventory.

¹⁰¹ "Reinsurance in SNA 2008", Joint meeting on National Accounts UNECE/OECD, GENEVA, 1-3 May 2012, Wolfgang Eichmann

Specialist reinsurers				
		Domestic	Foreign	Total
Active	Premiums			(a)
	Services			(b)
Passive Retrocession	Premiums Services			(c)
Non-specialist reinsurers				
		Domestic	Foreign	Total
Active	Premiums Services			(d)
Passive	Premiums Services			(e)
Total (specialist + non-specialist) reinsurers				
		Domestic	Foreign	Total
Active	Premiums % domestic output or exports Services	(1-x) %	x %	(a+d)
Passive	Premiums % domestic intermediate consumption or imports Services	(1-y) %	y %	(c+e)

The Wolfgang Eichmann method begins by using the data on active reinsurance transactions effected by specialist reinsurers. This means that the output of reinsurance services of specialist reinsurers and all related flows are calculated based on the accounts data of specialist reinsurers according to the non-life insurance method described above.

Next, the total reinsurance services obtained (item (b) in the table) are divided by the premiums (a). This services/premiums ratio forms the basis of calculation for the whole of the Eichmann method.

The total premiums received by non-specialist reinsurers from insurers (d), and those ceded by specialist and non-specialist reinsurers (c and e respectively) are data available in the detailed technical accounts.

If the services/premiums ratio previously calculated is multiplied by these various premiums, it is possible to estimate reinsurance services for the active reinsurance of non-specialist reinsurers and for the passive reinsurance of specialist or non-specialist reinsurers. This method avoids calculating reinsurance services based on incomplete accounts data relating to passive reinsurance transactions.

Total reinsurance services can be calculated by taking the sum of the premiums received by specialist and non-specialist reinsurers (a+d) and the sum of premiums ceded for reinsurance (c+e) and multiplying them both by the service ratio previously obtained.

In an ideal situation, the service ratios of the other major reinsurance countries could be used to estimate reinsurance imports. However, since these service ratios are not available, the Belgian service ratio will be used for these transactions.

The supplements are obtained by calculating a supplement ratio for the active reinsurance services of specialist reinsurers and then multiplying it by the reinsurance premiums received by non-specialist reinsurers. The supplement ratio is the ratio between the supplements generated by specialist reinsurers and the premiums received by specialist reinsurers.

Commissions can be estimated in the same way based on a commission ratio between the reinsurance commissions paid by specialist reinsurers and the premiums received by specialist reinsurers.

In the table, the total premiums received within the country must be equal to the total insurance premiums ceded within the country. By definition, domestic active reinsurance must be equal to domestic passive reinsurance, since in that case the premiums are ceded by a resident company (passive reinsurance) to a resident company (active reinsurance).

Active reinsurance – Specialist insurers

When using the Eichmann method, the first step is to calculate the reinsurance output (life and non-life) of specialist reinsurers. The basic data come from the detailed technical accounts in the case of Belgian companies specialising in reinsurance (column 05 in the detailed technical accounts) and from the structural survey in the case of branches of foreign companies specialising in reinsurance.

The reinsurance output is calculated by the following formula:

$$\begin{array}{r}
 \text{Premiums earned} \\
 \text{plus} \quad \text{premium supplements} \\
 \text{less} \quad \text{adjusted claims incurred} \\
 \text{les} \quad \text{reinsurance commissions}
 \end{array}$$

When calculating output, this calculation method is applied separately for life reinsurance and non-life reinsurance.

A detailed example of the calculation of the different variables is presented below for the non-life reinsurance of specialist reinsurers. The detailed technical accounts headings used are indicated in the various tables.

Premiums earned

Premiums earned - reinsurance, € million, 2016

Accounting schedule headings	Accounting codes	2016
Premiums written	710.1	186
Change in the reserves for unearned premium	710.3	0,7
Premiums earned (A)	710.1 - 710.3	187

Premium supplements

Premium supplements are likewise calculated for reinsurance since all flows are recorded gross in the ESA 2010. They are calculated in the same way as for non-life insurance. These supplements must exclude income from own funds' investments. That is why an "own funds/technical reserve" ratio is calculated so that supplements can be excluded from the proportion of income relating to the investment of own funds.

Reinsurers may also cede their premiums to other reinsurers (retrocession). In that case, reinsurance supplements are also calculated.

Premium supplements - reinsurance, € million, 2016

Accounting schedule headings	Accounting codes	2016
Income from investments in dependent companies	712.1	0
(+) Income from other investments	712.2	0,9
(-) Investment charges, excluding financial provision	614.1	0,2
(-) Income from investment of insurers own-funds		0,1
Technical account supplementary premiums		0,5
(+) Reinsurance supplement		0
Non-Technical account supplementary premiums		0
Total premium supplements (B)		0,6
<i>Ratio supplements/premiums</i>	<i>(B) / (A)</i>	<i>0.3 %</i>

The supplements/premiums ratio of specialist reinsurers is thus calculated and comes to 0.3 %.

Adjusted claims incurred

As in the case of non-life insurance, adjusted claims are calculated by the "geometrically weighted moving averages" method.

Adjusted claims incurred, non-life reinsurance, 2012-2016 in € million

		2012	2013	2014	2015	2016
Earned Premiums	a	219	177	170	163	187
Claims paid	b	88	132	89	97	110
Change in claims outstanding	c	43	-41	29	-22	53
Actual claims	d = b+c	131	90	117	74	164
Adjusted claims incurred ratio	e = b/d	65%	64%	59%	63%	57%
Adjusted claims	= a*e	142	112	101	103	107

In the event of catastrophes, the losses incurred shall not affect the value of claims. The catastrophic losses shall be recorded as a capital transfer from the reinsurer to the insurer.

Reinsurance commissions

The reinsurance commissions paid by reinsurers to insurers are entered under heading 613.112 in the detailed accounts.

Commissions - reinsurance, € million, 2016

Accounting schedule headings	Accounting codes	2016
Reinsurance commissions (C)	613.112	10
<i>Ratio commissions/premiums</i>	(C) / (A)	5.6 %

The commissions/premiums ratio of specialist reinsurers is thus calculated and comes to 5.6 %.

In the above example, the non-life reinsurance output of specialist reinsurers thus comes to (€ million, 2016):

	2016
Premiums earned	187
(+) Premium supplement	0,6
(-) Adjusted claims incurred	106
(-) Reinsurance commission	10
Output P.11 (D)	71
<i>Ratio service/premiums = (D)/(A)</i>	<i>37,8 %</i>

The service/premiums ratio of specialist reinsurers is thus calculated and comes to 37,8 %.

The life reinsurance of specialist reinsurers is calculated by the same method, and the various ratios are likewise calculated.

Application of the Eichmann method

Use of the method entails dividing premium flows between domestic flows within the country and foreign flows. These premium flows can be estimated from the results of the structural survey.

If the supplements/premiums, commissions/premiums and services/premiums ratios calculated for specialist reinsurers are applied to the various domestic and foreign premium flows it is possible to obtain an integrated estimate of active and passive reinsurance.

Following application of the Eichmann method, the final reinsurance results are presented in the table below.

Total reinsurance, 2016 in € million

	Belgium (domestic)	Foreign (external)	TOTAL
ACTIVE			
Premiums	615	448	1.063
(+) Premium supplements	1	1	3
(-) Adjusted claims	365	256	621
(-) Commissions	47	26	74
Reinsurance output P.11	204	167	371
PASSIVE			
Premiums	615	1.843	2.458
(+) Premium supplements	1	4	6
(-) Adjusted claims	365	1.099	1.463
(-) Commissions	47	147	194
Reinsurance intermediate consumption P.2	204	602	806

This method ensures consistency between domestic active and domestic passive reinsurance. Active reinsurance represents reinsurance output P11 (€ 371 million for 2016). Part of the domestic output (€ 204 million) is consumed in Belgium and the rest (€ 167 million) is therefore exported to other countries.

Passive reinsurance represents the intermediate consumption of reinsurance output P2 (€ 806,2 million in 2016), part of which comes from domestic output (€ 204 million) and the rest is imported (€ 602 million).

3.17.2.6.1.5. Output of secondary activities

Companies active in insurance also engage in secondary activities. The output of these secondary activities forms part of the output of branch K.

The main secondary activities are property services (rents), miscellaneous commissions received, and technical expenses recovered (e.g., sale of wrecks, etc.).

The data come from the technical and non-technical accounts of insurance companies, the structural survey, and the accounts of mutual and other units in the branch 65 population.

Total secondary activities, 2016 in € million

<i>Accounting schedule headings</i>	<i>Accounting codes</i>	<i>2016</i>
Income from land and buildings	712.211+722.211+730.211	214
(-) Land rents	Structural survey	0
(-) Building maintenance costs	Structural survey	28
Total Rents		185
(+) Technical expenses recovered	610.114 – 610.122	675
(+) Commissions	8.12.611 + 8.12.612	216
(+) Other income		42
Total secondary activities		1 119

The output of secondary activities therefore comes to € 1.119 million in 2016.

3.17.2.6.2. Output for own final use P.12

The amount of output for own final use P12 of the insurance and pension fund sectors represents own account production of software and R&D and is calculated according to a standard process for all industries/sectors. It comes to € 187 million for the year 2016.

3.17.2.6.3. Method of calculating intermediate consumption P.2

The intermediate consumption is calculated separately for each type of insurance companies in Belgium: Belgian insurance companies with detailed accounts available (technical and non-technical accounts), foreign branches with only results of yearly structural survey available and other units with annual accounts available.

For the calculation of the intermediate consumption of Belgian insurance companies the basic data are obtained from the detailed technical accounts and the results of the annual structural survey. The data are adjusted for the activities of establishments in other countries.

In the case of foreign branches, the basic data are obtained from the annual structural survey.

For other units in the sector, the basic data come from their annual accounts.

Two exogenous inputs are included in the IC and are recorded in insurance accounts but calculated independently: FISIM and management fees non-resident mutual funds. The amount of imputed management of mutual funds consumed by the Insurance and pension funds sector comes to 535 million in 2016.

Regarding FISIM, the amount comes to € 148 million in 2016.

The amount of reinsurance consumed corresponds to the amount of passive reinsurance calculated by the Eichmann method. As explained in section 1.3.3., part is imported, and the rest corresponds to domestic reinsurance output.

Intermediate consumption, 2016 in € million

	<i>Accounting codes/ Sources</i>	2016
Belgian insurance companies		
<i>External claims administration costs (adjusted)</i>	<i>610.112 + 620.112</i>	<i>404</i>
<i>Commissions to intermediaries (adjusted)</i>	<i>613.111 + 623.111</i>	<i>2 636</i>
<i>Miscellaneous goods and services (adjusted)</i>	<i>Various headings</i>	<i>1 715</i>
<u>Sub-total</u>		<u><i>4 756</i></u>
Foreign branches	<i>Survey</i>	<i>120</i>
Other units*	<i>Annual accounts</i>	<i>163</i>
Imputed management costs	<i>Exogenous input</i>	<i>535</i>
FISIM*	<i>Exogenous input</i>	<i>148</i>
Reinsurance*	<i>Eichmann method</i>	<i>806</i>
TOTAL		<u>6 530</u>

The total amount of intermediate consumption of sectors S.128 and S.129 therefore comes to € 6.530 million for the year 2016.

3.17.2.6.4. Calculation of value added

The value added of the insurance and pension funds branch 65 comes to € 4.215 million for the year 2016, according to the details in the table (2016 in € million).

<i>Branch 65: insurance and pension funds</i>	2016
P.11 Market output	
Non-life insurance	6 097
Life insurance	2 971
Reinsurance	371
Secondary activities	1 119
<u>Total P.11</u>	<u>10 558</u>
P.12 Output for own final use	187
Output P.1	10 745
Intermediate consumption P.2	6 530
<u>Value added (B.1g)</u>	4 215

3.17.2.6.5. Allocation of output

The allocation of the output varies according to the type of insurance.

Life-insurance

Life insurance and pension funds services can only be consumed by households or exported. In 2016, the whole output (€ 2.971 million) is allocated to household final consumption expenditure P3_S14.

Non-life insurance

The process of allocation combines product analysis and data on premium payable by type of clients provided by the structural annual survey.

In order to conduct the appropriate product analysis and allow compliance with Eurostat *Recommendation on Insurance* (GNIC027 Rev.1, recommendation 3) regarding allocation of output to users, non-life production of Belgian insurance companies and foreign branches is estimated for 43 sub-products of the 10 groups of classes of non-life insurance business (as set out in the article 63 of the Council Directive 91/674/EEC of 19 December 1991 on the annual accounts and consolidated accounts of insurance undertakings). Due to the lack of detailed, the production breakdown by IARD products observed for Belgian companies is applied to the output of branches of foreign companies active in Belgium (about 10% of the total non-life output).

In the case of other 'specialized' units classified in S.128, such as Mutual insurance companies (health insurance products for private households), the type of users and the appropriate allocation to IC/private consumption can be identified directly without in-depth products analysis.

Exports of non-life insurance are estimated on basis of Balance of payments data and specific reports on insurers direct foreign activities provided by the supervision authority.

Regarding interior consumption, by combination of the production detailed per product and the results of the survey, the allocation of the production between IC of HFCE is calculated with the means of:

- A product analysis (e.g., the output of the sub-product "Business liability insurance" will be allocated to IC, etc.).
- When the product analysis is not fully conclusive (e.g., for Motor insurance), output is allocated to IC or HFCE in proportion of the premium payable by type of clients.

- In the case of Households sector (S.14), a specific adjustment must be done to take account of the IC of owner-occupied dwellings¹⁰²

The following table summarize the result of allocation of IC by products groups of class.

Breakdown of direct insurance output for Belgium, reference year 2016 in %

Accident and health	
IC	6,87%
HFCE	93,13%
Motor, third-party liability	
IC	26,18%
HFCE	73,82%
Motor, other classes	
IC	28,93%
HFCE	71,07%
Marine, aviation and transport	
IC	100,00%
HFCE	0,00%
Fire and other damage to property*	
IC	71,81%
HFCE	28,19%
Third-party liability	
IC	66,70%
HFCE	33,30%
Credit and suretyship	
IC	96,09%
HFCE	3,91%
Miscellaneous	
IC	31,47%
HFCE	68,53%
Legal expenses	
IC	26,18%
HFCE	73,82%
Assistance	
IC	37,79%
HFCE	62,21%
Other**	
IC	19,03%
HFCE	80,97%

**Including adjustment for owner-occupier dwellings; **For the most part: Mutual Insurance provided by "Sociétés mutualistes d'assurance" (health insurance products for private households)*

The last step of the process consists of allocating IC to sectors and industries in proportion of premium paid¹⁰³.

The following table summarize the result of total allocation of output:

¹⁰² See inventory section 3.18.3 for more details

¹⁰³ See inventory sections regarding adjustment (I) for sectors S.11, 12, 14 and 15. Data on premium paid by industries are provided by the annual structural business survey.

Allocation of non-life output to IC, HFCE and Exports, reference year 2016 in € million.

	2016
Output at basic price	6 097
Taxes (+)	1 973
Output at purchaser price	8 069
IC	2 833
HFCE	4 586
Exports	651

Reinsurance

In the case of reinsurance, the output is allocated between the intermediate consumption P.2 of the insurance sector and exports P.6, as explained in the calculation of the reinsurance output.

3.17.2.7. Self-employed people in the financial sector S.14

The estimation for the unincorporated businesses active in nace 66 (activities auxiliary to financial services and insurance activities: insurance agents, brokers etc.) is based on the personal income tax information. As there is a structural decrease of self-employed workers in the financial sector, the amounts for S.14 have become quite small over the years.

2016 (in € million)															
S.14 - Industry K	C_70	C_71	C_72	C_73	C_74-740	C_A	C_600/8+ 61	C_609	C_641/8	C_B	C_62	C_640	C_740	C_C	C_D
B3	127	0	0	0	0	127	57	0	0	57	14	0	0	70	56
Total administrative aggregates	127	0	0	0	0	127	57	0	0	57	14	0	0	70	56
Adjustments	13	0	0	0	0	13	2	0	0	2	0	0	0	10	11
(l)	0	0	0	0	0	0	-1	0	0	-1	0	0	0	1	1
(y)	13	0	0	0	0	13	0	0	0	0	0	0	0	13	13
(fisim)	0	0	0	0	0	0	3	0	0	3	0	0	0	-3	-3
Total final	140	0	0	0	0	140	59	0	0	59	15	0	0	81	66
ESA 2010 codes	P.11	P.11	P.12	P.11	P.11	P.1 Total	P.2	P.2	P.2	P.2 Total	D.1	D.29	D.39	B.1g	B.2g

3.18. REAL ESTATE ACTIVITIES (L)

3.18.1. INTRODUCTION

In 2016, the value added of real-estate services (Section L) amounted to 34 548 million, 9.7 % of the value added of all branches of activity combined. It was produced by the non-financial corporations (S.11: € 6 457 million) and households (S.14: € 28 091 million). The amounts estimated for dwelling services are recorded under SUT-branches 68A (dwelling services produced by owner-renters) and 68B (dwelling services produced by owner-occupiers).

2016 (in € million)									
Industry	S.11			S.14			S.1		
	P.1	P.2	B1g	P.1	P.2	B1g	P.1	P.2	B1g
L	12 187	5 730	6 457	35 392	7 301	28 091	47 580	13 032	34 548
68A	12 187	5 730	6 457	10 643	2 114	8 530	22 831	7 844	14 987
68B	0	0	0	24 749	5 188	19 561	24 749	5 188	19 561

The process table in section L:

	Surveys & Censuses	Administrative Records	Combined Data	Extrapolation and Models								Other	Total (sources)
				Benchmark extrapolations	Commodity Flow Model	CFC (PIM)	Dwellings - stratification method	FISIM	Insurance	Other E&M	Total Extrapol+Models		
Real estate activities													
P.1	35	13 862		6 919			26 901				70	33 889	47 786
P.2	21	5 250		793			3 002				37	3 832	9 103
B.1g	13	8 612		6 126			23 899				33	30 057	38 682

Data validation	Adjustments													Final estimate	
	Conceptual				Exhaustiveness							Balancing	Total (adjustments)		
	Allocation of FISIM	Allocation of insurance	Other conceptual	Total conceptual	N1	N2	N3	N4	N5	N6	N7				Total exhaustiveness
-66	0		-635	-635						521	0	521	-27	-206	47 580
-33	3 372	918	-467	3 823						146	-20	126	12	3 928	13 032
-33	-3 372	-918	-168	-4 458						375	20	395	-39	-4 134	34 548

Dwelling services in sector S.14 are estimated using a stratification method (for benchmark year 2011).

Real estate services recorded in sector S.11 are estimated using the standard sources and methods.

FISIM generated on mortgage loans represents an important portion of total intermediate consumption in dwelling services. Insurance services too. The other adjustments are smaller.

3.18.2. METHOD OF CALCULATION

2016 (in € million)															
S.11 - Industry L	C_70	C_71	C_72	C_73	C_74-740	C_A	C_600/8+61	C_609	C_641/8	C_B	C_62	C_640	C_740	C_C	C_D
A1	4 100	71	22	0	477	4 671	1 997	7	52	2 057	414	282	127	2 614	2 045
E1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A2	142	0	1	0	17	160	58	-1	2	59	24	11	5	101	72
B1	557	-4	0	0	33	585	258	1	10	269	57	35	11	316	235
B2	5 289	-39	0	0	302	5 552	2 557	29	80	2 667	319	268	94	2 885	2 392
BC	445	-3	0	0	26	468	222	1	16	240	26	17	1	228	186
C1	19	-1	0	0	12	31	34	1	0	35	0	0	0	-4	-4
C2	161	0	0	0	0	161	255	0	5	260	9	20	1	-99	-127
E2	35	0	0	0	0	35	3	18	0	21	0	0	0	13	13
B3	415	0	0	0	17	431	228	0	4	232	33	21	7	199	152
BL	19	0	0	0	2	21	8	0	0	8	2	1	1	12	10
H1	50	0	0	1	1	53	32	0	0	33	11	2	0	20	8
H2	61	0	0	1	1	64	36	0	0	36	12	3	0	28	12
H3	64	0	0	2	2	68	40	0	0	41	13	2	0	28	13
H4	47	0	0	1	1	49	29	0	0	29	10	2	0	20	8
RF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total administrative aggregates	11 403	24	23	7	892	12 348	5 759	58	170	5 987	929	664	247	6 362	5 015
Adjustments	-83	-24	20	-6	-69	-161	-105	-80	-72	-257	65	-68	36	96	135
(b)	0	0	0	0	0	0	0	0	0	0	2	0	0	0	-2
(c)	0	0	0	0	0	0	0	-2	0	-2	0	0	0	2	2
(d)	-28	0	0	0	0	-28	-28	0	0	-28	0	0	0	0	0
(e)	0	0	0	0	-40	-40	0	0	-72	-72	0	0	0	32	32
(f)	0	0	0	0	-4	-4	-14	0	0	-14	0	0	0	10	10
(g)	0	0	0	0	0	0	-2	0	0	-2	0	0	0	2	2
(h1)	0	0	0	0	0	0	-6	0	0	-6	0	0	0	6	6
(h2)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(i1)	0	0	18	0	0	18	-23	0	0	-23	0	0	0	41	41
(k)	0	0	0	0	0	0	154	0	0	154	0	0	0	-154	-154
(l)	0	0	0	0	0	0	-15	0	0	-15	0	0	0	15	15
(m)	0	0	0	0	-24	-24	0	0	0	0	0	0	0	-24	-24
(n)	0	0	0	-6	0	-6	0	0	0	0	0	0	6	-6	0
(o31)	-6	0	0	0	0	-6	0	0	0	0	0	0	6	-6	0
(o4)	0	0	2	0	0	2	0	0	0	0	0	0	0	2	2
(p2)	0	0	0	0	0	0	-20	0	0	-20	20	0	0	20	0
(s)	-143	0	0	0	0	-143	-63	-80	0	-143	0	0	0	0	0
(t)	24	-24	0	0	0	0	0	0	0	0	0	0	0	0	0
(v)	-23	0	0	0	-1	-24	-10	0	0	-10	-7	0	0	-14	-8
(x4)	0	0	0	0	0	0	7	0	0	7	0	0	0	-7	-7
(x6)	0	0	0	0	0	0	1	0	0	1	0	0	0	-1	-1
(y)	500	0	0	0	0	500	140	0	0	140	28	0	0	360	332
(z)	-379	0	0	0	0	-379	-379	0	0	-379	0	0	0	0	0
(aa)	-2	0	0	0	0	-2	64	0	0	64	0	-68	2	-67	4
(af)	0	0	0	0	0	0	0	0	0	0	22	0	22	0	0
(ad)	-27	0	0	0	0	-27	12	0	0	12	0	0	0	-39	-39
(fisim)	0	0	0	0	0	0	78	0	0	78	0	0	0	-78	-78
Total final	11 320	0	44	0	824	12 187	5 654	-22	98	5 730	995	596	283	6 457	5 150
ESA 2010 codes	P.11	P.11	P.12	P.11	P.11	P.1 Total	P.2	P.2	P.2	P.2 Total	D.1	D.29	D.39	B.1g	B.2g

2016 (in € million)															
S.14 - Industry L	C_70	C_71	C_72	C_73	C_74-740	C_A	C_600/8+61	C_609	C_641/8	C_B	C_62	C_640	C_740	C_C	C_D
B3	178	0	0	0	0	178	52	0	0	52	54	6	1	126	67
Total administrative aggregates	178	0	0	0	0	178	52	0	0	52	54	6	1	126	67
Adjustments	10 466	0	24 749	0	0	35 215	7 249	0	0	7 249	6	3 529	3	27 965	24 433
(b)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	-1
(x1)	9 070	0	24 749	0	0	33 819	3 795	0	0	3 795	0	3 391	0	30 024	26 633
(x2)	1 374	0	0	0	0	1 374	154	0	0	154	0	138	0	1 220	1 082
(x5)	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
(y)	21	0	0	0	0	21	6	0	0	6	3	0	0	15	12
(aa)	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
(af)	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0
(fisim)	0	0	0	0	0	0	3 294	0	0	3 294	0	0	0	-3 294	-3 294
Total final	10 643	0	24 749	0	0	35 392	7 301	0	0	7 301	60	3 535	4	28 091	24 500
ESA 2010 codes	P.11	P.11	P.12	P.11	P.11	P.1 Total	P.2	P.2	P.2	P.2 Total	D.1	D.29	D.39	B.1g	B.2g

Whereas NACE 68.1 (buying and selling of own real estate) and 68.3 (real estate activities on a fee or contract basis) are estimated according to the general method, NACE 68.2 (rental and operating of own leased real estate; branch 68B) is estimated using specific sources and methods.

3.18.3. DWELLING SERVICES IN SECTOR S.14

In the national accounts, production of dwelling services includes both services produced by renting out housing ("actual" rents) and services provided by owner-occupiers for themselves ("imputed" rents¹⁰⁴).

The production of housing services is recorded as a provision of services (P.11) by the owner and as final consumption (P.31) by the tenant. If a household owns the dwelling it occupies, the national accounts record both own account production (P.12) of dwelling services and final consumption (P.31) for this household.

Production

The production of housing services is estimated according to a "price x quantity" approach, i.e., a method which combines an estimate of the quantity of housing (decennial censuses) with corresponding actual rents (SILC data).

Stratification

To calculate the production of dwelling services, Member States should use a stratification method based on actual rentals, using either extrapolation or econometric regression. As far as owner-occupied dwellings are concerned, that involves using actual rentals for similar rented housing (as specified in ESA§3.75).

In Belgium, the direct extrapolation method is applied.

The stratification of dwellings implemented, which is consistent with the content of SILC and the ten-year censuses, considers several criteria:

- 1) the price of real estate observed in the municipality where the dwelling is located
- 2) the population density of the municipality where the dwelling is located
- 3) the type of dwelling (house or apartment)
- 4) the characteristics of the property.

The combination of the first two criteria (property prices and population density) makes it possible to classify municipalities into 6 geographical location classes.

- "cheap" rural municipalities (1R)
- "cheap" urban or semi-urban municipalities (1U)
- "moderately expensive" rural municipalities (2R)
- "moderately expensive" urban or semi-urban municipalities (2U)
- "expensive" rural municipalities (3R)
- "expensive" urban or semi-urban municipalities (3U)

Five asset type classes have been defined:

- houses with 4 facades
- houses with 3 facades or semi-detached houses
- apartments 1 and 2 rooms (considered as small apartments or studios)
- apartments 3 and 4 rooms (considered as medium sized apartments)
- apartments 5 rooms and more (considered as large apartments).

Altogether, the method is therefore based on the identification of $(6 \times 5) = 30$ housing strata.

The stratification method involves associating, for each year and for each housing stratum, the level of the rent with the corresponding number of dwellings, distinguishing between tenants' dwellings and owner-occupied dwellings.

Price component

Rents derived from the SILC ("Statistics on Income and Living Conditions") survey are used from 2004 onwards. This survey, conducted under the auspices of the EU, does indeed include a section on housing and a question on the monthly rents that tenant households pay for their housing.

¹⁰⁴ As the rents of owner-occupiers are not disbursed, they are referred to as "imputed" rents.

To meet Eurostat's recommendations, a selection of responses must be made. Indeed, only respondents who declare that they pay a rent at market prices are selected: reduced or free rents are excluded from the survey data. Rents that include charges are also rejected from the sample in accordance with Eurostat's specifications.

For each of these 30 property strata, the average rent is calculated by Statbel. The 30 series of rents considered in the method for estimating the production of dwelling services are therefore a "price" variable that is adjusted each year.

The 30 rent-series resulting from the SILC survey cannot be used as such. They are affected by an obvious variability, particularly in strata with a limited number of participants. In addition, outliers can also be identified. It is therefore necessary to use a two-step procedure to come up with a relevant series of rents:

- 1st step: applying rent corrections in certain strata

The types of dwellings that have a relatively high number of respondent households are "3 and 2-facade houses" (about 300 households surveyed each year) and "3 and 4 room apartments" in urban or semi-urban areas (about 450 households surveyed each year). These two strata constitute the reference populations against which any corrections required can be calculated for the other types of dwellings. If the price level in a certain stratum is not considered to be representative, a correction based on more solid strata can be estimated. It is often the case for example for medium-sized apartments in the "3R" stratum.

- 2nd step: using a three-year moving average.

Since rents are estimated each year based on SILC survey data, the quality aspect is included in the rent level every year.

For imputation purposes, the rental is defined as the price due for the right to use an unfurnished dwelling. Conversely, in the case of actual rents for furnished accommodation, recommendations by Eurostat indicate that, in the case of the rental of furnished property, the extra cost of furnishing the accommodation is part of the rental and must be included in the estimate of the production of housing services.

The SILC survey does not isolate rents for furnished dwellings (the survey covers any dwelling regardless of whether it is furnished or not). The rents resulting from SILC can therefore be used as they stand for the estimation of actual rents, but a correction must be made in the case of imputed rents. Based on the 2001 census, furnished housing represents 8.3% of the private rental market¹⁰⁵. If the portion of the rent attributable to the use of furniture represents 15% of the rent paid by tenants, the adjustment required to eliminate the "furniture" component in the actual rent is $0.15 \times 0.083 = 0.012$. Actual rents are therefore reduced each year by 1.2% to estimate imputed rents. This correction is uniform for all rental strata.

Volume component

The stratification method involves associating, for each year and for each housing stratum, the level of the rent with the corresponding number of dwellings, distinguishing between tenants' dwellings and owner-occupied dwellings. The "quantity" component is based on observations of the housing stock derived from the decennial census. The benchmark years available in the current series are 2001 and 2010, corresponding to the last decennial census, respectively the so-called "General Socio-economic Survey 2001" and the 2011 Census¹⁰⁶. The 2001 and 2011 census data are provided by Statbel, allowing us to establish a concordance with the 30 dwelling strata used in the method, while crossing this information with tenants' dwellings and owner-occupied dwellings.

The number of housing units per stratum must be interpolated between two censuses or extrapolated after the latest available census. Interpolation between two censuses is based on cadastral data regarding the number of dwellings available per municipality (source Statbel). These data show the distinction between three types of houses on the one hand and apartments on the other (regardless of size). This makes it possible to have specific series for isolated houses and three- and two-faced houses. However, the unique cadastral data for apartments are used for the three types of apartments distinguished in our method. Cadastral data are similarly used to

¹⁰⁵ The 2011 census no longer provides this information.

¹⁰⁶ An adjustment is made to calibrate the census data to correspond to a stock established in mid-year, as of June 30, 2001 and June 30, 2010

extrapolate census data after 2010. Insofar as cadastral data are available for each municipality, the interpolations and extrapolations are specific to each of the 6 geographical strata of municipalities.

Special topics

Rental-free and cheap dwellings

The actual rents to be taken into consideration must be defined at market price to ensure that the value of output reflects the full dwelling service provided. Eurostat therefore specifies that decreased rents (e.g., in the case of housing with the intervention of an employer or made available by family or friends) or even zero rents (free housing) should be adjusted. In the method implemented, such corrections are not necessary since the SILC survey data includes only tenants who rent accommodation at market prices. This also applies to the estimation of imputed rents, in accordance with European recommendations.

The rents are well defined at market prices. The total number of dwellings included in the census does include all the properties in the housing stock, including dwellings with reduced or even free rents.

Garages

As stated by Eurostat, garages are a part of gross fixed capital formation. It is therefore appropriate not only to include the service of the rented garages in the output of the economy but also to calculate an imputed output for owner-occupied garages.

The data available in the SILC survey do not allow for the isolation of dwellings that are equipped with a garage: the survey covers any dwelling regardless of whether it is equipped with a garage or not. The average rent resulting from the survey is likely to be influenced by the presence of a garage adjacent to part of the dwellings and which has an influence on the rent paid by the tenant, without it being possible to isolate this impact. Note that the 2011 census, unlike the previous censuses, no longer provides information on the number of dwellings with garage.

Implicitly, the stratification method used assumes that the number of dwellings with a garage included in the survey is representative of this type of property in the total housing stock. Similarly, we can only assume that owner-occupiers enjoy the comfort of a garage adjacent to the dwelling in the same proportion as tenants.

A supplementary estimate is made to specifically consider garages and parking places that are isolated and not attached to a dwelling unit. The parcels relating to these properties and owned by individuals are extracted from the cadastral data, available since 2005. However, not all garage parcels are considered. A correction factor of -15% on the total stock of parcels is applied. This correction factor is intended to avoid double counting as some isolated garages are already subject to a combined rental contract with a dwelling and are therefore already implicitly included in the general method.

It is assumed that the average rent for a garage is equivalent to 20% of the rent for the main housing stock, representing 93 euros in 2016. The breakdown between owner-occupiers and tenants is assumed to be the same as that of main housing stock.

Second homes

The comprehensive estimate of housing services also comprises holiday homes or second homes.

Results of the survey conducted by WES Research and Strategy among 5,000 households make it possible to build a time series of the stock of second homes held by households for recreational purposes in Belgium. The last edition of this survey was conducted in 2014. Estimates after 2014 are therefore extrapolated by considering the evolution of the percentage of Belgian households with a second home (in Belgium and abroad) according to the SILC survey. We arrive at an estimate that suggests that in recent years around 6% of Belgian households have a second home in Belgium or abroad. For two thirds of these households, the property is located in Belgium.

Since we don't dispose of annual average rental for holiday homes, some assumptions need to be made as regards their occupancy rate.

- Owners of the property
 - 1 month of occupation per year and, outside this period, 1 weekend out of 2 of occupation, i.e., an occupation rate of 21% over the year.
 - The average rent used is three times the average monthly rent of the main housing stock.
- Secondary rented residences
 - 25% of second homes are rented for 4 months a year, i.e., an average occupancy rate of 8% per year for the entire number of second homes.
 - The average rent used is three times the average monthly rent of the main housing stock.

Social housing and rented dwellings owned by companies

Social housing is directly excluded from the census data, as well as other housing owned by public or private companies and occupied by households. This implies that any double counting of output is avoided, considering the administrative data sources that are used for (social housing) companies.

Intermediate consumption

The production of dwelling services, like any production process, needs intermediate consumption (IC).

According to the ESA2010, *“intermediate consumption (P.2) consists of goods and services consumed as inputs by a process of production, excluding fixed assets whose consumption is recorded as consumption of fixed capital. The goods and services are either transformed or used up by the production process”* (§3.88).

Thus, any improvements made to existing fixed assets by day-to-day maintenance and repair work are included in gross fixed capital formation (P.51).

In this case, intermediate consumption is primarily maintenance expenses borne by the owner. As far as common expenditure on maintenance and repairs are concerned, in the case of owner-occupied dwellings, intermediate consumption should cover the same type of ordinary work as would normally be considered as intermediate consumption by the owner for similar rented dwellings. Expenditure on repair and maintenance work of the same kind as that normally done by tenants should be treated as household final consumption expenditure in the case of both tenants and owner-occupiers.

The Household Budget Survey (HBS) provides the basic information to calculate intermediate consumption. This survey is also used for estimating household final consumption, namely costs that the tenant must pay.

In concrete terms, the relevant headings in the 2012 Household Budget Survey (HBS) are first identified (by COICOP 5 heading). Expenditure typically borne by owners is allocated to intermediate consumption, while that specific to tenants is recorded under final consumption, and expenditure which cannot be attributed solely to either party is divided between the two aggregates.

Breakdown between intermediate consumption (P.2) and final consumption (P.3) per HBS section

NSI6	NSI6 code	COICOP 5	PPP2015	SUT_2008	P3	P2
04310A	Exterior and interior paints	04310	04.3.1.0	20D01	0,5	0,5
04310B	Wallpapers	04310	04.3.1.0	17A06	1	0
04310C	Taps and sanitary ware (WC, bath, taps, shower head, etc.)	04310	04.3.1.0	22B03	0	1
04310C		04310	04.3.1.0	23B01	0	1
04310C		04310	04.3.1.0	25C03	0	1
04310C		04310	04.3.1.0	28A02	0	1
04310D	Wooden items for the house (skirting boards, panels, planks, doors, etc.)	04310	04.3.1.0	16A01	0	1
04310D		04310	04.3.1.0	16A02	0	1
04310D		04310	04.3.1.0	16A03	0	1
04310E	Materials for repairs to the house (bricks, blocks, tiles, roof tiles, plaster, cement, window panes, doors, etc.)	04310	04.3.1.0	08A02	0	1
04310E		04310	04.3.1.0	22B01	0	1
04310E		04310	04.3.1.0	23B02	0	1
04310E		04310	04.3.1.0	23B03	0	1
04310E		04310	04.3.1.0	23C01	0	1
04310E		04310	04.3.1.0	23C02	0	1
04310E		04310	04.3.1.0	23D01	0	1
04310E		04310	04.3.1.0	24A04	0	1
04310F	Other small items for dwellings (excluding electrical items and door accessories): letterboxes, smoke detectors, fire extinguishers, mosquito netting, etc.	04310	04.3.1.0	22B03	0	1
04310F		04310	04.3.1.0	23A01	0	1
04310F		04310	04.3.1.0	25C03	0	1
04310F		04310	04.3.1.0	27A03	0	1
04310F		04310	04.3.1.0	27A04	1	0
05119F	Tapestries (hand-made, Gobelins, etc.)	04310	04.3.1.0	17A06	1	0
04321A	Routine maintenance services (plumber)	04321	04.3.2.0	43B02	0,5	0,5
04322A	Routine maintenance services (electrician)	04322	04.3.2.0	43B01	0,5	0,5
04323A	Routine maintenance services (heating maintenance)	04323	04.3.2.0	43B02	0,5	0,5
04324A	Routine maintenance services (painter)	04324	04.3.2.0	43C04	0,5	0,5
04325A	Routine maintenance services (carpenter)	04325	04.3.2.0	43C02	0,5	0,5
04329A	Other services for routine maintenance of the dwelling (glazier, locksmith, plasterer, tilesetter, decorator, roof repair, insulation, alarm system maintenance)	04329	04.3.2.0	43B01	0	1
04329A		04329	04.3.2.0	43B02	0	1
04329A		04329	04.3.2.0	43C01	0	1
04329A		04329	04.3.2.0	43C02	0	1
04329A		04329	04.3.2.0	43C03	0	1
04329A		04329	04.3.2.0	43C04	0	1
04329A		04329	04.3.2.0	43C05	0	1
04329A		04329	04.3.2.0	43C06	0	1
04329A		04329	04.3.2.0	43D01	0	1
04329A		04329	04.3.2.0	43D02	0	1
04329A		04329	04.3.2.0	81A01	1	0
04410A	Tap water	04410	04.4.1.0	36A01	1	0
04430B	Water purification tax	04410	04.4.1.0	36A01	1	0
04441G	Charges for owner (main residence) (including water, gas, electricity, heating if not separable)	04410	04.4.1.0	36A01	1	0
04420A	Refuse tax	04420	04.4.2.0	38A01	1	0
04420B	Smart waste collection	04420	04.4.2.0	38A01	1	0
04420C	Purchases of municipal dustbin liners or stickers	04420	04.4.2.0	38A01	1	0
04420D	Garbage collection payment system (including recycling tax for domestic electrical appliances and cost of municipal container park)	04420	04.4.2.0	38A01	1	0
04430A	Sewerage tax	04430	04.4.3.0	37A01	1	0
04441A	Rental charges (except water, gas, electricity, heating): charges for lift maintenance, caretaker, lighting in common areas, etc.	04441	04.4.4.0	68A02	1	0
04441B	Charges for second residence (except water, gas, electricity, heating): charges for lift maintenance, caretaker, lighting in common areas, etc.	04441	04.4.4.0	68A02	0	1
04441C	Charges for second residence (including water, gas, electricity, heating if not separable)	04441	04.4.4.0	68A02	1	0
04441D	Charges for owner (main residence) excluding water, gas, electricity, heating	04441	04.4.4.0	68A02	0	1
04441F	Rental charges (including water, gas, electricity, heating if not separable)	04441	04.4.4.0	68A02	1	0
04442A	Security services for multi-occupied dwelling	04442	04.4.4.0	81A01	0,5	0,5
04449A	Collective heating	04449	04.4.4.0	35B01	1	0
04449B	Other services relating to multi-occupied dwelling (chimney-sweeping, snow-clearing of pavements, etc.)	04449	04.4.4.0	81A01	1	0
05629A	Garden maintenance services (landscape gardener, gardeners, etc.)	04441	04.4.4.0	81A01	0,5	0,5

Average household expenditure is then multiplied by the number of households taken from the official population statistics to obtain total consumption in national concept.

Since intermediate consumption and final consumption must be estimated according to the domestic concept and as it is not possible to make this correction to intermediate consumption and final consumption directly, a global adjustment is made to the total for all the HBS headings. The figure is then broken down between intermediate consumption and final consumption based on the distribution key that has been established (using an average over 3 years) under the national concept.

Due to major variations in the HBS from one year to another, the estimate for the in-between years is made based on changes in the number of dwellings (volumes) and from price movements taken from the CPI, while the level of censuses year (2001 & 2011) is fixed at its actual level. The years 2012 and later are estimated by direct extrapolation. As for the reference years, an upward revision has also been made to compensate for the structural underestimation of the HBS. The HBS sources is treated similarly as in the estimation of finale consumption.

Charges for heating, water, electricity, etc. are excluded for the calculation of output of dwelling services. As intermediate consumption must be consistent with production, these charges are also excluded from intermediate consumption.

Given that all costs made for dwellings (empty or not) are reported in the HBS data, the treatments of the HBS data implies that there is an implicit coverage of repairs and maintenance expenses as part of the IC of empty dwellings.

FISIM calculated on mortgage loans also enter as intermediate consumption in dwelling services. The households consume FISIM as final consumption, except if they are owners of dwellings. Unincorporated enterprises (for the activity of self-employed workers) and owners of dwellings consume it as intermediate consumption. The distribution of FISIM between intermediate consumption and final consumption is based on information collected from a survey among banks on interests paid and received (share of households and share of unincorporated enterprises), and information on outstanding amounts of credits from the Central Balance Sheet Office (share of mortgage credits and share of other credits). For the owners of dwellings (intermediate consumption of FISIM), the share of households and the share of mortgage credit within households is applied to the amount of FISIM on credits.

Fees relating to mortgage loans granted to individuals is recorded in intermediate consumption too, because they are consumed by the owners.

Finally, the part of intermediate consumption relating to house (fire) insurance is taken from the accounts of insurance companies. It is broken down between intermediate consumption and household final consumption based on a key established from the respective weightings of the corresponding HBS headings, i.e., amounts related to building fire insurance are treated as intermediate consumption and those related to home contents insurance are recorded in final consumption.

Numerical evidence

The table below shows the total dwelling stock owned by the household sector by types of dwellings for the year 2016.

Dwelling stock by type of dwellings owned by the household sector:

	2016
	Number of units
Houses	3 092 780
<i>4 facades</i>	<i>1 312 893</i>
<i>3 facades or semi detached</i>	<i>1 779 887</i>
Flats	1 249 563
<i>1-2 rooms</i>	<i>328 192</i>
<i>3-4 rooms</i>	<i>711 785</i>
<i>>= 5 rooms</i>	<i>209 586</i>
Second homes	189 633
Garages*	348 817
TOTAL**	4 531 976

* Garages and parking places that are isolated and not attached to a dwelling unit

** Excluding garages and parking places that are isolated and not attached to a dwelling unit

The following table shows the dwelling services produced by the households by type of dwelling for the year 2016.

Aggregates for dwelling services produced by the household sector:

(in € million, 2016)	Dwelling services
Production (P.1)	33 819
Houses	23 404
<i>4 facades</i>	<i>10 712</i>
<i>3 facades or semi detached</i>	<i>12 692</i>
Flats	8 823
<i>1-2 rooms</i>	<i>1 939</i>
<i>3-4 rooms</i>	<i>5 169</i>
<i>>= 5 rooms</i>	<i>1 715</i>
Second homes	1 202
Garages*	390
Intermediate consumption (P.2**)	3 795
Value added (B1g)	30 024

* Garages and parking places that are isolated and not attached to a dwelling unit

** Excluding FISIM

Dwelling services correspond to correction (x1) for sector/activity S.14_68 (see in the table above).

3.18.4. PROFESSIONAL RENTALS IN SECTOR S.14

Households can also rent non-residential property (offices, warehouses, etc.) to firms (self-employed and companies), which use these goods for business purposes.

These professional rental revenues are known via tax declarations and must be added to the output of dwelling services to obtain a comprehensive outcome of output for the household sector (S.14) for the activity NACE 68.

The intermediate consumption required to produce professional rentals is estimated by considering the ratio between intermediate consumption used to produce dwelling services and the production of dwelling services. The ratio is then applied on the production of professional rentals.

The amounts recorded in the 2016 accounts are the following:

(in € million, 2016)	Professional rentals
Production (P.1)	1 374
<i>of which: tenants (P.11)</i>	<i>1 374</i>
<i>of which: owner-occupiers (P.12)</i>	<i>0</i>
Intermediate consumption (P.2)	154
Value added (B.1g)	1 220

Professional rentals correspond to correction (x2) for sector/activity S.14_68 (see in the table above).

3.19. PROFESSIONAL, SCIENTIFIC, AND TECHNICAL ACTIVITIES (M)

3.19.1. INTRODUCTION

In 2016, the value added recorded in section M amounted to € 37899 million, 9.9 % of the value added of all branches of activity combined. It was produced by the non-financial corporations (S.11: € 19822 million), financial corporations¹⁰⁷ (S.12: € 567 million) and households (S.14: € 17510 million). The amounts for sector S.14 are quite high in SUT-branch 70A. This industry includes the activity of self-employed administrators of companies (€ 15474 million value added).

Industry	2016 (in € million)											
	S.11			S.14			S.12			S.1		
	P.1	P.2	B1g	P.1	P.2	B1g	P.1	P.2	B1g	P.1	P.2	B1g
M	57 498	37 676	19 822	20 181	2 671	17 510	1 277	710	567	78 956	41 057	37 899
69A	9 229	5 328	3 901	1 728	572	1 156	0	0	0	10 957	5 900	5 057
70A	27 074	18 292	8 782	16 857	1 383	15 474	1 277	710	567	45 207	20 385	24 823
71A	10 005	6 359	3 646	729	290	439	0	0	0	10 734	6 649	4 085
72A	2 818	1 543	1 275	5	2	3	0	0	0	2 823	1 545	1 279
73A	6 240	4 702	1 538	130	62	68	0	0	0	6 370	4 764	1 606
74A	1 591	1 075	516	337	150	186	0	0	0	1 928	1 226	702
75A	541	377	164	396	212	184	0	0	0	936	589	348

The process table for section M:

	Basis for NA Figures												Total (sources)
	Surveys & Censuses	Administrative Records	Combined Data	Extrapolation and Models								Other	
				Benchmark extrapolations	Commodity Flow Model	CFC(PIM)	Dwellings stratification method	FISIM	Insurance	Other E&M	Total Extrap+ Models		
Professional, scientific and technical activities													
P.1	586	77 646									2 015	2 015	80 247
P.2	378	39 935									1 816	1 816	42 129
B.1g	208	37 711									199	199	38 118

Data validation	Adjustments												Final estimate		
	Conceptual				Exhaustiveness							Balancing		Total (adjustments)	
	Allocation of FISIM	Allocation of insurance	Other conceptual	Total conceptual	N1	N2	N3	N4	N5	N6	N7				Total exhaustiveness
1 748	0		-4 585	-4 585						1 624	0	1 624	-77	-1 291	78 956
2 358	798	298	-4 741	-3 645						539	-311	229	-14	-1 073	41 057
-611	-798	-298	156	-940						1 085	311	1 395	-63	-218	37 899

¹⁰⁷ Activities of head offices of which subsidiaries are financial corporations (S.126).

3.19.2. METHOD OF CALCULATION

The generic method is used to estimate the aggregates for industry M.

In the Belgian national accounts, self-employed (non-salaried) company administrators are regarded as self-employed persons classified under NACE code 70.2 (management consultancy activities) in the household sector. An administrator benefit received from the business is regarded as the value of the administrator's production. The expenses incurred in producing that output are regarded as intermediate consumption.

Within the 2019 benchmark revision, the method used to calculate added value for self-employed administrators was improved.

Administrators' production is mainly estimated based on the income declared for personal income tax under "company director's remuneration". Within the revision, the population of administrators used in the national accounts was redefined to improve consistency with the basic data on personal income tax. A supplementary estimate was also made to include the remuneration and expenses of administrators of associations or companies without legal personality and/or those not subject to corporation tax.

Apart from the revision of the population of administrators, the method of estimating production based on personal income tax was also modified. More specifically, the personal income tax headings covering pay components under a labour contract were removed from the current estimation formula to prevent any double counting with the wage bill. Furthermore, the personal income tax headings covering benefits in kind were added since the ESA 2010 recommends taking account of both benefits in kind and cash benefits. In the national accounts these benefits in kind are assessed at their real value according to a mainly "price x quantity" approach. The price is based on the average value of similar expenditure by a Belgian household in Belgium for each benefit in kind. The quantity of benefits in kind was inferred from information in the *Belcotax*¹⁰⁸ declarations 281.20, used as the source of information for the heading "company director's remuneration" under personal income tax.

To assess the intermediate consumption of administrators, an additional estimate was made in addition to professional expenses for declarants who do not declare their costs and are therefore using the fiscal *forfait*. For these administrators, a flat rate estimate based on the declared turnover is used. Also, the professional use of the benefits in kind is included.

The detailed estimation formula for the output and intermediate consumption can be found in section 10.1.9.

To ensure that benefits in kind are treated consistently according to the production and expenditure approaches, final consumption expenditure was calculated for all types of benefits granted to company administrators. The intermediate consumption of non-financial corporations was also increased to take account of benefits in kind which are not included in the company accounts.

As well as taking account of final consumption relating to all types of benefits, the new method includes an estimate of the export of administrators' services based on personal income tax data, where the country of origin of the benefits is mentioned. The export of such services is in fact not recorded according to the ordinary methods of estimating imports and exports of services¹⁰⁹.

Regarding R&D activities, the generic method is used. R&D by commercial research institutes or by corporations is valued at revenues from sales. This amount is adjusted to include the production for own account. This is done through adjustment (g) (see section 3.4.2.1). This adjustment ensures that R&D for use within the same market producer is valued at total production costs, including a mark-up for net operating surplus. R&D by government units and non-profit research institutes is valued as the sum of costs of production.

¹⁰⁸ See chapter 10 for more information on Belcotax data.

¹⁰⁹ The ordinary methods of estimating imports and exports of services are based on the data from surveys sent out to entities subject to VAT. An administrator (a natural person) is not subject to VAT so that administrators' exports will not be included under the normal procedures.

A more detailed description of the estimation of R&D output can be found in section 5.10.4.1.

2016 (in € million)															
S.11 - Industry M	C_70	C_71	C_72	C_73	C_74-740	C_A	C_600/8+61	C_609	C_641/8	C_B	C_62	C_640	C_740	C_C	C_D
A1	23 704	404	600	0	4 096	28 805	19 648	101	750	20 498	6 055	114	76	8 307	2 215
E1	202	3	0	0	5	210	125	0	0	125	56	0	1	85	29
A2	1 975	-1	0	0	174	2 148	1 656	0	395	2 051	250	1	2	97	-151
B1	1 318	-6	0	0	45	1 358	855	-6	25	873	209	6	3	484	273
B2	18 749	-43	0	0	301	19 007	11 016	11	407	11 434	2 371	65	45	7 573	5 181
BC	1 541	-5	0	0	36	1 572	926	2	58	985	259	4	0	587	325
C1	28	0	0	0	2	30	48	0	1	49	3	0	0	-19	-22
C2	406	0	0	0	3	409	655	0	25	679	38	8	2	-270	-315
E2	373	0	0	0	3	376	255	-2	0	253	50	2	0	123	70
B3	3 337	31	11	0	100	3 479	2 219	-1	46	2 265	429	14	6	1 215	777
BL	1 734	0	0	0	15	1 749	1 662	0	9	1 671	67	2	0	79	10
H1	922	1	1	160	91	1 175	638	0	10	649	392	4	0	526	131
H2	75	0	0	12	15	102	47	0	2	49	43	2	0	53	8
H3	222	0	0	35	30	288	147	0	5	152	110	3	0	136	24
H4	169	0	0	52	27	249	137	0	3	140	85	2	0	109	21
RF	2	0	0	0	0	2	0	0	0	0	2	0	0	2	0
Total administrative aggregates	54 758	386	613	260	4 943	60 959	40 031	105	1 736	41 872	10 419	227	135	19 087	8 576
Adjustments	-3 607	-386	889	-184	-173	-3 461	-4 117	-2	-77	-4 196	374	-23	689	735	1 073
(b)	0	0	0	0	0	0	0	0	0	0	-19	0	0	0	19
(c)	-29	0	0	0	0	-29	-9	0	0	-9	0	0	0	-21	-21
(d)	-4 233	0	0	0	0	-4 233	-4 233	0	0	-4 233	0	0	0	0	0
(e)	0	0	0	0	-32	-32	0	0	-65	-65	0	0	0	33	33
(f)	0	0	0	0	-14	-14	-49	0	0	-49	0	0	0	36	36
(g)	0	0	703	0	0	703	-187	0	0	-187	0	0	0	890	890
(h1)	0	0	0	0	0	0	-19	0	0	-19	0	0	0	19	19
(h2)	0	0	0	-15	0	-15	0	0	0	0	0	0	0	-15	-15
(i1)	0	0	262	0	0	262	-235	0	0	-235	0	0	0	496	496
(i2)	0	0	-32	0	0	-32	0	0	0	0	0	0	0	-32	-32
(i3)	0	0	-46	0	0	-46	0	0	0	0	0	0	0	-46	-46
(k)	0	0	0	0	0	0	369	0	0	369	0	0	0	-369	-369
(l)	0	0	0	0	0	0	-76	0	0	-76	0	0	0	76	76
(m)	0	0	0	0	-24	-24	0	0	0	0	0	0	0	-24	-24
(n)	0	0	0	-168	0	-168	0	0	0	0	0	0	168	-168	0
(o31)	-409	0	0	0	0	-409	0	0	0	0	0	0	409	-409	0
(o32)	-19	0	0	0	0	-19	0	0	0	0	0	0	19	-19	0
(o4)	0	0	12	0	0	12	0	0	0	0	0	0	0	12	12
(p1)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(p2)	0	0	0	0	0	0	-297	0	0	-297	297	0	0	297	0
(t)	387	-387	0	0	0	0	0	0	0	0	0	0	0	0	0
(v)	-227	1	-10	-1	-103	-339	-209	-1	-12	-222	-103	0	0	-118	-15
(w)	0	0	0	0	0	0	0	-1	0	-1	0	0	0	1	1
(x4)	0	0	0	0	0	0	58	0	0	58	0	0	0	-58	-58
(x6)	0	0	0	0	0	0	84	0	0	84	0	0	0	-84	-84
(y)	936	0	0	0	0	936	329	0	0	329	113	0	0	607	494
(aa)	-6	0	0	0	0	-6	5	0	0	5	0	-23	6	-11	19
(af)	0	0	0	0	0	0	0	0	0	0	87	0	87	0	0
(ad)	-8	0	0	0	0	-8	-14	0	0	-14	0	0	0	7	7
(fisim)	0	0	0	0	0	0	365	0	0	365	0	0	0	-365	-365
Total final	51 150	0	1 501	76	4 771	57 498	35 914	103	1 659	37 676	10 794	204	825	19 822	9 649
ESA 2010 codes	P.11	P.11	P.12	P.11	P.11	P.1 Total	P.2	P.2	P.2	P.2 Total	D.1	D.29	D.39	B.1g	B.2g
2016 (in € million)															
S.14 - Industry M	C_70	C_71	C_72	C_73	C_74-740	C_A	C_600/8+61	C_609	C_641/8	C_B	C_62	C_640	C_740	C_C	C_D
B3	19 543	0	0	0	0	19 543	2 097	0	0	2 097	145	9	3	17 447	17 296
Total administrative aggregates	19 558	0	0	0	0	19 558	2 102	0	0	2 102	149	9	3	17 457	17 302
Adjustments	622	0	0	0	0	622	569	0	0	569	24	4	5	54	31
(b)	0	0	0	0	0	0	0	0	0	0	-1	0	0	0	1
(d)	-4	0	0	0	0	-4	-4	0	0	-4	0	0	0	0	0
(k)	0	0	0	0	0	0	4	0	0	4	0	0	0	-4	-4
(l)	0	0	0	0	0	0	-73	0	0	-73	0	0	0	73	73
(o31)	-1	0	0	0	0	-1	0	0	0	0	0	0	1	-1	0
(x5)	9	0	0	0	0	9	4	0	0	4	0	0	0	4	4
(y)	688	0	0	0	0	688	210	0	0	210	21	0	0	478	457
(aa)	0	0	0	0	0	0	0	0	0	0	0	4	1	0	-3
(ad)	-70	0	0	0	0	-70	0	0	0	0	0	0	0	-70	-70
(fisim)	0	0	0	0	0	0	427	0	0	427	0	0	0	-427	-427
Total final	20 181	0	0	0	0	20 181	2 671	0	0	2 671	173	13	9	17 510	17 333
ESA 2010 codes	P.11	P.11	P.12	P.11	P.11	P.1 Total	P.2	P.2	P.2	P.2 Total	D.1	D.29	D.39	B.1g	B.2g

2016 (in € million)															
S.12 - Industry M	C_70	C_71	C_72	C_73	C_74-740	C_A	C_600/8+61	C_609	C_641/8	C_B	C_62	C_640	C_740	C_C	C_D
A1	1 370	0	73	0	33	1 476	809	0	2	811	670	4	0	665	-9
Total administrative aggregates	1 370	0	73	0	33	1 476	809	0	2	811	670	4	0	665	-9
Adjustments	-218	0	21	0	-2	-200	-101	0	0	-101	-86	0	1	-99	-12
(b)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	-1
(g)	0	0	30	0	0	30	0	0	0	0	0	0	0	30	30
(h1)	0	0	0	0	0	0	-1	0	0	-1	0	0	0	1	1
(i1)	0	0	60	0	0	60	-3	0	0	-3	0	0	0	64	64
(i2)	0	0	-60	0	0	-60	0	0	0	0	0	0	0	-60	-60
(k)	0	0	0	0	0	0	26	0	0	26	0	0	0	-26	-26
(l)	0	0	0	0	0	0	-1	0	0	-1	0	0	0	1	1
(p2)	0	0	0	0	0	0	-14	0	0	-14	14	0	0	14	0
(r)	0	0	0	0	0	0	0	0	0	0	12	0	0	0	-12
(v)	-218	0	-10	0	-2	-230	-110	0	0	-110	-112	0	0	-120	-8
(x4)	0	0	0	0	0	0	1	0	0	1	0	0	0	-1	-1
(aa)	0	0	0	0	0	0	-3	0	0	-3	0	0	0	3	3
(af)	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0
(fisim)	0	0	0	0	0	0	5	0	0	5	0	0	0	-5	-5
Total final	1 151	0	94	0	31	1 277	708	0	2	710	584	4	1	567	-21
ESA 2010 codes	P.11	P.11	P.12	P.11	P.11	P.1 Total	P.2	P.2	P.2	P.2 Total	D.1	D.29	D.39	B.1g	B.2g

3.20. ADMINISTRATIVE AND SUPPORT SERVICE ACTIVITIES (N)

3.20.1. INTRODUCTION

In 2016, the value added in section N was equal to € 19047 million, 5.0 % of the value added of all branches of activity combined. It was produced by the non-financial corporations (S.11: € 18306 million) and the households (S.14: € 741 million).

2016 (in € million)									
Industry	S.11			S.14			S.1		
	P.1	P.2	B1g	P.1	P.2	B1g	P.1	P.2	B1g
N	34 025	15 719	18 306	1 594	854	741	35 619	16 572	19 047
77A	4 096	2 183	1 913	10	7	4	4 106	2 190	1 916
77B	594	344	250	54	33	21	649	378	271
77C	5 341	2 583	2 758	37	21	16	5 378	2 604	2 774
78A	8 362	1 543	6 819	20	6	13	8 381	1 549	6 832
79A	3 062	2 570	493	43	28	15	3 105	2 597	508
80A	1 273	414	860	23	10	13	1 296	424	872
81A	1 895	1 185	710	934	553	381	2 829	1 738	1 090
81B	3 050	1 257	1 793	268	106	162	3 318	1 363	1 955
82A	6 352	3 641	2 711	205	89	116	6 557	3 730	2 827

The process table for section N:

	Basis for NA Figures											Other	Total (sources)	
	Surveys & Censuses	Administrative Records	Combined Data	Extrapolation and Models										
				Benchmark extrapolations	Commodity Flow Model	CFC(PIM)	Dwellings stratification method	FISIM	Insurance	Other E&M	Total Extrap+ Models			
Administrative and support service activities														
P.1	78	40 474									335	335		40 887
P.2	65	19 960									172	172		20 197
B.1g	13	20 514									163	163		20 690

Data validation	Adjustments											Balancing	Total (adjustments)	Final estimate		
	Conceptual				Exhaustiveness											
	Allocation of FISIM	Allocation of insurance	Other conceptual	Total conceptual	N1	N2	N3	N4	N5	N6	N7				Total exhaustiveness	
				0												
-1 833	0		-4 313	-4 313					872	0	872	6		-5 268	35 619	
-923	250	271	-3 355	-2 834					310	-175	135	-2		-3 625	16 572	
-910	-250	-271	-958	-1 479					562	175	738	8		-1 643	19 047	

3.20.2. METHOD OF CALULATION

As in most industries the standard procedure is followed in section N.

2016 (in € million)															
S.11 - Industry N	C_70	C_71	C_72	C_73	C_74-740	C_A	C_600/8+61	C_609	C_641/8	C_B	C_62	C_640	C_740	C_C	C_D
A1	22 958	10	955	0	1 694	25 616	11 440	-37	171	11 573	9 543	99	36	14 043	4 438
E1	64	0	0	0	0	65	60	0	0	60	4	0	0	5	1
A2	37	0	0	0	1	38	8	0	0	9	30	0	0	30	0
B1	856	-3	0	0	21	874	553	-1	7	558	211	5	1	316	102
B2	7 384	0	0	0	55	7 439	4 494	2	75	4 571	1 670	46	13	2 868	1 165
BC	464	-1	0	0	7	469	264	0	9	273	134	2	0	196	61
C1	9	0	0	0	0	10	13	0	0	13	1	0	0	-3	-4
C2	91	0	0	0	0	91	126	0	3	129	7	3	0	-38	-48
E2	13	0	0	0	0	13	5	0	0	5	7	0	0	8	1
B3	1 040	0	0	0	0	1 040	717	0	4	721	177	7	1	319	137
BL	68	0	0	0	11	79	55	0	0	56	12	2	0	23	9
H1	1 151	0	5	68	51	1 275	500	0	21	521	707	8	0	754	40
H2	118	0	0	15	5	137	63	0	1	64	67	1	0	73	5
H3	187	0	0	29	7	223	81	0	4	84	126	4	0	138	7
H4	233	0	0	18	5	256	114	0	2	116	126	3	0	139	10
RF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total administrative aggregates	34 674	5	961	129	1 857	37 626	18 494	-37	295	18 753	12 823	180	52	18 872	5 922
Adjustments	-2 873	-5	-496	-73	-153	-3 601	-2 899	-4	-131	-3 034	1 053	-17	2 128	-567	526
(b)	0	0	0	0	0	0	0	0	0	0	121	0	0	0	-121
(c)	-5	0	0	0	0	-5	-3	0	0	-3	0	0	0	-2	-2
(d)	-2 171	0	0	0	0	-2 171	-2 171	0	0	-2 171	0	0	0	0	0
(e)	0	0	0	0	-62	-62	0	0	-112	-112	0	0	0	50	50
(f)	0	0	0	0	-10	-10	-16	0	0	-16	0	0	0	6	6
(g)	0	0	-791	0	0	-791	-903	0	0	-903	0	0	0	112	112
(h1)	0	0	0	0	0	0	-14	0	-17	-30	0	0	0	30	30
(h2)	0	0	0	-2	0	-2	0	0	0	0	0	0	0	-2	-2
(i1)	0	0	301	0	0	301	-104	0	0	-104	0	0	0	405	405
(i2)	0	0	-7	0	0	-7	0	0	0	0	0	0	0	-7	-7
(k)	0	0	0	0	0	0	51	0	0	51	0	0	0	-51	-51
(l)	0	0	0	0	0	0	-66	0	0	-66	0	0	0	66	66
(m)	0	0	0	0	-22	-22	0	0	0	0	0	0	0	-22	-22
(n)	0	0	0	-71	0	-71	0	0	0	0	0	0	0	71	-71
(o31)	-376	0	0	0	0	-376	0	0	0	0	0	0	376	-376	0
(o32)	-1 201	0	0	0	0	-1 201	0	0	0	0	0	0	1 201	-1 201	0
(o4)	0	0	2	0	0	2	0	0	0	0	0	0	0	2	2
(p1)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(p2)	0	0	0	0	0	0	-175	0	0	-175	175	0	0	175	0
(r)	0	0	0	0	0	0	0	0	0	0	2	0	0	0	-2
(t)	5	-5	0	0	0	0	0	0	0	0	0	0	0	0	0
(v)	-125	0	0	-1	-59	-185	-92	-1	-3	-95	-35	0	0	-90	-55
(w)	0	0	0	0	0	0	0	-3	0	-3	0	0	0	3	3
(x4)	0	0	0	0	0	0	5	0	0	5	0	0	0	-5	-5
(x6)	0	0	0	0	0	0	36	0	0	36	0	0	0	-36	-36
(y)	611	0	0	0	0	611	211	0	0	211	95	0	0	400	305
(aa)	-17	0	0	0	0	-17	3	0	0	3	0	-19	17	-20	16
(ab)	396	0	0	0	0	396	126	0	0	126	498	2	266	270	36
(ac)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(af)	0	0	0	0	0	0	0	0	0	0	197	0	197	0	0
(ad)	10	0	0	0	0	10	-2	0	0	-2	0	0	0	13	13
(fisim)	0	0	0	0	0	0	216	0	0	216	0	0	0	-216	-216
Total final	31 801	0	465	55	1 704	34 025	15 595	-41	165	15 719	13 876	163	2 180	18 306	6 447
ESA 2010 codes	P.11	P.11	P.12	P.11	P.11	P.1 Total	P.2	P.2	P.2	P.2 Total	D.1	D.29	D.39	B.1g	B.2g

2016 (in € million)															
S.14 - Industry N	C_70	C_71	C_72	C_73	C_74-740	C_A	C_600/8+61	C_609	C_641/8	C_B	C_62	C_640	C_740	C_C	C_D
B3	1 428	0	0	0	0	1 428	792	0	0	792	103	9	4	636	529
BL	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Total administrative aggregates	1 428	0	0	0	0	1 428	792	0	0	792	103	9	4	636	529
Adjustments	166	0	0	0	0	166	62	0	0	62	18	4	41	104	123
(d)	-67	0	0	0	0	-67	-67	0	0	-67	0	0	0	0	0
(l)	0	0	0	0	0	0	-8	0	0	-8	0	0	0	8	8
(o31)	-1	0	0	0	0	-1	0	0	0	0	0	0	1	-1	0
(o32)	-29	0	0	0	0	-29	0	0	0	0	0	0	29	-29	0
(x5)	6	0	0	0	0	6	3	0	0	3	0	0	0	3	3
(x6)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(y)	262	0	0	0	0	262	99	0	0	99	13	0	0	162	149
(aa)	0	0	0	0	0	0	0	0	0	0	0	4	6	0	2
(af)	0	0	0	0	0	0	0	0	0	0	5	0	5	0	0
(ad)	-5	0	0	0	0	-5	0	0	0	0	0	0	0	-5	-5
(fisim)	0	0	0	0	0	0	34	0	0	34	0	0	0	-34	-34
Total final	1 594	0	0	0	0	1 594	854	0	0	854	121	13	45	741	653
ESA 2010 codes	P.11	P.11	P.12	P.11	P.11	P.1 Total	P.2	P.2	P.2	P.2 Total	D.1	D.29	D.39	B.1g	B.2g

Some comments:

Operational leasing

The treatment of operational leasing in the annual business accounts corresponds to the recording in the national accounts: the rentals received are registered in turnover (P.1) and the rentals paid (by companies) in purchases of services (P.2). Consequently, no specific treatment is applied for this activity. Operational leasing expenditure is treated as intermediate consumption for producers or HFCE for consumers.

Tour operators

ESA 2010 states in § 3.61 that *"The output of tour operator services is measured by the full expenditure made by travellers to the tour operator"*.

Because the turnover for tour operators corresponds to the total expenditure of travellers, no adjustments are made.

Travel agencies

ESA 2010 states in § 3.60 that *"The output of travel agency services is measured as the value of service charges of agencies (fees or commission charges) and not by the full expenditures made by travellers to the travel agency, including charges for transport by third parties"*.

In practice, travel agencies record the output in two ways: either the full expenditure (mostly done by bigger companies) or only the fees (done by small companies). This implies that an adjustment is necessary for the first group (the bigger companies).

Because travel agencies are regarded as companies that trade in tourism services, this correction is recorded under adjustment (d) in the transition table. The relevant amount, that is important for this industry, is calculated based on the purchases of travel agencies. This adjustment has no impact on value added.

In most recent years there is a tendency that the bigger companies change their way of recording output, namely only the fees are recorded. As a result, adjustment (d) has decreased in comparison with the past.

3.21. PUBLIC ADMINISTRATION AND DEFENCE; COMPULSORY SOCIAL SECURITY (O)

3.21.1. INTRODUCTION

In 2016, the value added of public administration (section O) amounted to € 29151 million, 7.6 % of the value added of all branches of activity combined. By definition, it was produced entirely by the institutional sector of the general government (S13).

2016 (in € million)						
Industry	S.13			S.1		
	P.1	P.2	B1g	P.1	P.2	B1g
O	39 190	10 040	29 151	39 190	10 040	29 151
84A	33 035	8 526	24 509	33 035	8 526	24 509
84B	3 493	544	2 949	3 493	544	2 949
84C	2 663	970	1 693	2 663	970	1 693

The process table in section O:

Basis for NA Figures												
	Surveys & Censuses	Administrative Records	Combined Data	Extrapolation and Models							Other	Total (sources)
				Benchmark extrapolations	Commodity Flow Model	CFC(PIM)	Dwellings stratification method	FISIM	Insurance	Other E&M		
Public administration and defence; compulsory social security												
P.1		34 894				3 331					3 331	38 225
P.2		9 075				0					0	9 075
B.1g		25 820				3 331					3 331	29 151

Adjustments															
Data validation	Conceptual				Exhaustiveness							Balancing	Total (adjustments)	Final estimate	
	Allocation of FISIM	Allocation of insurance	Other conceptual	Total conceptual	N1	N2	N3	N4	N5	N6	N7				Total exhaustiveness
	942	49	-25	965										965	39 190
	942	49	-25	965										965	10 040
	0	0	0	0										0	29 151

NACE category O includes exclusively S.13-units. The production in the case of non-market producers is derived as the sum of their costs (D.1 + P.2 + D.29 – D.39 + P.51c). The consumption of fixed capital (P51c) is a PIM-model based estimate. The other costs can be derived from administrative sources.

The allocation of FISIM results in an increase of P.2 and P.1 and there are also small amounts of other conceptual adjustments.

3.21.2. METHOD OF CALCULATION

Since output (P.1) is equal to the sum of costs borne by the general government, the method consists initially in calculating compensation of employees (D.1), intermediate consumption (P.2), other subsidies on production (D.39) and consumption of fixed capital (P.51c). For general government, there are no taxes on production paid (D.29). In a further step, overall output is broken down by market output (P.11), output for own final use (P.12) and other non-market output (P.131, P.132).

The estimation of the compensation of employees paid and of the intermediate consumption is described below. The calculation of consumption of fixed capital is a PIM based estimate (cf. section 4.12). The breakdown of the output of general government is dealt within the section on the final consumption expenditure of S.13 (cf. section 5.9).

3.21.3. COMPENSATION OF EMPLOYEES (D.1)

3.21.3.1. Description of basic data

In the economic regrouping, the compensation of own staff appears under economic code 11 (wages and social contributions), including all payments and benefits paid by general government as an employer to its employees

as remuneration for work (including contributions to widows' and orphans' funds, social security contributions and withholding taxes).

There has therefore to be an employment relationship, and this applies also to political appointees (ministers, secretaries of state, deputies, aldermen, members of municipal councils and members of parliament).

Group 11 also covers the salaries, allowances and pensions paid to ministers of religion. In the national accounts, ministers of religion are classified in NACE 91 (cf. 3.21) and belong to sector S.15 (NPISH).

Therefore, a correction is made to remove their compensation of employees from NACE O/sector S.13 and to allocate it to NACE R/sector S.15.

In Belgium, the Central Service for Penitentiary Work is regarded as a public-sector enterprise (categorised in sector S.11). Consequently, the remuneration of prisoners therefore falls outside the public sector.

Group 11 breaks down as follows:

11.1 Wages as such

11.11 Remuneration according to tariffs

It is important to know wage trends in the public sector to know wages as such, before allowances and before deduction of social insurance and retirement contributions, taxes etc.

11.12 Other elements of remuneration.

These comprise pay for overtime, night work or irregular working hours, productivity bonuses, attendance fees for officials, allowances for senior functions, gratuities, and holiday pay.

Allowances for travel on duty are regarded as reimbursement of expenses and are consequently coded under 12.1 (purchase of goods and services).

Relocation expenses are a specific form of travel expenses and therefore come under code 12.1.

Allowances paid to employees for the purchase of tools, means of transport and special work clothing (for protection from dangerous or polluting substances) are regarded as purchases of goods and services (group 12).

11.2 Employers' social contributions paid to institutions or funds

These include statutory, contractual, and voluntary contributions to insurance against the risks of absence due to sickness and associated expenses, disability, old age, unemployment, accident and death, and family allowance contributions. It follows from this list that retirement benefit contributions (old age and survivors' pensions) are also included.

Although paid directly by employers to the insurer, these contributions are treated as part of the compensation of employees, which the latter are deemed to pay to the insurer.

Retirement pensions paid to the former staff of public-interest organisations affiliated to the pension scheme instituted by the Law of 28 April 1958 are paid via the semi-state pool (which collects contributions from its affiliated bodies). These contributions are regarded as social contributions (code 1120).

11.3 Other employer's social costs

These comprise social benefits provided directly by employers to their employees or former employees and dependants. They are treated as contributions to a contributory social insurance scheme.

Other employer's social costs comprise:

11.31 Direct allocations

These include family allowances, birth allowances, bridging allowances, payments covering insurance for expenses pertaining to sickness, industrial accidents, and death, and all relating direct allocations.

11.32 Continued payment of wages

This means the payment of wages as such for the period during which a worker is out of work due to sickness, accident, or redundancy.

11.33 General government staff pensions

This item includes pensions paid directly - i.e., not via a contributory system - by government to its personnel and/or their dependants, and the pensions of former political appointees and/or their dependants. Payments to the semi-state pool are coded under 1120.

11.4 Wages in kind

Benefits in kind deemed part of the compensation of employees, such as the provision of food, clothing, military uniforms, and housing either free of charge or at reduced prices, are treated as wages in kind.

To sum up, code 11 includes:

- 11.11
 - remuneration according to tariffs
 - promotion to higher grades
 - wage increases
 - ministerial office allowances
 - allowances relating to recruitment
 - student remuneration.

- 11.12
 - elements of remuneration not covered by tariffs, particularly:
 - subsidised season tickets, i.e., general government's contribution to the price of season tickets purchased by its employees who use public transport.
 - allowances for higher functions
 - payments for special functions
 - payments for overtime
 - attendance fees and various payments (taxable) awarded to staff members or public agents (deputies, senators, etc.)
 - payments to drivers
 - Christmas allowances and bonuses
 - household and residential allowances
 - holiday pay
 - trade-union bonuses
 - fixed allowances for living abroad
 - refunding of initial expenses of residents abroad
 - expatriate allowances
 - allowances for foreign postings.

- 11.20
 - Employers' social contributions paid to social security agencies
 - Contributions by public interest organisations to the semi-state pension funds pool
 - Employers' social contributions paid to institutions other than social security agencies.

- 11.31 Direct allocations, in particular:
 - family allowances
 - birth allowances
 - allowances for industrial accidents paid to general government staff (if the entity is its own insurer)
 - allowances for expenses relating to terminal sicknesses and funerals
 - severance payments
 - disability pensions paid directly to beneficiaries
 - non-returnable social assistance to personnel (other than for meals).

- 11.32 Severance payments to ministerial office staff (continued payment of salaries)
 - Payments for standby status.

- 11.33 Retirement pensions paid directly by government to former staff members (contributions to the semi-state funds pool are coded under 11.20).

- 11.40 Remuneration in kind:
 - Various social services expenditure ("Saint Nicolas", trips, subsidised meals, etc.) like remuneration in kind
 - Cards entitling the holder to reduced public transport fares
 - Meals paid for in part or in full
 - Regular transport of personnel from home to place of work by special shuttle
 - Free transport for statutory staff
 - Contributions towards luncheon vouchers
 - Contributions towards civilian and military uniforms (other than working or on-duty clothes).

The travel expenses (transportation, hotels, meals, fees for conferences, etc.) are reimbursed based on the costs actually incurred, supported by invoices. In some cases, only the meals are financed based on a per day allowance. In all cases, these expenses are recorded as intermediate consumption (P.2) in the government accounts. This is clearly mentioned in the guidance note for the budget economic regrouping:

<http://www.budgetfederal.be/FR/figures/Documents/Classification%20C3%A9conomique%20janvier%202020.pdf> (see page 45 and page 56). The amounts for the meals and drinks that should be recorded in wages and salaries in kind are negligible.

3.21.3.2. Imputed social contributions

Imputed social contributions are the counterpart of social benefits that employers pay directly to their employees or former employees, or their survivors, without creating an autonomous fund, setting up special reserves or taking out specific insurance. These benefits concern mainly general government staff with the status of established "officials" and mainly comprise retirement pensions and family benefits¹¹⁰. Since the 6th State's reform of 2015, the family benefits are social assistance arrangements paid by the Communities and Regions and are no longer recorded in the imputed social contributions. General government staff not having the status of established officials are covered by the private-sector social security arrangements.

These imputed social contributions are currently estimated as being equal to social benefits paid (less employees' social contributions). It is not currently possible to develop a model on an actuarial basis for estimating imputed social contributions based on employers' future commitments regarding the payment of benefits.

3.21.3.3. Summing-up: calculation of compensation of employees

Industry O includes only public administration. Compensation of employees is calculated by adding up the different categories coming from the economic grouping.

For public entities that have been included in the government sector and that have not been integrated in the economic groupings yet, the business accounts available at the central Balance Sheet Office at the National Bank of Belgium are used (see sections 3.1.5 and 3.4.5.2).

Data for 2016 (€ millions)	
<u>Public administration except defence and social security of Federal government (S.1311)</u>	
Code 11 (Administration)	6 791
Remuneration of ministers of religion (classified in section S)	-100
Differences in definition of federal government	-68
<i>Subtotal</i>	<u>6 623</u>
<u>Public administration except defence and social security of Communities and Regions (S.1312)</u>	
<i>Subtotal</i>	<u>4 240</u>
<u>Public administration except defence and social security of local government (S.1313)</u>	
<i>Subtotal</i>	<u>11 236</u>
<u>Defence (SUT 75B3)</u>	
Code 11 Defense	<u>2 634</u>
<u>Compulsory social security (SUT 75C3)</u>	
Remuneration and social contributions of staff of social security agencies for employed, self-employed persons and health and the overseas social security office (OSSO)	1 487
Differences in definition of social security	148
<i>Subtotal</i>	<u>1 635</u>
Total industry (O)	26 367

¹¹⁰ An important borderline case is temporary continuing payment by the employer of wages and salaries in the event of sickness, maternity, disability, etc. but this item is not estimated and the corresponding payments have been left under "gross wages and salaries" (D11).

3.21.4. INTERMEDIATE CONSUMPTION (P.2)

3.21.4.1. Description of basic data

In the economic regrouping, the relevant headings are coded 12 and 14.

Code 12 - Purchases of non-durable goods and services

For its purchases of goods and services, government deals mainly with the corporate sector and foreign suppliers. Since it is very often difficult to identify the source of goods and services, no distinction is made in the coding.

There are circumstances in which households receive services in exchange for remuneration which cannot be regarded as wages, as there is no employer/employee relationship. Such services are recorded by government as purchases of non-durable goods and services. Attendance fees paid to persons other than established officials on official and administrative boards and panels are also included in group 12.

Any purchases by government that are normally made by households are entered as transfers in kind (34.32) to households or as wages in kind, as in 11.4, e.g., government buying food, clothing, medicines, etc. and distributing them to households free of charge. Likewise, hospital expenses for needy patients and welfare aid to the destitute.

Purchases of non-durable goods and services intended to be transferred abroad as gifts are recorded as income transfers (cf. group 35) to other countries.

Code 12 includes, in particular:

12.11 Operating overheads paid to sectors other than the general government sector

The purchases referred to in 12.11 can be broken down as follows:

- Expenses such as office equipment, drawing, reproduction, printing and binding equipment, purchases of books, periodicals and newspapers, maintenance, hire and repair of furniture and office machines, carriage charges, telephone, telegrams, the cost of sending service documents and interdepartmental mail, bank charges and accountants' fees, remuneration for information technology, typing and translation work, and remuneration of temporary administrative staff.
- Repair and maintenance of buildings not resulting in any increase in value, cleaning of buildings by specialist companies, fuel, electricity, gas and water, insurance premiums, surveillance and relocation expenses and associated minor expenses.
- Living and hospitality expenses, including those incurred by members of staff and refunded by government.
- Honorary allowances and attendance fees paid to outsiders. Any payment to persons treated as general government staff are classified under group 11.
- Other overheads, e.g., relating to recruitment and staff training, and advertisement expenses. Any partial or total payments granted to members of staff having courses arranged by the department which employs them is regarded as government consumption. Advertisement expenses can include printing expenses, films, radio and television broadcasts and the cost of organising exhibitions.
- Cheap small tools used to carry out relatively simple work or operations: hand tools such as saws, hammers and screwdrivers or small accessories such as pocket calculators.
- Payments for the use of non-produced intangible assets, such as patented assets, trademarks, etc. (other than payments to purchase such property rights, which are treated as acquisitions of non-produced intangible assets (code 7440)).
- Investment, management and other commissions on public loans and administrative financial expenses.

12.12 Renting of buildings from sectors other than the general government sector

12.13 Operational leasing from sectors other than the general government sector

12.21 Operating overheads paid within the general government sector

The purchases referred to in 12.21 correspond to those referred to in 12.11.

12.22 Renting of buildings paid for within the general government sector

12.5 Indirect taxes paid to subsectors of the general government sector

These include taxes on income from immovable and movable assets, regional taxes, etc. paid by one general government subsector to another.

The following are not covered by code 12:

- repair and maintenance of civil engineering structures not resulting in any increase in value, which are classified to group 14
- purchases of durable military assets regarded as fixed capital formation (group 7, investments)
- major improvements (e.g., refurbishment, rebuilding, or extension) which significantly exceed what would be necessary merely to maintain fixed assets in good working order
- employers' expenditure treated as wages and salaries in kind (code 11.40)
- computer software purchases or user licences, treated as investments subject to meeting both of the two following conditions:
 1. production process used repetitively or continuously for more than one year
 2. acquisition cost (including VAT) is not very low.
 If these two conditions are not met, the expenditure in question is regarded as intermediate consumption.
- the development of customised software also follows this double rule, whether developed by an external firm or on own account. Any produced for own account is valued at cost price.

Code 14 - Repair and maintenance of civil engineering structures not resulting in an increase in value

This group includes expenditure on roads, canals, bridges, tunnels, ports, etc. that cannot be regarded as investments (cf. group 73). It involves expenditure intended to preserve the value of capital assets. Maintenance entails regular and permanent attention to ensure the proper functioning and good condition of capital assets. These operations are classified as current expenditure.

Substantial changes to existing capital goods which result in an increase in value (e.g., road repairs which completely transform roads by laying a new surface, adopting of a different layout, etc.) are recorded as investments (group 73). Repairs to damage caused by war or natural disasters are also treated as investments (group 7).

3.21.4.2. Summing-up: calculation of intermediate consumption

Intermediate consumption is calculated by adding up the different categories coming from the economic grouping.

For public entities that have been included in the government sector and that have not been integrated in the economic groupings yet, the business accounts available at the central Balance Sheet Office at the National Bank of Belgium are used (see sections 3.1.5 and 3.4.5.2).

Data for 2016 (€ millions)	
Public administration except defence and social security of Federal government (S.1311)	
Code 12 (administration)	2 442
Code 14	0
Differences in definition of federal government	-32
Fisim on deposits	-11
Fisim on credits	62
<i>Subtotal</i>	<u>2 461</u>
Public administration except defence and social security of Communities and Regions (S.1312)	
<i>Subtotal</i>	<u>2 629</u>
Public administration except defence and social security of local government (S.1313)	
<i>Subtotal</i>	<u>3 435</u>
Defence (SUT 75B3)	
Code 12 Defense	544
Compulsory social security (SUT 75C3)	
Other current operating expenditure by social security agencies for employed, self-employed persons and health, the overseas social security office (OSSO) and the zorgfondos	833
Differences in definition of social security	138
Fisim on deposits	-1
Fisim on credits	0
<i>Subtotal</i>	<u>970</u>
Total industry (O)	10 040

3.21.5. OTHER SUBSIDIES RECEIVED (D.39R)

The State and local governments receive subsidies on production from the federal level and the social security sector. It concerns the reductions of employer social contributions for specific groups of employees and reductions on the withholding tax for researchers. These amounts are first registered as social contributions received in the social security sector and as income tax in the Federal government and then registered as other subsidies on production. It concerns the branches administration and education at the State level and the branch administration at the local level.

The calculation of the total subsidies received by these subsectors and the allocation by industry are based on data from the ONSS and ONSAPPL and the FPS Finances.

Calculation of subsidies received:

Data for 2016 (€ millions)	
Public administration except defence and social security of Communities and Regions (S.1312)	
Reductions of employer social contributions for specific groups	-72
<i>Subtotal</i>	<u>-72</u>
Public administration except defence and social security of local government (S.1313)	
Reductions of employer social contributions for specific groups	-524
<i>Subtotal</i>	<u>-524</u>
Total industry (O)	-596

3.21.6. SUMMARY

When adding up all the costs borne by the general government, and adding a correction for the sale of timber, we obtain the total P.1 for industry O (€ 39190 million). The production of standing timber is treated as an increase in inventories during the production process (while the trees are growing), generating a net operating surplus. The sale of trees is thus recorded as a stock decrease.

Data for 2016 (€ millions)	
Compensation of employees	26 367
Intermediate consumption	10 040
Taxes on production	0
Other subsidies on production	-596
Consumption of fixed capital	3 331
Output for industry O	39 142
Correction for sale of timber	49
Total output industry O	39 190

3.22. EDUCATION (P)

3.22.1. INTRODUCTION

In 2016, the value added of education activities (section P) amounted to 26593 million, 6.9 % of the value added of all branches of activity combined. It was produced by four institutional sectors: non-financial corporations (S.11: € 577 million), general government (S.13: € 25701 million), households (S.14: € 70 million) and NPISHs (S.15: € 245 million).

Industry	2016 (in € million)														
	S.11			S.14			S.13			S.15			S.1		
	P.1	P.2	B1g	P.1	P.2	B1g	P.1	P.2	B1g				P.1	P.2	B1g
P	1 634	1 057	577	123	53	70	28 922	3 222	25 701	383	137	245	31 062	4 469	26 593
85A	1 634	1 057	577	123	53	70	28 922	3 222	25 701	383	137	245	31 062	4 469	26 593

The process table for section P:

Basis for NA Figures													
	Surveys & Censuses	Administrative Records	Combined Data	Extrapolation and Models							Other	Total (sources)	
				Benchmark extrapolations	Commodity Flow Model	CFC (PIM)	Dwellings stratification method	FISIM	Insurance	Other E&M			Total Extrap+ Models
Education													
P.1		27 627				2 879					183	3 062	30 689
P.2		4 117				0					91	91	4 208
B.1g		23 510				2 879					92	2 971	26 481

Data validation	Adjustments											Balancing	Total (adjustments)	Final estimate
	Conceptual				Exhaustiveness									
	Allocation of FISIM	Allocation of insurance	Other conceptual	Total conceptual	N1	N2	N3	N4	N5	N6	N7			
376	2	71	-100	-28					26	0	26	-1	373	31 062
205	15	77	-32	59					1	-6	-5	2	261	4 469
171	-13	-6	-68	-87					24	6	31	-3	112	26 593

3.22.2. METHOD OF CALCULATION

For units belonging to sectors S.11, S.14 and S.15, the standard compilation procedure is followed. For these sectors, the amounts are not very high in comparison with public education. Sectors S.11 and S.14 include private education, like for example driving schools or language schools. In S.15, there are associations for elimination of illiteracy, help for homework for underprivileged young people, etc.

For public education (S.13) the production is estimated as the sum of costs.

2016 (in € million)															
S.11 - Industry P	C_70	C_71	C_72	C_73	C_74-740	C_A	C_600/8+61	C_609	C_641/8	C_B	C_62	C_640	C_740	C_C	C_D
A1	134	0	0	0	5	139	93	-2	1	92	38	0	4	47	13
E1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A2	196	0	0	0	7	202	136	-3	2	135	54	0	5	67	18
B1	37	0	0	0	1	38	27	-1	0	27	7	0	0	11	4
B2	527	0	0	0	12	538	389	-8	9	389	73	1	0	149	75
BC	22	0	0	0	0	22	16	0	0	16	4	0	0	6	2
C1	2	0	0	0	0	2	2	0	0	2	0	0	0	0	0
C2	6	0	0	0	0	6	9	0	0	10	1	0	0	-4	-5
E2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B3	127	0	0	0	0	127	94	0	1	95	20	0	0	32	11
BL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H1	210	1	0	26	12	249	93	0	3	96	134	0	0	154	19
H2	54	0	0	13	3	70	37	1	0	38	27	0	0	32	4
H3	137	0	0	28	8	173	86	1	2	89	70	0	0	83	13
H4	119	0	0	25	7	152	77	0	2	80	61	0	0	72	11
RF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total administrative aggregates	1570	1	0	92	55	1719	1060	-13	22	1070	491	3	10	649	165
Adjustments	-6	-1	11	-86	-3	-85	-8	0	-5	-13	4	0	102	-72	26
(b)	0	0	0	0	0	0	0	0	0	0	-15	0	0	0	15
(c)	-1	0	0	0	0	-1	0	0	0	0	0	0	0	-1	-1
(d)	-1	0	0	0	0	-1	-1	0	0	-1	0	0	0	0	0
(f)	0	0	0	0	0	0	-6	0	0	-6	0	0	0	6	6
(g)	0	0	1	0	0	1	0	0	0	0	0	0	0	2	2
(h1)	0	0	0	0	0	0	-1	0	-4	-5	0	0	0	5	5
(h2)	0	0	0	-2	0	-2	0	0	0	0	0	0	0	-2	-2
(i1)	0	0	10	0	0	10	-3	0	0	-3	0	0	0	13	13
(k)	0	0	0	0	0	0	2	0	0	2	0	0	0	-2	-2
(l)	0	0	0	0	0	0	-5	0	0	-5	0	0	0	5	5
(m)	0	0	0	0	-3	-3	0	0	0	0	0	0	0	-3	-3
(n)	0	0	0	-84	0	-84	0	0	0	0	0	0	84	-84	0
(o31)	-3	0	0	0	0	-3	0	0	0	0	0	0	3	-3	0
(p2)	0	0	0	0	0	0	-6	0	0	-6	6	0	0	6	0
(aa)	-1	0	0	0	0	-1	-1	0	0	-1	0	0	1	0	1
(af)	0	0	0	0	0	0	0	0	0	0	13	0	13	0	0
(ad)	-1	0	0	0	0	-1	2	0	0	2	0	0	0	-3	-3
(fisim)	0	0	0	0	0	0	10	0	0	10	0	0	0	-10	-10
Total final	1564	0	11	6	52	1634	1052	-13	18	1057	494	3	111	577	191
ESA 2010 codes	P.11	P.11	P.12	P.11	P.11	P.1 Total	P.2	P.2	P.2	P.2 Total	D.1	D.29	D.39	B.1g	B.2g

2016 (in € million)															
S.14 - Industry P	C_70	C_71	C_72	C_73	C_74-740	C_A	C_600/8+61	C_609	C_641/8	C_B	C_62	C_640	C_740	C_C	C_D
B3	95	0	0	0	0	95	48	0	0	48	1	0	0	47	46
Total administrative aggregates	95	0	0	0	0	95	48	0	0	48	1	0	0	47	46
Adjustments	28	0	0	0	0	28	5	0	0	5	0	0	0	23	22
(x5)	3	0	0	0	0	3	2	0	0	2	0	0	0	1	1
(y)	26	0	0	0	0	26	1	0	0	1	0	0	0	24	24
(fisim)	0	0	0	0	0	0	3	0	0	3	0	0	0	-3	-3
Total final	123	0	0	0	0	123	53	0	0	53	2	0	0	70	68
ESA 2010 codes	P.11	P.11	P.12	P.11	P.11	P.1 Total	P.2	P.2	P.2	P.2 Total	D.1	D.29	D.39	B.1g	B.2g

2016 (in € million)															
S.15 - Industry P	C_70	C_71	C_72	C_73	C_74-740	C_A	C_600/8+61	C_609	C_641/8	C_B	C_62	C_640	C_740	C_C	C_D
H1	9	0	0	101	27	137	62	0	4	66	61	0	0	71	9
H2	9	0	0	119	5	133	33	0	2	35	91	2	0	98	4
H3	7	0	0	89	3	99	37	0	1	38	55	1	0	61	5
H4	2	0	0	27	1	30	11	0	0	11	18	0	0	19	1
Total administrative aggregates	27	0	0	336	35	399	142	0	8	150	225	4	0	249	20
Adjustements	0	0	2	-344	-30	-372	-4	0	-8	-12	11	0	20	-359	-351
(a1)	0	0	0	-18	0	-18	0	0	0	0	0	0	0	-18	-18
(a2)	13	0	0	-13	0	0	0	0	0	0	0	0	0	0	0
(b)	0	0	0	0	0	0	0	0	0	0	-2	0	0	0	2
(h1)	0	0	0	0	0	0	0	0	-8	-8	0	0	0	8	8
(i1)	0	0	2	0	0	2	0	0	0	0	0	0	0	2	2
(k)	0	0	0	0	0	0	1	0	0	1	0	0	0	-1	-1
(m)	0	0	0	0	-1	-1	0	0	0	0	0	0	0	-1	-1
(n)	-12	0	0	-305	-29	-346	0	0	0	0	0	0	0	-346	-346
(p2)	0	0	0	0	0	0	-1	0	0	-1	1	0	0	1	0
(u)	0	0	0	0	0	0	-6	0	0	-6	0	0	0	6	6
(v)	-1	0	0	-7	-1	-9	-1	0	0	-1	-7	0	0	-8	0
(x4)	0	0	0	0	0	0	1	0	0	1	0	0	0	-1	-1
(af)	0	0	0	0	0	0	0	0	0	0	20	0	20	0	0
(fisim)	0	0	0	0	0	0	2	0	0	2	0	0	0	-2	-2
(ae)	0	0	0	355	0	355	0	0	0	0	0	0	0	355	355
Total final	27	0	2	348	5	383	137	0	0	137	237	4	20	245	24
ESA 2010 codes	P.11	P.11	P.12	P.11	P.11	P.1 Total	P.2	P.2	P.2	P.2 Total	D.1	D.29	D.39	B.1g	B.2g

3.22.3. PUBLIC-SECTOR EDUCATION

Since the education output of S.13 (P.1) is equal to the sum of costs borne by general government, the method consists initially in calculating compensation of employees (D.1), intermediate consumption (P.2), other subsidies on production (D.39) and consumption of fixed capital (P.51c). Total output is then broken down by market output (P.11), output for own final use (P.12) and other non-market output (P.131, P.132).

The estimation of the compensation of employees and the intermediate consumption is described below. The calculation of consumption of fixed capital is a P.I.M. based estimate (cf. section 4.12). The breakdown of the output of general government is dealt within the section on final consumption expenditure of S.13 (cf. section 5.9).

As explained in § 3.21, the economic code 11 records the wages and salaries. Universities and high schools are mainly directly integrated in the economic groupings, the other schools, except the schools included in the municipal accounts, are integrated based on the flows mentioned in the budget and assumptions on the other income flows and expenditure. In the economic groupings the part related to education is identified based on the functional codes.

The wage subsidies paid by the communities and the pension subsidies paid by social security funds to the teachers at subsidized private schools are also considered.

Description of basic data

Cf. § 3.21.3.

Calculation of compensation of employees (D.1)

Data for 2016 (€ millions)	
Public sector education of Communities and Regions (S.1312)	
<i>Subtotal</i>	18 060
Public sector education of local government (S.1313)	
Accounting data of local authorities	628
<i>Subtotal</i>	4 970
Total activity P - S.13	23 030

Calculation of intermediate consumption (P.2)

Cf. § 3.21.4.

Data for 2016 (€ millions)	
Public sector education of Communities and Regions (S.1312)	
<i>Subtotal</i>	2 714
Public sector education of local government (S.1313)	
<i>Subtotal</i>	507
Total activity P - S.13	3 222

Other subsidies on production (D.39)

Cf. § 3.21.3.5.

Calculation of other subsidies on production

Data for 2016 (€ millions)	
Public-sector education of the Communities and Regions (S.1312)	
Reductions on the withholding taxes on income from researchers	-209
Reductions of employer social contributions for specific groups	0
Total activity P - S.13	-209

Output in public-sector education (S.13_P) equals sum of costs:

Data for 2016 (€ millions)	
Compensation of employees	23 030
Intermediate consumption	3 222
Taxes on production	0
Other subsidies on production	-209
Consumption of fixed capital	2 879
Output industry O (P.1) for S.13	28 922
Added value industry O (B.1g) for S.13	25 701

3.23. HUMAN HEALTH AND SOCIAL WORK ACTIVITIES (Q)

3.23.1. INTRODUCTION

In 2016, the value added recorded in section Q amounted to 27145 million, 7.1 % of the value added of all branches of activity combined. It was produced by the non-financial corporations (S.11: € 23587 million), households (S.14: € 1812 million) and NPISHs (S.15: € 1746 million).

Industry	2016 (in € million)											
	S.11			S.14			S.15			S.1		
	P.1	P.2	B1g	P.1	P.2	B1g	P.1	P.2	B1g	P.1	P.2	B1g
Q	43 081	19 494	23 587	2 824	1 012	1 812	2 322	576	1 746	48 227	21 082	27 145
86A	21 565	10 535	11 030	0	0	0	0	0	0	21 565	10 535	11 030
86B	7 040	3 974	3 066	1 163	303	860	0	0	0	8 203	4 277	3 926
86C	1 623	1 014	610	342	140	202	0	0	0	1 965	1 154	812
86D	2 688	1 201	1 487	1 071	453	618	0	0	0	3 760	1 654	2 105
87A	8 270	2 354	5 916	27	10	17	601	83	518	8 897	2 446	6 451
88A	1 894	416	1 478	221	106	115	1 721	493	1 228	3 836	1 015	2 820

The process table for section Q:

Basis for NA Figures													
	Surveys & Censuses	Administrative Records	Combined Data	Extrapolation and Models								Other	Total (sources)
				Benchmark extrapolations	Commodity Flow Model	CFC (PIM)	Dwellings stratification method	FISIM	Insurance	Other E&M	Total Extrapolation Models		
Human health and social work activities													
P.1	7	47 839									1 474	1 474	49 321
P.2	1	20 660									534	534	21 195
B.1g	5	27 180									940	940	28 125

Adjustments																	
Data validation	Conceptual				Exhaustiveness							Balancing	Total (adjustments)	Final estimate			
	Allocation of FISIM	Allocation of insurance	Other conceptual	Total conceptual	N1	N2	N3	N4	N5	N6	N7				Total exhaustiveness		
	-919	11	5	-1 701	-1 685							1 455	0	1 455	55	-1 094	48 227
	-582	344	167	-437	74							518	-78	440	-46	-114	21 082
	-338	-333	-162	-1 264	-1 759							937	78	1 015	101	-980	27 145

3.23.2. METHOD OF CALCULATION

2016 (in € million)															
S.11 - Industry Q	C_70	C_71	C_72	C_73	C_74-740	C_A	C_600/8+61	C_609	C_641/8	C_B	C_62	C_640	C_740	C_C	C_D
A1	1 947	0	14	0	112	2 073	821	9	23	853	1 039	7	57	1 220	231
E1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A2	82	0	1	0	5	88	38	1	1	39	40	0	0	49	8
B1	690	-6	0	0	26	709	361	-1	6	366	198	3	0	343	142
B2	6 511	-96	0	0	243	6 659	3 800	-67	58	3 790	733	35	0	2 868	2 101
BC	255	-1	0	0	9	262	128	-1	6	133	97	1	0	130	33
C1	12	-2	0	0	0	11	12	0	0	12	0	0	0	-1	-1
C2	27	0	0	0	0	27	44	0	1	45	4	1	0	-18	-23
E2	7	0	0	0	0	7	1	0	0	1	5	0	0	5	1
B3	1 516	0	0	0	0	1 516	881	0	12	893	87	2	0	622	533
BL	322	0	2	0	21	345	122	3	4	130	184	2	0	215	30
H1	4 591	-2	2	2 729	616	7 937	1 901	-1	57	1 957	6 569	17	1 272	5 980	666
H2	482	0	1	522	95	1 099	270	0	32	303	734	7	0	797	55
H3	522	0	0	345	71	939	242	0	15	257	616	4	0	682	61
H4	229	0	0	192	31	453	114	0	4	119	306	1	0	335	27
RF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total administrative aggregates	17 193	-107	21	3 789	1 230	22 125	8 736	-57	220	8 899	10 610	80	1 329	13 226	3 864
Adjustments	20 409	107	162	-471	748	20 955	10 534	-15	76	10 595	10 115	4	1 285	10 361	1 527
(a1)	0	0	0	-10	0	-10	0	0	0	0	0	0	0	-10	-10
(b)	0	0	0	0	0	0	0	0	0	0	15	0	0	0	-15
(c)	-1	0	0	0	0	-1	-1	0	0	-1	0	0	0	0	0
(e)	0	0	0	0	-4	-4	0	0	-17	-17	0	0	0	13	13
(f)	0	0	0	0	-16	-16	-29	0	0	-29	0	0	0	12	12
(g)	0	0	29	0	0	29	-18	0	0	-18	0	0	0	47	47
(h1)	0	0	0	0	0	0	-14	0	-8	-22	0	0	0	22	22
(h2)	0	0	0	-19	0	-19	0	0	0	0	0	0	0	-19	-19
(i1)	0	0	131	0	0	131	-21	0	0	-21	0	0	0	152	152
(k)	0	0	0	0	0	0	44	0	0	44	0	0	0	-44	-44
(l)	0	0	0	0	0	0	-31	0	0	-31	0	0	0	31	31
(m)	0	0	0	0	-18	-18	0	0	0	0	0	0	0	-18	-18
(n)	0	0	0	-441	0	-441	0	0	0	0	0	0	441	-441	0
(o31)	-58	0	0	0	0	-58	0	0	0	0	0	0	58	-58	0
(o32)	-445	0	0	0	0	-445	0	0	0	0	0	0	445	-445	0
(o4)	0	0	3	0	0	3	0	0	0	0	0	0	0	3	3
(p2)	0	0	0	0	0	0	-77	0	0	-77	77	0	0	77	0
(t)	-107	107	0	0	0	0	0	0	0	0	0	0	0	0	0
(x1)	20 573	0	0	0	787	21 360	10 271	-15	101	10 357	10 598	16	571	11 003	961
(x4)	0	0	0	0	0	0	7	0	0	7	0	0	0	-7	-7
(x6)	0	0	0	0	0	0	22	0	0	22	0	0	0	-22	-22
(y)	1 104	0	0	0	0	1 104	408	0	0	408	46	0	0	695	650
(aa)	-20	0	0	0	0	-20	2	0	0	2	0	-10	20	-22	8
(ab)	-692	0	0	0	0	-692	-258	0	0	-258	-792	-3	-423	-434	-62
(af)	0	0	0	0	0	0	0	0	0	0	172	0	172	0	0
(ad)	55	0	0	0	0	55	-46	0	0	-46	0	0	0	101	101
(ffisim)	0	0	0	0	0	0	273	0	0	273	0	0	0	-273	-273
Total final	37 602	0	182	3 318	1 978	43 081	19 270	-72	296	19 494	20 725	84	2 613	23 587	5 391
ESA 2010 codes	P.11	P.11	P.12	P.11	P.11	P.1 Total	P.2	P.2	P.2	P.2 Total	D.1	D.29	D.39	B.1g	B.2g

2016 (in € million)															
S.14 - Industry Q	C_70	C_71	C_72	C_73	C_74-740	C_A	C_600/8+61	C_609	C_641/8	C_B	C_62	C_640	C_740	C_C	C_D
A2	12	0	0	0	0	12	5	0	0	5	7	0	0	8	1
B3	2 463	0	0	0	0	2 463	842	0	0	842	57	0	0	1 622	1 565
Total administrative aggregates	2 476	0	0	0	0	2 476	846	0	0	846	64	0	0	1 629	1 566
Adjustments	348	0	0	0	0	348	166	0	0	166	4	0	29	183	208
(k)	0	0	0	0	0	0	3	0	0	3	0	0	0	-3	-3
(l)	0	0	0	0	0	0	-7	0	0	-7	0	0	0	7	7
(o32)	-3	0	0	0	0	-3	0	0	0	0	0	0	3	-3	0
(x1)	0	0	0	0	0	0	0	0	0	0	0	0	20	0	20
(y)	352	0	0	0	0	352	110	0	0	110	2	0	0	242	240
(aa)	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4
(af)	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0
(fisim)	0	0	0	0	0	0	60	0	0	60	0	0	0	-60	-60
Total final	2 824	0	0	0	0	2 824	1 012	0	0	1 012	68	0	30	1 812	1 774
ESA 2010 codes	P.11	P.11	P.12	P.11	P.11	P.1 Total	P.2	P.2	P.2	P.2 Total	D.1	D.29	D.39	B.1g	B.2g

2016 (in € million)															
S.15 - Industry Q	C_70	C_71	C_72	C_73	C_74-740	C_A	C_600/8+61	C_609	C_641/8	C_B	C_62	C_640	C_740	C_C	C_D
H1	70	0	0	692	30	791	168	0	13	181	578	2	0	610	30
H2	44	0	0	501	13	557	104	0	7	110	408	7	0	447	31
H3	43	0	0	367	10	421	96	0	6	101	287	6	0	319	26
H4	165	0	0	484	27	676	274	0	11	286	350	5	0	391	35
Total administrative aggregates	322	0	0	2 043	80	2 445	642	0	37	679	1 624	20	0	1 767	123
Adjustments	-76	0	5	-2 061	-65	-2 197	-66	0	-37	-103	49	0	58	-2 094	-2 085
(a1)	0	0	0	-38	0	-38	0	0	0	0	0	0	0	-38	-38
(a2)	0	0	0	-108	0	-108	0	0	0	0	0	0	0	-108	-108
(b)	0	0	0	0	0	0	0	0	0	0	-2	0	0	0	2
(h1)	0	0	0	0	0	0	0	0	-34	-34	0	0	0	34	34
(h2)	0	0	0	-41	0	-41	0	0	0	0	0	0	0	-41	-41
(i1)	0	0	5	0	0	5	-2	0	0	-2	0	0	0	7	7
(k)	0	0	0	0	0	0	5	0	0	5	0	0	0	-5	-5
(l)	0	0	0	0	0	0	-2	0	0	-2	0	0	0	2	2
(m)	0	0	0	0	-2	-2	0	0	0	0	0	0	0	-2	-2
(n)	-76	0	0	-1 856	-62	-1 994	0	0	0	0	0	0	0	-1 994	-1 994
(p2)	0	0	0	0	0	0	-1	0	0	-1	1	0	0	1	0
(u)	0	0	0	0	0	0	-74	0	0	-74	0	0	0	74	74
(v)	-1	0	0	-17	-1	-19	-7	0	-3	-9	-9	0	0	-9	0
(x4)	0	0	0	0	0	0	5	0	0	5	0	0	0	-5	-5
(aa)	0	0	0	0	0	0	-1	0	0	-1	0	0	0	1	1
(af)	0	0	0	0	0	0	0	0	0	0	58	0	58	0	0
(fisim)	0	0	0	0	0	0	11	0	0	11	0	0	0	-11	-11
(ae)	0	0	0	2 074	0	2 074	0	0	0	0	0	0	0	2 074	2 074
Total final	245	0	5	2 056	16	2 322	576	0	0	576	1 673	20	58	1 746	111
ESA 2010 codes	P.11	P.11	P.12	P.11	P.11	P.1 Total	P.2	P.2	P.2	P.2 Total	D.1	D.29	D.39	B.1g	B.2g

3.23.2.1. Human health care

Hospital activities (NACE 86.1)

Units classified in the NACE 86.1 are mostly defined by the list of recognised and certified general, revalidation and psychiatric hospitals, which is compiled by the Public Federal Service of Public Health. In 2016, this list contained 186 entities. The hospitals provide medical, surgical, or technical services to hospitalised patients. However, they also produce important fringe activities, such as out-patient treatments (consults, dialyses, and emergencies), medical laboratories, education, residential care activities, or non-residential care activities.

Hospital activities that were not certified by the PFS Public Health and that are included in NACE 86.1 are those in-patient activities provided under the direct supervision of a recognised physician for plastic or esthetical surgery. This group is very limited: only 9 entities were recognised in 2016.

Services provided by hospitals are treated as market sales to final consumers (households as regards the amount payable by the patient, general government as regards the amount paid as social benefits in kind) and to intermediate consumers (other producers). Hospital institutions include private commercial companies, non-profit associations, or organisations under public law. As all entities are considered market-producers, they are all classified in the market sector of non-financial corporations (S.11).

Given their legal status, hospitals are obliged to provide each year detailed statistical and accounting data to the FPS of Public Health. These reports follow a standardised outline which is based on, but more detailed as, the structure of the recognised annual accounts filed at Centrale Balance Sheet Office (CSBO) of the National Bank of Belgium. Therefore, the various components of the detailed production and the generation of income accounts can be calculated, following the same methodology as that for large enterprises.

Using the information from the FPS Public health creates however three problems:

1. Secondary activities are not always covered by the specific accounting information provided to the FPS of Public Health of every hospital. This is for example often the case with residential care activities that are a part of the hospital structure or for institutions under the direct care of a physician for plastic or esthetical surgeries. Total wages of hospitals reported in the annual accounts is therefore lower than wages reported in ONSS and ONSSAPL data.
2. Apart from wages and salaries, no information is available on an individual level. Only aggregated data for all public and for all private hospitals is available.
3. Besides heading 740 (operating subsidies), subsidies to employment and reimbursements on purchases are recorded as income.

To cover all output of hospitals and bring it into line with ESA 2010, the administrative data received from the PFS Public Health are adjusted. In more detail, the aggregates are calculated in four stages. The corrections made are shown in the next table:

Estimation of production and income accounts for hospital activities

Year 2016, in million

Balance sheet item	Administrative aggregate	Correction P.2	Correction P.1	Correction D1	Subtotal (for extrapolation)	D1 extrapolation	Correction D39	Correction for gifts	ESA (2010) aggregates	ESA (2010)
70	19.490	0	0	0	19.490	21.420	0	0	21.444	P.11/V1
71		0	0	0	0	0	0	0	0	P.11./P.52s
72	22	0	0	0	22	24	0	0	0	P.12
74-740	1.183	-644	614	0	1.154	1.277	-626	0	651	P.11/V2
A	20.051	0	614	0	20.665	22.721	-626	0	22.095	Total P.1
600/8+61	10.136	-644	0	-60	9.432	10.372	0	0	10.372	P.2/A1
609	-12	0	0	0	-12	-15	0	0	-15	P.2/P.52u
641/8	137	0	0	0	137	151	0	-30	121	P.2/A2
B	9.617	0	0	-60	9.557	10.508	0	-30	10.478	Total P.2
62	9.652	0	0	60	9.712	10.578	0	0	10.578	D.1
640	14	0	0	0	14	16	0	0	16	D.29
740	687	0	-614	0	73	79	626	0	704	D.39
C	10.434	0	614	60	11.108	12.213	-626	0	11.617	B.1g
D	1.455	0	0	0	1.455	1.697	0	0	1.728	B.2g
8279	1.165	0	0	0	1.165	1.276	0	0	1.276	C.8279

1. Column 1: calculation of administrative aggregates according to the general method used for entities with full annual accounts registered by the CBSO
2. Column 2: netting of purchasing cost recoveries booked under C_743
3. Column 3: transfer of the employment subsidies booked under C_743 to C_740 (D.39) before extrapolation
4. Column 4: transfers of works provided by the CPAS/OCMW to the salaries C_62
5. Column 5-6: Alignment with wages and salaries estimated from NSSO and NSSOPLA data and upgrading of other components of production accounts pro rata to the grossing up of wages and salaries (D.1 / C_62 = 1.089). Activities not recorded in the FPS Public Health data are implicitly extrapolated based on the structure of hospital activities. This adjustment is done separately for private (NSSO) hospitals and public (NSSOPLA) hospitals, which explains small differences in extrapolation coefficients.
6. Column 7 integration of employment subsidies based on information available in the general government accounts
7. Column 8: correction for gifts received
8. Column 9: the final ESA2010 aggregates (after correction) are introduced as adjustment (x1) in our IT-applications.

Medical and dental practice activities (NACE 86.2) and other human health activities (NACE 86.9)

Like hospital services (NACE 86.1), outpatient medical and paramedical services are considered as market sales to final consumers (households as regards the amount payable by the patient, general government as regards the amount paid as social benefit in kind) and to intermediate consumers (other producers). General and specialist medical practice (NACE 86.21 + 86.23), dental practice (NACE 86.23) and other human health activities (86.9) are therefore classified in the market sectors of non-financial corporations (S.11) and households (S.14).

S.11 units comprise medical, dental, and paramedical practitioners organised in a legal entity, most often as a commercial corporation or non-profit organisation. Since these activities are generally not subjected to VAT, their production and generation of income accounts are either calculated from annual accounts they file or are extrapolated from wages and salaries. In this later case, regarding category H entities, a correction for subsidies on production (D.39) is also made: some subsidies on production (D.39) specifically for non-profit associations (Social Maribel, etc.) are identified in the general government accounts, and are therefore deducted from estimated output and added in D.39.

The units classified in S.14 comprise practitioners of medical, dental, and paramedical services operating as unincorporated enterprises. Since they are not subjected to VAT and/or they do not file annual accounts, their production and generation of income accounts are estimated based on the income and professional expenses declared by the respective professions to the personal income tax administration (the various headings used are set out in the table below). As this data is only available three years after the initial tax declaration, intermediate methods were developed to estimate years (t-2) and (t-1) based on the evolution of these industries in S.11 and the evolution of reimbursement for these services by the general government.

Headings used from personal income tax declaration

ESA 2010 Aggregates	Heading of personal income tax declaration
Production	Gross operating profit of industrial, commercial or agricultural enterprises (A6000 + B6000) + Income from liberal professionals (A6500 + B6500) + Arrears of fees from liberal professionals (A6520 + B6520)
Intermediate consumption	Occupational expenses of industrial, commercial and agricultural enterprises (A6060 + B6060) + Actual occupational expenses of liberal professionals (M657 + M682) - Depreciation (A9540 + B9540) - Remuneration (D1 or A9550 + B9550)

3.23.2.2. Social work activities

Social work activities, market (NACE 87 and 88)

Market output of social work activities are produced by non-financial corporations (S.11) and households (S.14). The distinction between market and non-market producers is described in section 3.1.3.1.

For those activities in S.11 the production and generation of income accounts are estimated according to the general method.

In addition, some specific adjustments are made as follows:

1. Some subsidies on production (D.39) specific to non-profit associations (Social Maribel, wage subsidies for adapted-work enterprises, etc.) are identified in the national government accounts. They are deducted from estimated output and added to D.39 in category H1.
2. The main purpose of most sheltered workshops is not to take care of the disabled within the framework of social work activities, but rather to enable them to produce market goods and services. The units concerned must be certified by government and are referred to as a “*Entreprise de travail adapté*” in the French Community or “*Maatwerkbedrijf*” in the Flemish Community. The output of each of these units is therefore reclassified to the NACE corresponding to their main activity (correction (ab)).
3. Wages and salaries for rest homes that are part of a public-sector entity (often PSWCs) are identified using NSSOPLA data. As rest homes are considered to be market producers, the salaries and wages of these separate units are added to the market aggregates and output is calculated by extrapolation.

The production and the generation of income accounts of S.14 units are calculated using specific methods.

Output (P.1) of residential care activities is estimated using extrapolation coefficients from the same activities in S.11. Output (P.1) of social work activities without accommodation is estimated in a similar way, except for child day-care activities (NACE 88.91).

A specific method was developed for this last category based on information supplied by the “*Office de la naissance et de l’enfance*” (French community), “*Kind&Gezin*” (Flemish community) and the “*Dienst für Kind und Familie*” (German community). The information allows the following equation to be made:

$$\text{Output (P.1)} = \text{Number of days of childcare} \times \text{price per day}$$

Intermediate consumption (P.2) for child day-care activities is estimated by taking the ratio P.1/P.2 of category B3 in S.11.

Social work activities, non-market (NACE 87 and 88)

All non-market social work activities fall within S.15. It is subject to a specific methodology combining annual accounts and wages.

3.24. ARTS, ENTERTAINMENT AND RECREATION (R)

3.24.1. INTRODUCTION

In 2016, the value added realised in section R amounted to 2616 million, 0.7 % of the value added of all branches of activity combined. It was produced by the non-financial corporations (S.11: € 2045 million), households (S.14: € 311 million) and NPISH's (S.15: € 260 million).

2016 (in € million)												
Industry	S.11			S.14			S.15			S.1		
	P.1	P.2	B1g	P.1	P.2	B1g	P.1	P.2	B1g	P.1	P.2	B1g
R	5 212	3 168	2 045	537	226	311	431	172	260	6 181	3 565	2 616
90A	1 452	918	534	299	96	204	188	83	104	1 939	1 098	842
91A	215	120	95	4	2	1	178	53	125	397	175	222
92A	1 127	684	443	18	14	4	0	0	0	1 144	698	447
93A	2 419	1 446	973	216	114	102	65	35	30	2 701	1 595	1 105

The process table for section R:

Basis for NA Figures													
	Surveys & Censuses	Administrative Records	Combined Data	Extrapolation and Models								Other	Total (sources)
				Benchmark extrapolations	Commodity Flow Model	CFC (PIM)	Dwellings stratification method	FISIM	Insurance	Other E&M	Total Extrap+ Models		
Arts, entertainment and recreation													
P.1	33	7 713									388	388	8 133
P.2	26	5 477									168	168	5 670
B.1g	7	2 236									220	220	2 463

Adjustments															
Data validation	Conceptual				Exhaustiveness							Balancing	Total (adjustments)	Final estimate	
	Allocation of FISIM	Allocation of insurance	Other conceptual	Total conceptual	N1	N2	N3	N4	N5	N6	N7				Total exhaustiveness
-2 135	2	1	-185	-183						376	0	376	-12	-1 953	6 181
-2 213	46	19	-41	24						101	-16	86	-2	-2 105	3 565
78	-45	-18	-144	-207						275	16	291	-10	152	2 616

3.24.2. METHOD OF CALCULATION

According to ESA 2010, the production of books, recordings, films, software, tapes, disks, etc. is a two-stage process and is measured accordingly: (1) the output from the production of originals — an intellectual property product — is measured by the price paid if sold, or, if not sold, by the basic price paid for similar originals, its production costs (including a mark-up for net operating surplus) or the discounted value of the future receipts expected from using it in production; (2) the owner of this asset may use it directly or to produce copies in subsequent periods. If the owner has licensed other producers to make use of the original in production, the fees, commissions, royalties, etc. received from the licenses are the output of services. However, the sale of the original is negative fixed capital formation.

The output from both stages is recorded accordingly in the national accounts as the activities in point 1 are included in the variable 70 Turnover in the annual account. Activities as described in point 2 are declared either in variable 70 "Turnover" or in variable 74 "Other operating income". Since these variables are used in the extrapolating procedure in case of missing information, the output from both stages is fully captured.

The detailed treatment of originals in the expenditure approach can be found in section 5.10.4.3.

The amounts in the column “data validation” mainly correspond to corrections for copyright management companies and gambling and betting activities.

Copyright management companies are remunerated for collecting and/or redistributing their members’ royalties. The only output of the companies is the remuneration (fee) they earn for this service. Accordingly, a downward adjustment of turnover/output and purchases/intermediate consumption is made in cases where the royalties received are recorded in turnover and the royalties redistributed in purchases¹¹¹. The amounts of royalties passed on are provided by the department of the FPS Economy that supervises copyright management companies.

Gambling and betting activities also require specific corrections. “The amounts paid for lottery tickets or placed in bets consist of two elements: the payment of a service charged to the unit organising the lottery or gambling and a residual current transfer that is paid out to the winners” (ESA 2010 § 4.135). The amounts paid out to winners have therefore to be removed from output in cases where they are recorded in the turnover of gaming and betting organisations. This applies to the national lottery and to “Tiercé” companies. For them, an adjustment is made based on detailed data from their annual business accounts. This adjustment does not apply to casinos and automatic gaming establishments.

We illustrate the adjustments made for the National Lottery which has the largest market share in this industry.

National Lottery (mln €)	initial	(a)	(b)	(c)	total cor.	After cor.	CPA
C_70	1.183	-872	-201		-1.073	110	92A01
C_71	0				0	0	
C_72	0				0	0	
C_73	0				0	0	
C_74-740	231				0	231	other
C_A	1.415	-872	-201	0	-1.073	341	P1
C_600/8+61	1.058	-872			-872	186	
C_609	0				0	0	
C_641/8	320			-320	-320	0	
C_B	1.379	-872	0	-320	-1.193	186	P2
C_62	36				0	36	
C_640	1			99	99	99	D29
C_740	0				0	0	
C_C	36	0	-201	320	119	155	B1g
C_D	-1	0	-201	222	21	20	B2g
(a) Lottery tickets (and equivalent products)							
(b) Revenu from fiscal monopolies paid out as taxes and registered as a taks on products (D214) in S13-account							
(c) Taxes registered as other taxes on production (D29) in S13-accounts							

Lottery gains paid out by the national lottery in 2016 amounted to € 872 million. This amount must be removed from the total purchases of goods and services (600/8+61) and from turnover (70) to eliminate the transfer part in turnover/production and purchases of goods and services/intermediate consumption (cor (a)).

Part of the National Lottery taxes are registered as taxes on products (D214: € 201 million) in the accounts of S.13.

In correction (b), these taxes on products are eliminated from turnover (resulting in the valuation of production at basic prices). In the annual business accounts of the national Lottery, both these amounts are registered as other operating costs (641/8). Another part of the National Lottery taxes is recorded as other taxes on production (D29: € 99 million). Correction (c) transfers the other taxes on production from intermediate consumption (641/8) (€-320 million) to account 640 (operating taxes) (€99 million). The amounts after correction correspond to the relevant amounts of P.1, P.2, B.1g, D.29 and B.2g in the national accounts. This can also be verified by the

¹¹¹ The redistribution of royalties can also be recorded as a distribution of profit to other beneficiaries. In this case, no correction is made for purchases.

construction of the S&U balance for the product gambling and betting services for the National Lottery (we suppose that all the tickets have been bought by resident households).

Supply and use of gambling and betting services for the National Lottery					
(2016 in mln €)					
	P1	D214	Supply	P3S14	Use
Gambling and betting services (92A01)	110	201	311	311	311
<i>p.m.: other products</i>	231				

Belgian households have bought € 1.183 million of tickets (which corresponds to the turnover of the National Lottery). € 872 million has been paid out to winners. The difference is the net amount paid by households for gambling and betting services (1183-872=€311 million) to be recorded as household final consumption expenditure (P.3_S.14).

The compilation procedure by sector is shown in the next tables.

2016 (in € million)															
S.11 - Industry R	C_70	C_71	C_72	C_73	C_74-740	C_A	C_600/8+61	C_609	C_641/8	C_B	C_62	C_640	C_740	C_C	C_D
A1	1 683	-1	1	0	410	2 094	1 188	-11	33	1 210	451	195	57	884	294
E1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A2	114	0	2	0	4	120	85	0	2	87	25	0	0	32	7
B1	170	-4	0	0	3	170	108	-2	4	110	30	5	4	60	29
B2	1 444	0	0	0	11	1 455	966	-13	27	980	205	19	66	474	316
BC	73	0	0	0	1	73	49	0	2	51	11	1	0	22	10
C1	25	0	0	0	0	25	28	0	0	27	0	0	0	-3	-3
C2	31	0	0	0	0	31	46	0	1	47	3	2	2	-15	-18
E2	29	0	0	0	4	33	25	0	0	26	4	0	0	7	3
B3	172	0	0	0	0	172	123	0	1	123	25	2	6	48	28
BL	3	0	0	0	0	3	2	0	0	2	1	0	0	1	1
H1	158	0	0	63	159	379	105	0	25	130	194	1	0	249	54
H2	71	0	0	26	48	145	79	0	3	82	56	0	0	63	7
H3	122	0	0	36	94	253	99	0	7	106	134	1	0	147	12
H4	131	0	0	40	105	277	112	0	12	124	132	1	0	153	21
RF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total administrative aggregates	4 226	-4	3	165	839	5 229	3 016	-27	117	3 106	1 271	228	136	2 123	761
Adjustements	145	4	26	-143	-50	-17	70	0	-8	61	-98	-23	238	-78	281
(a1)	0	0	0	-14	0	-14	0	0	0	0	0	0	0	-14	-14
(b)	0	0	0	0	0	0	0	0	0	0	-180	0	0	0	180
(c)	-1	0	0	0	0	-1	-1	0	0	-1	0	0	0	0	0
(d)	-35	0	0	0	0	-35	-35	0	0	-35	0	0	0	0	0
(e)	0	0	0	0	-42	-42	0	0	-8	-8	0	0	0	-34	-34
(f)	0	0	0	0	-5	-5	-5	0	0	-5	0	0	0	1	1
(g)	0	0	1	0	0	1	-1	0	0	-1	0	0	0	2	2
(h1)	0	0	0	0	0	0	-2	0	0	-2	0	0	0	2	2
(h2)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(i1)	0	0	25	0	0	25	-7	0	0	-7	0	0	0	32	32
(k)	0	0	0	0	0	0	9	0	0	9	0	0	0	-9	-9
(l)	0	0	0	0	0	0	-5	0	0	-5	0	0	0	5	5
(m)	0	0	0	0	-3	-3	0	0	0	0	0	0	0	-3	-3
(n)	0	0	0	-128	0	-128	0	0	0	0	0	0	128	-128	0
(o31)	-78	0	0	0	0	-78	0	0	0	0	0	0	78	-78	0
(p2)	0	0	0	0	0	0	-15	0	0	-15	15	0	0	15	0
(t)	-4	4	0	0	0	0	0	0	0	0	0	0	0	0	0
(x4)	0	0	0	0	0	0	1	0	0	1	0	0	0	-1	-1
(x6)	0	0	0	0	0	0	1	0	0	1	0	0	0	-1	-1
(y)	278	0	0	0	0	278	78	0	0	78	39	0	0	200	161
(aa)	-3	0	0	0	0	-3	22	0	0	22	0	-23	3	-25	1
(af)	0	0	0	0	0	0	0	0	0	0	28	0	28	0	0
(ad)	-11	0	0	0	0	-11	-2	0	0	-2	0	0	0	-9	-9
(fisim)	0	0	0	0	0	0	33	0	0	33	0	0	0	-33	-33
Total final	4 371	0	29	22	790	5 212	3 086	-27	109	3 168	1 173	204	374	2 045	1 042
ESA 2010 codes	P.11	P.11	P.12	P.11	P.11	P.1 Total	P.2	P.2	P.2	P.2 Total	D.1	D.29	D.39	B.1g	B.2g

2016 (in € million)															
S.14 - Industry R	C_70	C_71	C_72	C_73	C_74-740	C_A	C_600/8+61	C_609	C_641/8	C_B	C_62	C_640	C_740	C_C	C_D
B3	341	0	0	0	0	341	192	0	0	192	9	7	9	149	142
Total administrative aggregates	341	0	0	0	0	341	192	0	0	192	9	7	9	149	142
Adjustements	100	0	96	0	0	196	34	0	0	34	3	3	2	162	158
(d)	-2	0	0	0	0	-2	-2	0	0	-2	0	0	0	0	0
(l)	0	0	0	0	0	0	-1	0	0	-1	0	0	0	1	1
(x1)	0	0	96	0	0	96	0	0	0	0	0	0	0	96	96
(x5)	4	0	0	0	0	4	3	0	0	3	0	0	0	2	2
(y)	99	0	0	0	0	99	24	0	0	24	2	0	0	75	73
(aa)	0	0	0	0	0	0	0	0	0	0	0	3	1	0	-2
(af)	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0
(ad)	-1	0	0	0	0	-1	0	0	0	0	0	0	0	-1	-1
(fisim)	0	0	0	0	0	0	11	0	0	11	0	0	0	-11	-11
Total final	441	0	96	0	0	537	226	0	0	226	12	10	11	311	300
ESA 2010 codes	P.11	P.11	P.12	P.11	P.11	P.1 Total	P.2	P.2	P.2	P.2 Total	D.1	D.29	D.39	B.1g	B.2g

2016 (in € million)															
S.15 - Industry R	C_70	C_71	C_72	C_73	C_74-740	C_A	C_600/8+61	C_609	C_641/8	C_B	C_62	C_640	C_740	C_C	C_D
H1	19	0	0	84	12	114	54	0	0	55	49	1	0	60	9
H2	27	0	0	46	10	82	32	0	0	33	44	0	0	49	5
H3	42	0	0	67	17	126	48	0	1	50	70	1	0	76	5
H4	29	0	0	63	15	107	41	0	1	42	56	1	0	65	8
Total administrative aggregates	116	0	0	259	54	430	175	1	3	179	219	4	0	251	28
Adjustements	-33	0	3	-259	-37	-326	-5	0	-3	-7	15	0	15	-319	-318
(a1)	0	0	0	-3	0	-3	0	0	0	0	0	0	0	-3	-3
(a2)	10	0	0	-10	0	0	0	0	0	0	0	0	0	0	0
(b)	0	0	0	0	0	0	0	0	0	-1	0	0	0	0	1
(h1)	0	0	0	0	0	0	0	0	-3	-3	0	0	0	3	3
(h2)	0	0	0	-24	0	-24	0	0	0	0	0	0	0	-24	-24
(i1)	0	0	3	0	0	3	-1	0	0	-1	0	0	0	4	4
(k)	0	0	0	0	0	0	1	0	0	1	0	0	0	-1	-1
(l)	0	0	0	0	0	0	-1	0	0	-1	0	0	0	1	1
(m)	0	0	0	0	-1	-1	0	0	0	0	0	0	0	-1	-1
(n)	-42	0	0	-222	-36	-301	0	0	0	0	0	0	0	-301	-301
(u)	0	0	0	0	0	0	-6	0	0	-6	0	0	0	6	6
(x4)	0	0	0	0	0	0	2	0	0	2	0	0	0	-2	-2
(aa)	0	0	0	0	0	0	-1	0	0	-1	0	0	0	1	1
(af)	0	0	0	0	0	0	0	0	0	0	15	0	15	0	0
(ad)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(fisim)	0	0	0	0	0	0	2	0	0	2	0	0	0	-2	-2
(ae)	0	0	0	328	0	328	0	0	0	0	0	0	0	328	328
Total final	84	0	3	328	17	431	171	1	0	171	234	4	15	260	37
ESA 2010 codes	P.11	P.11	P.12	P.11	P.11	P.1 Total	P.2	P.2	P.2	P.2 Total	D.1	D.29	D.39	B.1g	B.2g

3.25. OTHER SERVICE ACTIVITIES (S)

3.25.1. INTRODUCTION

In 2016, the value added recorded for NACE category S amounted to 818 million, 1.3 % of the value added of all branches of activity combined. It was produced by the non-financial corporations (S.11: € 2324 million), households (S.14: € 1372 million) and NPISH's (S.15: € 1122 million).

2016 (in € million)												
Industry	S.11			S.14			S.15			S.1		
	P.1	P.2	B1g	P.1	P.2	B1g	P.1	P.2	B1g	P.1	P.2	B1g
S	6 547	4 222	2 324	2 089	716	1 372	1 903	781	1 122	10 538	5 720	4 818
94A	4 302	3 034	1 268	20	0	20	1 903	781	1 122	6 225	3 815	2 410
95A	281	130	151	148	60	88	0	0	0	429	190	239
96A	1 963	1 058	905	1 921	657	1 265	0	0	0	3 884	1 715	2 169

The process table for section S:

Basis for NA Figures													
	Surveys & Censuses	Administrative Records	Combined Data	Extrapolation and Models								Other	Total (sources)
				Benchmark extrapolations	Commodity Flow Model	CFC (PIM)	Dwellings stratification method	FISIM	Insurance	Other E&M	Total Extrap+ Models		
Other service activities													
P.1	9	8 822									2 702	2 702	11 533
P.2	2	5 090									1 621	1 621	6 712
B.1g	7	3 732									1 081	1 081	4 820

Adjustments														
Data validation	Conceptual				Exhaustiveness							Balancing	Total (adjustments)	Final estimate
	Allocation of FISIM	Allocation of insurance	Other conceptual	Total conceptual	N1	N2	N3	N4	N5	N6	N7			
-784	6	4	-1 480	-1 470	895				360	13	1 268	-9	-995	10 538
-331	92	30	-1 032	-910	179				100	-31	248	0	-993	5 720
-453	-85	-26	-448	-560	716				260	44	1 020	-9	-2	4 818

In this section, the relative importance of “other extrapolations and models” is high (almost 25 % of total sources). This is caused by the fact that a lot of small NPI’s (without annual accounts) are present in these activities.

The prostitution activities appear in N2 in the process table and in cor. (x3) in the transition table for S14. See section 7.1.3.2 for more details on the estimates for illegal activities. The compilation procedure is shown in the next tables.

3.25.2. METHOD OF CALCULATION

2016 (in € million)															
S.11 - Industry S	C_70	C_71	C_72	C_73	C_74-740	C_A	C_600/8+61	C_609	C_641/8	C_B	C_62	C_640	C_740	C_C	C_D
A1	563	0	0	0	79	642	350	2	3	355	200	5	0	287	82
E1	2	0	0	0	0	2	0	0	0	0	2	0	0	2	0
A2	15	0	0	0	19	34	18	0	2	21	17	0	0	13	-4
B1	145	0	0	0	4	149	92	0	1	93	36	1	0	56	19
B2	1394	0	0	0	2	1396	786	0	11	797	343	19	1	600	238
BC	37	0	0	0	0	38	25	0	0	25	9	0	0	13	3
C1	4	0	0	0	0	4	5	0	0	5	0	0	0	-1	-1
C2	24	0	0	0	0	24	31	0	1	32	2	1	0	-8	-11
E2	6	0	0	0	0	6	1	0	0	1	4	0	0	5	1
B3	580	0	0	0	0	580	310	0	1	312	148	24	0	268	96
BL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H1	744	0	3	295	100	1142	788	-1	44	831	298	8	0	311	4
H2	254	0	1	110	34	400	187	0	22	209	152	4	0	191	35
H3	407	0	2	262	56	727	441	0	30	470	228	6	0	257	23
H4	887	-1	5	938	131	1960	1115	0	90	1205	706	17	0	755	33
RF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total administrative aggregates	5 064	-1	12	1 605	426	7 105	4 150	1	205	4 356	2 147	87	2	2 749	517
Adjustements	-46	1	38	-543	-9	-558	-96	-1	-36	-133	75	-9	414	-425	-77
(a1)	0	0	0	-68	0	-68	0	0	0	0	0	0	0	-68	-68
(a2)	0	0	0	-36	0	-36	0	0	0	0	0	0	0	-36	-36
(b)	0	0	0	0	0	0	0	0	0	0	-10	0	0	0	10
(c)	-2	0	0	0	0	-2	-1	0	0	-1	0	0	0	-1	-1
(d)	-171	0	0	0	0	-171	-171	0	0	-171	0	0	0	0	0
(e)	0	0	0	0	-1	-1	0	0	-2	-2	0	0	0	1	1
(f)	0	0	0	0	-1	-1	-1	0	0	-1	0	0	0	0	0
(g)	0	0	1	0	0	1	-16	0	0	-16	0	0	0	17	17
(h1)	0	0	0	0	0	0	-1	0	-35	-36	0	0	0	36	36
(h2)	0	0	0	-104	0	-104	0	0	0	0	0	0	0	-104	-104
(i1)	0	0	37	0	0	37	-18	0	0	-18	0	0	0	55	55
(k)	0	0	0	0	0	0	7	0	0	7	0	0	0	-7	-7
(l)	0	0	0	0	0	0	-6	0	0	-6	0	0	0	6	6
(m)	0	0	0	0	-7	-7	0	0	0	0	0	0	0	-7	-7
(n)	0	0	0	-335	0	-335	0	0	0	0	0	0	335	-335	0
(o31)	-17	0	0	0	0	-17	0	0	0	0	0	0	17	-17	0
(o32)	-26	0	0	0	0	-26	0	0	0	0	0	0	26	-26	0
(p2)	0	0	0	0	0	0	-31	0	0	-31	31	0	0	31	0
(q)	6	0	0	0	0	6	0	0	0	0	6	0	0	6	0
(t)	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
(w)	0	0	0	0	0	0	0	-1	0	-1	0	0	0	1	1
(x4)	0	0	0	0	0	0	2	0	0	2	0	0	0	-2	-2
(x6)	0	0	0	0	0	0	39	0	0	39	0	0	0	-39	-39
(y)	173	0	0	0	0	173	50	0	0	50	16	0	0	123	108
(aa)	-3	0	0	0	0	-3	7	0	0	7	0	-9	3	-11	1
(ab)	2	0	0	0	0	2	1	0	0	1	2	0	1	1	0
(af)	0	0	0	0	0	0	0	0	0	0	30	0	30	0	0
(ad)	-6	0	0	0	0	-6	0	0	0	0	0	0	0	-6	-6
(fisim)	0	0	0	0	0	0	42	0	0	42	0	0	0	-42	-42
Total final	5 018	0	50	1 062	417	6 547	4 053	1	168	4 222	2 222	78	415	2 324	440
ESA 2010 codes	P.11	P.11	P.12	P.11	P.11	P.1 Total	P.2	P.2	P.2	P.2 Total	D.1	D.29	D.39	B.1g	B.2g

2016 (in € million)															
S.14 - Industry S	C_70	C_71	C_72	C_73	C_74-740	C_A	C_600/8+61	C_609	C_641/8	C_B	C_62	C_640	C_740	C_C	C_D
B3	1 073	0	0	0	0	1 073	527	0	0	527	131	11	1	545	404
Total administrative aggregates	1 073	0	0	0	0	1 073	527	0	0	527	131	11	1	545	404
Adjustements	1 016	0	0	0	0	1 016	189	0	0	189	19	5	9	827	811
(b)	0	0	0	0	0	0	0	0	0	0	-1	0	0	0	1
(d)	-93	0	0	0	0	-93	-93	0	0	-93	0	0	0	0	0
(k)	0	0	0	0	0	0	1	0	0	1	0	0	0	-1	-1
(l)	0	0	0	0	0	0	-7	0	0	-7	0	0	0	7	7
(o31)	-1	0	0	0	0	-1	0	0	0	0	0	0	1	-1	0
(o32)	-1	0	0	0	0	-1	0	0	0	0	0	0	1	-1	0
(q)	7	0	0	0	0	7	0	0	0	0	3	0	0	7	4
(x3)	895	0	0	0	0	895	179	0	0	179	0	0	0	716	716
(x5)	25	0	0	0	0	25	14	0	0	14	0	0	0	10	10
(y)	187	0	0	0	0	187	51	0	0	51	12	0	0	136	125
(aa)	0	0	0	0	0	0	0	0	0	0	0	5	1	0	-4
(af)	0	0	0	0	0	0	0	0	0	0	5	0	5	0	0
(ad)	-3	0	0	0	0	-3	0	0	0	0	0	0	0	-3	-3
(fisim)	0	0	0	0	0	0	44	0	0	44	0	0	0	-44	-44
Total final	2 089	0	0	0	0	2 089	716	0	0	716	150	17	9	1 372	1 215
ESA 2010 codes	P.11	P.11	P.12	P.11	P.11	P.1 Total	P.2	P.2	P.2	P.2 Total	D.1	D.29	D.39	B.1g	B.2g

Data validation	Adjustments												Balancing	Total (adjustments)	Final estimate	
	Conceptual				Exhaustiveness							Total exhaustive ness				
	Allocation of FISIM	Allocation of insurance	Other conceptual	Total conceptual	N1	N2	N3	N4	N5	N6	N7					
					457								457		457	457
					0								0		0	0
				0	457								457		457	457

3.26.2. METHOD OF CALCULATION

Because most of employed domestic personnel are not officially registered, there are no amounts in the first part of the process table. The amounts appear in column N1.

For this activity, output equals compensation of employees equals household final consumption (and P.2= 0).

The wages of workers in the “domestic services” branch of activity are estimated based on information from the Household budget survey. Income in kind is included in the estimation. The HBS gives the average annual consumption expenditure per household at a very detailed product-by-product level. To stick as closely as possible to the definition of domestic services paid by households, it was decided to use the following headings:

- 05621 "domestic services" covering
 - 05621A household maintenance services (S.14_97A)
 - 05621B childcares at home (S.14_97A)
 - 05621C services paid by LEA cheques and by service vouchers (other activities recorded in S.11)

This average annual consumption expenditure by household is extrapolated to the whole population to obtain a total amount for domestic services (incl. LEA cheques and service vouchers).

From this total, the amount for service vouchers and LEAs are removed. They appear elsewhere in the accounts. They are included in the estimation of the activities of temporary employment agencies, under NACE N. The outlays/wages for domestic services (D.1_S.14_97A) are derived as a residual (€ 457 million in 2016).

3.27. TAXES ON PRODUCTS

This section covers both taxes on products (D.21) and other taxes on production (D.29).

3.27.1. DATA SOURCE - ECONOMIC REGROUPING

In the economic regrouping (cf. 3.4.6.1), indirect taxes appear under economic code 36 (Indirect taxes and levies).

Indirect taxes and levies are compulsory payments imposed by general government on production units. They affect the output and/or imports of goods and services or the use of production factors. These taxes, which are part of ex-factory prices and ex-customs prices, are payable irrespective of any operating profits.

Code 36 is broken down as follows:

- 36.1 Import taxes
- 36.2 Excise duties and other taxes on consumption
- 36.3 Value-added tax¹¹²
- 36.4 Registration fees
- 36.5 Profits of government fiscal monopolies or public-sector enterprises of a monopolistic nature
- 36.6 Road tax
- 36.7 Pollution taxes

¹¹² In practice, the item includes the value added tax, the stamp duties and the taxes assimilated to stamp.

- 36.8 Levies and taxes on property, except tax on income from immovable property assets
- 36.9 Various taxes, including gaming levies, export levies, charges on expert reports and levies on entertainments.

Fiscal penalties are classified under various current transfers (code 38). Interest on arrears is classified under interest on claims (code 26) unless they cannot be separated from the corresponding tax.

Taxes on production and imports received by EU institutions (income deriving under the CAP and customs duties) do not appear in the economic regrouping of the Federal Government, but the data are available from the FPS Finance. More detailed information on EU taxes can be found in section 8.2.

3.27.2. FROM PUBLIC ACCOUNTING TO NATIONAL ACCOUNTS

The source reflects cash receipts for some taxes. The recording method is that of "time-adjusted cash registration" whereby cash receipts are adjusted over time, which ensures that the amounts in question are allocated to the period in which the activity giving rise to the tax charge took place (accrual basis). This adjustment is based on the statutory time lag between the date of payment and the period in respect of which the payment is made. This is usually one month.

3.27.2.1. Allocation of revenue to recipient subsectors of general government

Tax receipts by subsectors are calculated per final recipient, not per collecting body. When a public administration (e.g., part of Federal Government or part of Communities and regions) collects taxes that include a proportion transferable automatically to another general government (e.g., part of local government), that portion is recorded as taxes collected directly by the latter.

Under this rule, charges additional to the tax on income from immovable assets and to the income tax charged by Federal Government to the benefit of provinces, communes and the Brussels conurbation are recorded directly as income of local authorities. Similarly, regional taxes under the State Reforms are recorded as taxes collected directly by the regions. This principle also applies to taxes paid to EU institutions. In recent years, the communities and regions have taken over the collection of regional and local taxes previously levied by the federal government.

As well as additional charges and regional taxes collected by Federal Government on behalf of other subsectors of general government, there are some transfers of fiscal revenue which represent redistribution by Federal Government. These include the shared taxes that fund the Communities and the joint taxes that fund the Regions, likewise under the State Reforms, and the taxes allocated to social security administrations within the framework of alternative funding. These payments are not attributed directly to the subsector of Communities and Regions or social security administrations but are recorded as "transfers of fiscal revenue", which form part of current transfers within general government. These shared taxes, joint taxes and allocated taxes represent a Federal Government claim on the taxpayers concerned, while the portion paid to other entities constitutes a claim by the latter on Federal Government.

Current transfers within general government also include "other current transfers within general government", which are funded from the general resources of the donor unit and do not correspond to a specific category of taxes but are often apportioned by distribution keys based on number of inhabitants.

3.27.2.2. Main adjustments (other than those for transition from cash to accrual registration basis)

- Road tax and tax treated as excise duty (code 36.6) are divided into the portion paid by production units, which is regarded as another tax on production (D.29), and the portion paid by households as final consumers, which is regarded as another current tax (D.59). The annual tax on profit sharing is included under income taxes (D.51).
- Duties on gifts included among registration fees (code 36.4) are not regarded as taxes on products (D.21) like other registration fees, but as a tax on capital (D.91). Similarly, tax on long-term savings is treated as a tax on capital (D.91).

- Tax on income from immovable assets (codes 37.1 and 37.2) is not regarded as income tax (D.51) but as other taxes on production (D.29).

3.27.2.3. Distinction between fiscal and non-fiscal revenue

The national accounts classify taxes according to economic considerations. Accordingly, revenue usually qualified as taxes is frequently classified in the national accounts as non-fiscal revenue.

Within the framework of the survey of local government accounts, a more detailed analysis of taxes and charges collected under economic code 36 was carried out, and some items of fiscal revenue were reclassified to sales, property income or direct taxes.

The following taxes are included in non-market sales of goods and services:

- charges for administrative services: revenue on the issue of various administrative documents such as identity cards, passports, marriage certificates, etc. This heading includes charges connected with one-off services, such as the storage charge for vehicles seized by the police
- refund or "recovery" charges levied by communes to recover from "benefiting" taxpayers all or some of authorised expenditure on local road improvements (pavements, sewers, etc.).

Charges for public hygiene services (refuse collection, income from sale of bin liners, services relating to cemeteries) are regarded as market sales of goods and services.

Charges and fees for occupation of public areas (beaches, market pitches, café terraces, etc.) are included among ground rents (D.45).

Property taxes (second homes, balconies and drive-in doors, holiday cottages, private swimming pools) and various other charges (on tennis courts, hunting permits and firearms licences) are included among other current charges. These charges are grouped under the heading "Other current taxes (D.59)".

All other minor charges are grouped under the heading "Other taxes on production (D.29)". No residual item is used regarding taxes on products.

3.27.2.4. Distinction between taxes on products (D.21) and other taxes on production (D.29)

As already mentioned, this distinction is not made in the economic regrouping as such, but at the level of detailed fiscal revenue data, where each tax is allocated to an ESA 2010 code (D.21, D.29, D.51, D.59 or D.91).

In practice, taxes on production and imports (D.2) are summed up before subtracting all taxes which are regarded explicitly as taxes on products (D.21).

The correspondence between taxes on products (D.21) [or other taxes on production (D.29)] and the products to which they relate [or the branches of activity which pay them] is defined within the SUT framework.

3.27.2.5. Green certificates

At the time of the Benchmark revision in 2019 it was decided to reroute the federal scheme in which the producers of offshore wind energy since 2008 receive green certificates that they sell to the operator of the High Voltage Grid. This operator can recover its cost via a tariff on the electricity price.

It was also decided to reroute the regional schemes for green certificates in the government accounts to better reflect the economic reality and this since the start of these systems (2002-2003). In these schemes producers of green energy receive a certificate they can sell to an electricity supplier that has to render a certain quota of these certificates to the energy regulator. The number of green certificates allocated increased sharply from 2010-2015, but the quota suppliers had to render did not increase creating a surplus of certificates and low market prices. To restore the market the governments have designated public service operators that have to buy these certificates at minimum prices and can recover their cost via tariffs on the electricity prices.

In principle, no cashflows passes via the government. However, to reflect the role of the government, these systems have been rerouted. It is considered that the government gives a subsidy on the production of electricity (D.31) and that this is financed by a tax on the energy prices (D.21).

3.27.2.6. Emission permits

There are two main trading systems, where European Union Member States can participate:

The Kyoto Protocol is a 1997 international treaty which came into force in 2005. In the treaty, most developed nations agreed to legally binding targets for their emissions of the six major greenhouse gases. Emission quotas (known as "Assigned amounts", AAUs) were agreed by each participating country.

The European Union Emission Trading Scheme (or EU ETS) is the largest multi-national, greenhouse gas emissions trading scheme in the world. It is one of the EU's central policy instruments to meet their cap set in the Kyoto Protocol. The so-called EU emission Allowance (EUA) is traded.

The ESA2010 MGDD part VI, chapter VI.5 is dealing with the statistical recording of the emission trading allowances.

EUAs are sold by the government since 2013. Before that, they were allocated for free which did not give rise to entries in government accounts. They were no sales of AAUs.

The data on permits (number of permits allocated, surrendered, sold, cash revenues, etc.) are directly transmitted to the NSI by the administrator of the Belgian National Registry for greenhouse gas which is the national administrator pursuant to Article 8 of Commission Regulation (EU) No 389/2013 of 2 May 2013 establishing a Union Registry pursuant to Directive 2003/87/EC of the European Parliament and of the Council, Decisions No 280/2004/EC and No 406/2009/EC of the European Parliament and of the Council and repealing Commission Regulations (EU) No 920/2010 and No 1193/2011.

The receipts linked to the auction of permits have to be recorded in the government accounts as a tax on production (D.29). The time of recording of tax on production corresponds to the time corporations surrender the permits as a compensation for the emission of greenhouse gases, at the end of April of Year t for the emissions of Year $t-1$. Given the fact that it is not possible to distinguish between the permits which have been allocated for free or have been sold by auction a general rule is used to determine the tax revenue.

The tax revenue is equal to the number of permits surrendered multiplied with the price of the permit. The hypothesis is used that the permits that are surrendered are first the permits that have been sold via auction and in a second step, when the permits surrendered are higher than those sold via auction, those allocated for free.

The tax on production is recorded at the Federal level and at the level of the Regions, following the distribution formula fixed in an agreement between these entities.

3.27.3. CALCULATION OF TAXES ON PRODUCTION AND IMPORTS (D.2)

Data for 2016 (€ millions)		
Taxes on production and imports (D.2) by Federal Government (S.1311)		
Code 36		41 915
VAT over compensation	+	0
Monthly slippage on VAT	+	191
Monthly slippage on tax on stock exchange operations	+	6
MOSS	+	29
VAT on products assessed but unlikely to be collected	+	429
Off-shore wind power - green certificates	+	257
Carbon trading rights - emission permits	+	13
Code 36 regarded as D.5 (annual tax on profit sharing)	-	-14
Code 36 regarded as D.91 (tax on long-term savings)	-	-382
Contribution on oil product for heating	+	6
Adjustment for excise duties received from Luxembourg	-	81
Other adjustments	+	110
<u>Subtotal</u>	=	<u>42 641</u>
Taxes on production and imports (D.2) by Communities and Regions (S.1312)		
<u>Subtotal</u>	=	<u>7 851</u>
Taxes on production and imports (D.2) by local government (S.1313)		
<u>Subtotal</u>	=	<u>5 766</u>
Taxes on production and imports (D.2) by social security administrations (S.1314)		
Supplement to industrial accident insurance premiums		37
Supplement to motor insurance premiums	+	670
Supplement to fire insurance premiums	+	190
Supplement to hospitalisation insurance premiums	+	143
Levy on pharmaceutical industry turnover	+	235
Levy on certain pharmaceutical products	+	5
Single levy on companies	+	222
Clinical biology and medication refund	+	4
Annual contribution for public mandates	+	8
Contracts art. 81 medicines	+	124
Others	+	5
<u>Subtotal</u>	=	<u>1 643</u>
Taxes on production and imports (D.2) by EU institutions (S.212)		
Customs duties (100%)	+	2 551
" Rotterdam effect" adjustment	-	-1 012
Agricultural levies (100%)	+	1
Sugar levy (100%)	+	9
Contributions to the Single Resolution Fund (SRF)	+	278
<u>Subtotal</u>	=	<u>1 827</u>
Total		59 728

As mentioned in the table, the VAT payable under the Mini-One-Stop-Shop (MOSS) is included in the estimate. The treatment of non-collected VAT due to insolvency and bankruptcy is detailed in section 7.1.3.6. Monthly slippage refers to the adjustment for transition from cash to accrual registration basis.

3.27.4. CALCULATION OF TAXES ON PRODUCTS (D.21)

The following table sets out the various taxes on production and imports (D.2) by collecting subsectors. As already mentioned, all major taxes are given a D.21 or D.29 code and the rest, mainly containing various minor taxes collected by local authorities, are recorded under the residual heading "Other taxes on production" (D.29).

D.2 (€ 59728 million) and the detail of its components in D.21 (€ 50136 million) and D.29 (€ 9592 million) are given in the next table.

Data for 2016 (€ millions)	Federal Government (S.1311)	Communities and Regions (S.1312)	Local authorities (S.1313)	Social security (S.1314)	EU Institutions (S.212)	Total (S.13+S.212)
Taxes on production and imports (D.2)	42641	7851	5766	1643	1827	59728
Taxes on products (D.21)	40675	6508	0	1404	1549	50136
Value added tax (VAT) (D.211)	29179	0	0	0	0	29179
VAT on products	29179	0	0	0	0	29179
Taxes and duties on imports, excluding VAT (D.212)	1176	0	0	0	1540	2715
Import duties (D.2121)	0	0	0	0	1539	1539
Import duties including ECSC rights	0	0	0	0	1539	1539
Taxes on imports, excluding VAT and duties (D.2122)	1176	0	0	0	1	1176
Levies on imported agriculture products (D.2122 A)	0	0	0	0	1	1
Levies on agriculture (D.2122 A)	0	0	0	0	1	1
Monetary compensatory amounts on imports (D.2122 B)	0	0	0	0	0	0
Monetary compensatory amounts on imports (D.2122 B)	0	0	0	0	0	0
Excise duties (D.2122 C)	1176	0	0	0	0	1176
Excise duties on mineral oil	60	0	0	0	0	60
Excise duties on liquefied natural gas and liquefied hydrocarbon and benzol	0	0	0	0	0	0
Excise duties on tobacco	365	0	0	0	0	365
Excise duties on brandy	235	0	0	0	0	235
Taxes on consumption of alcohol and brandy	0	0	0	0	0	0
Excise duties on fermented sparkling drinks	104	0	0	0	0	104
Excise duties on fermented fruit juices	174	0	0	0	0	174
Excise duties on beer	10	0	0	0	0	10
Excise duties on non-alcoholic beverages	45	0	0	0	0	45
Excise duties on sugar and refining syrup	0	0	0	0	0	0
Excise duties on coffee	14	0	0	0	0	14
Excise duties on intermediary products	0	0	0	0	0	0
Contribution for the surveillance on domestic fuel oil	0	0	0	0	0	0
Contribution on oil product for heating	0	0	0	0	0	0
Contribution on energy	0	0	0	0	0	0
Packing contribution	168	0	0	0	0	168
Environmental charge	0	0	0	0	0	0
Ecotax	0	0	0	0	0	0
General sales or turnover taxes (D.2122 D)	0	0	0	0	0	0
Taxes as tax stamps	0	0	0	0	0	0
Taxes on specific services (D.2122 E)	0	0	0	0	0	0
Profits of import monopoly (D.2122 F)	0	0	0	0	0	0
Other taxes on products, except VAT and import taxes (D.214)	10321	6508	0	1404	9	18242
Excise duties and consumption taxes (D.214 A)	8245	2126	0	0	9	10380
Excise duties on mineral oil	4785	0	0	0	0	4785
Excise duties on liquefied natural gas and liquefied hydrocarbon and benzol	0	0	0	0	0	0
Excise duties on tobacco	1941	0	0	0	0	1941
Excise duties on brandy	88	0	0	0	0	88
Taxes on consumption of alcohol and brandy	0	0	0	0	0	0
Excise duties on fermented sparkling drinks	0	0	0	0	0	0
Excise duties on fermented fruit juices	0	0	0	0	0	0
Excise duties on beer	192	0	0	0	0	192
Excise duties on non-alcoholic beverages	55	0	0	0	0	55
Excise duties on sugar and refining syrup	0	0	0	0	0	0
Excise duties on coffee	0	0	0	0	0	0
Excise duties on intermediary products	28	0	0	0	0	28
Contribution for the surveillance on domestic fuel oil	33	0	0	0	0	33
Contribution on oil product for heating	6	0	0	0	0	6
Contribution on energy	340	0	0	0	0	340
Federal contribution on electricity and natural gas	232	286	0	0	0	518
Taxes on water (FR, WR and BCR)	0	3	0	0	0	3
Contributions on sugar	0	0	0	0	9	9
Super levy on milk	0	0	0	0	0	0
Super levy on cereals	0	0	0	0	0	0
Super levy on mutton	0	0	0	0	0	0
Penalty for exceeding the milk quota	0	0	0	0	0	0
Compulsory contributions from producers of animals and animal products (Sanitel)	7	0	0	0	0	7
Levy ECSC	0	0	0	0	0	0
Packing contribution	169	0	0	0	0	169
Environmental charge	-1	0	0	0	0	-1
Ecotax	1	0	0	0	0	1
Contribution for FAPETRO	5	0	0	0	0	5
Contribution for APETRA	109	0	0	0	0	109
FED - surtax on transmission price for offshore wind energy	257	0	0	0	0	257
FC - green certificates delivery	0	647	0	0	0	647
FC - surtax on distribution prices to finance green certificates	0	636	0	0	0	636
WR - green certificates delivery	0	366	0	0	0	366
WR - surtax on transmission prices to finance green certificates	0	152	0	0	0	152
BCR - green certificates delivery	0	36	0	0	0	36
Stamp taxes (D.214 B)	0	0	0	0	0	0

Data for 2016 (€ millions)	Federal Government (S.1311)	Communities and Regions (S.1312)	Local authorities (S.1313)	Social security (S.1314)	EU Institutions (S.212)	Total (S.13+S.212)
Stamp taxes (D.214 B)	0	0	0	0	0	0
Taxes on financial and capital transactions (D.214 C)	560	3904	0	0	0	4464
Registration rights	162	3904	0	0	0	4065
Mortgage rights	89	0	0	0	0	89
Court rights	47	0	0	0	0	47
Taxes on stock exchange business	219	0	0	0	0	219
Tax on delivery of securities to bearer	0	0	0	0	0	0
Duties on written documents	44	0	0	0	0	44
Registration taxes (D.214 D)	0	388	0	0	0	388
Car registration taxes	0	0	0	0	0	0
Traffic taxes	0	388	0	0	0	388
Taxes on entertainment (D.214 E)	0	0	0	0	0	0
Taxes on lotteries, gambling and betting (D.214 F)	0	90	0	0	0	90
Taxes on gambling and bets	0	90	0	0	0	90
Taxes on insurance premiums (D.214 G)	1312	0	0	1041	0	2353
Taxes on insurance contracts	1304	0	0	0	0	1304
Additional levy on premiums for industrial accidents	0	0	0	37	0	37
Additional levy on car insurance premiums	0	0	0	670	0	670
Additional levy on fire insurance premiums	0	0	0	190	0	190
Additional levy on hospitalization insurance premiums	0	0	0	143	0	143
Receipts for the benefit of the Belgian Red Cross	8	0	0	0	0	8
Other taxes on specific services (D.214 H)	0	0	0	0	0	0
General sales or turnover taxes (D.214 I)	0	0	0	0	0	0
Taxes as tax stamps	0	0	0	0	0	0
Profits of fiscal monopolies (D.214 J)	201	0	0	0	0	201
Profits of the national lottery	201	0	0	0	0	201
Export duties and monetary compensatory amounts on exports (D.214 K)	0	0	0	0	0	0
Monetary compensatory amounts on exports	0	0	0	0	0	0
Other taxes on products n.e.c. (D.214 L)	2	0	0	363	0	366
Taxes on poster advertising	2	0	0	0	0	2
Contribution on the turnover of the pharmaceutical industry	0	0	0	235	0	235
Levy on particular pharmaceutical products	0	0	0	5	0	5
Contracts art. 81 medicines	0	0	0	124	0	124
Other taxes on production (D.29)	1966	1344	5766	239	278	9592
Taxes on land, buildings or other structures (D.29 A)	0	254	5089	0	0	5343
Advance tax payment on property (PP)	0	142	3393	0	0	3535
Advance tax payment on property (Corp)	0	19	1696	0	0	1715
Opening tax	0	0	0	0	0	0
Licence right	0	0	0	0	0	0
Regional tax (BCR) - From 2002 onwards, only regional tax payable by the building owners	0	93	0	0	0	93
Taxes on use of fixed assets (D.29 B)	0	597	52	0	0	650
Traffic taxes paid by corporations	0	524	52	0	0	577
Tax on automatical recreation appliances	0	52	0	0	0	52
Euro tax disc	0	22	0	0	0	22
Taxes equal to excise rights paid by corporations	0	0	0	0	0	0
Total wage bill and payroll taxes (D.29 C)	0	0	0	0	0	0
Taxes on the co-ordinating centre	0	0	0	0	0	0
Taxes on international transactions (D.29 D)	0	0	0	0	0	0
Taxes on business and professional licences (D.29 E)	441	0	0	0	278	719
Contribution to the Protection Fund for Deposits and Financial Instruments	0	0	0	0	0	0
Contribution to the Special Protection Fund for deposits, life insurance contracts and the capital of approved cooperative societies	441	0	0	0	0	441
Contribution for Financial Stability to the Resolution Funds	0	0	0	0	278	278
Taxes on pollution (D.29 F)	13	342	0	0	0	355
Tax on waste products (FR and WR)	0	84	0	0	0	84
Tax on manure (FR)	0	3	0	0	0	3
Taxes on water (FR, WR and BCR)	0	133	0	0	0	133
Emission permits	13	122	0	0	0	135
Undercompensation of VAT (D.29 G)	0	0	0	0	0	0
Undercompensation of VAT	0	0	0	0	0	0
Other taxes on production n.e.c. (D.29 H)	1512	151	624	239	0	2526
Annuities for patented entities	11	0	0	0	0	11
Monopoly interest (Belgacom)	0	0	0	0	0	0
Monopoly interest (National lottery)	99	0	0	0	0	99
Non-recurrent company contribution	0	0	0	222	0	222
Contribution on public mandate	0	0	0	8	0	8
Reclamation clinical biology and pharmaceutical products	0	0	0	4	0	4
Radio and television licences (WR, FR and GR) - partim	0	0	0	0	0	0
Contribution payable by the nuclear operators	160	0	0	0	0	160
One-off contribution payable by the gas sector	0	0	0	0	0	0
Special contribution from the electricity corporations	0	0	0	0	0	0
One-off contribution payable by the oil sector	0	0	0	0	0	0
Annual tax on unit trusts, credit companies and insurance companies	587	0	0	0	0	587
Annual tax on credit institutions	468	0	0	0	0	468
Other taxes on production	188	151	624	5	0	968

3.27.5. CALCULATION OF VAT (D.211)

The Federal Government budget does not list VAT separately but has a combined entry for all VAT revenue, stamp duties and levies treated as stamp duties. The FPS Finance provides the details necessary for compiling the national accounts.

Data for 2016 (€ millions)		
VAT received cash by Federal Ministry of Finance		28 530
Monthly slippage on VAT	+	191
VAT over-compensation	+	0
MOSS	+	29
VAT on products assessed but unlikely to be collected	+	429
Subtotal		29 179

As mentioned in the table, the VAT payable under the Mini-One-Stop-Shop (MOSS) is included in the estimate. The treatment of non-collected VAT due to insolvency and bankruptcy is detailed in section 7.1.3.6. Monthly slippage refers to the adjustment for transition from cash to accrual registration basis.

Given the legislation and the organisation of the VAT collection in Belgium, it is assumed that repayments of VAT to non-taxable persons and to taxable persons for their exempt activities are negligible. Therefore, there is no counterpart recording of current transfers (D.7) or capital transfers (D.9) in the sector accounts.

3.28. SUBSIDIES ON PRODUCTS

Sections 3.28 apply to both subsidies on products (D.31) and other subsidies on production (D.39).

3.28.1. DATA SOURCE - ECONOMIC REGROUPING

In the economic regrouping, subsidies are recorded under economic codes 31 and 32. Other administrative data sources are also used.

A few years ago, an analysis of the NAI showed that several government levels recorded some payments related to subsidies on production to S.15 units, while in the national accounts, these entities are classified in S.11. This wrong recording was corrected in 2014/2015.

(i) Code 31 - Operating subsidies

Operating subsidies are income transfers affected by general government or by European Community institutions (via national budgets) as part of their economic and social policy to resident units which produce market goods and/or services.

These subsidies can serve to lower the selling price that would normally result from actual production costs. The aim is to influence selling prices and/or to allow a sufficient return on production factors. In principle, subsidies have the opposite effect to indirect taxes, which add to cost prices.

Here, we opt for another subdivision, since producer units (producers) which provide market goods and services may belong to different institutional sectors (sole proprietorships, firms, etc.). Investment subsidies, compensation for damage caused by disasters, debt relief and other compensations are all capital transfers.

31.1 Interest subsidies

Interest subsidies granted to production units are also recorded as operating subsidies even if their purpose is to facilitate investment. These subsidies constitute transfers designed to reduce producers' operating costs. They are recorded as subsidies to producers even if general government pays directly to the credit institution concerned the interest rate differential.

31.2 Other operating subsidies to public-sector enterprises*31.21 Price subsidies to public-sector enterprises*

Subsidies paid to enterprises per unit produced of goods or services.

31.22 Other subsidies to public-sector enterprises

Examples include:

- operating subsidies granted conditionally to a public-sector enterprise in connection with a program-contract
- subsidies to public-sector enterprises to cover wage costs.

31.3 Other operating subsidies to producers other than public-sector enterprises*31.31 Price subsidies to private enterprises*

Subsidies paid to enterprises per produced unit of goods or services.

31.32 Other subsidies to producers other than public-sector enterprises

Examples include subsidies to private enterprises to reduce pollution or cover wage costs.

(ii) Code 32 – Income transfers, other than operating subsidies to corporations and financial institutions

This residual item mainly includes transfers to public-sector enterprises to cover part of the cost of their former employees' pensions.

(iii) Data from the ONSS and ONSSAPL on employer's social contributions for specific groups

It concerns the reductions of employer's social contributions for specific groups of employees. These amounts are first registered as social contributions received in the social security sector and then recorded as other subsidies on production. These subsidies are mainly allocated to the non-financial corporations, but part is also allocated at the State and Local level.

The subsidies received by these subsectors and the identification of the receiving industries/sector is done on the basis of data from the ONSS and ONSSAPPL.

(iv) Reductions in the withholding tax on income

Employers can keep part of the withholding tax on income that employees must pay on their salary. In the tax declaration of the employee, the whole amount is registered as tax paid. It concerns a general reduction and specific reductions of the withholding tax for researchers, overtime work and night work. These amounts are first registered as income tax received and then recorded as other subsidies on production paid by the federal level. These subsidies are mainly allocated to the non-financial corporations, but a small portion is also allocated to the State. Information is provided directly by the FPS Finance.

(v) Wages subsidies under Maribel scheme

The Maribel scheme has been in operation since mid-2003. Within the non-market sector, as defined by Belgian law, not by ESA (comprising hospitals, health establishments and services, educational and accommodation facilities, etc.), it was decided to place the proceeds arising from "reductions in social contributions" in a fund and pass them on to some employers, according to priorities defined jointly with the supervisory authorities. This is not a reduction for individual employers, but a sectoral reduction governed by a collective agreement.

An employer having access to the Maribel scheme must continue to pay the social contributions for his staff to the NSSO. The NSSO acts as an intermediary agent. It pays to the relevant Maribel sectoral fund the amount corresponding to the reductions in social contributions. The objective of the scheme is the creation of new jobs.

If the employer decides not to use the Maribel scheme, he does not need to take any action. An employer who wishes to take part applies to the Maribel fund for his sector. The application must be signed by the workers' representatives.

If the employer wishes to recruit a worker or create a job, he must follow the procedures laid down in his collective agreement. Some are automatic and require only the consent of the fund, whereas others must go through a selection procedure in which the (joint) management committees of the funds have to make choices under the criteria of collective agreements and arrangements made with supervisory authorities.

Basic data on EU subsidies

Subsidies granted by the institutions of the EU concern the Common agricultural policy (CAP). Before 2005, EU subsidies included mainly the following subsidies on products (D.311):

- intervention expenditure enabling the producer, in certain cases, to obtain a selling price higher than the world market price. EAGGF interventions benefit either farmers or the agri-food industry
- refunds corresponding to the difference between the world market price and the Community market price. EAGGF refunds are granted on exports of agricultural products to non-member countries of the EU. The main final recipients are therefore food industry exporters and import-export firms dealing in agricultural products. Since the payment of refunds is in the currency of the country where the goods are cleared and many European enterprises use the port of Antwerp for their exports, refunds to these foreign firms relate to non-resident units and are therefore not shown in the Belgian national accounts.

It appears that since the reform of the Common Agricultural Policy (CAP) of the European Union (EU) and the introduction of the Single Payment Scheme (SPS) in 2005, most agricultural subsidies are other subsidies on production (D.39). More information on these subsidies can be find in section 8.3.

3.28.2. CALCULATION OF SUBSIDIES (D.3)

Data for 2016 (€ millions)		
Subsidies (D.3) from Federal Government (S.1311)		
Code 31		1 806
Code 32	+	12
Code 22	+	0
Income tax deducted at source by employers	+	2 977
Offshore wind energy	+	271
CREG: degressivity offshore/electricity/natural gas (recorded as social benefits in kind in the basic data)	+	117
Subsidies to Infrabel (Infrabel is consolidated with Federal Gov.)	-	-256
Other adjustments (mostly incorrect registration of internal transfers)	-	-111
<i>Subtotal</i>	=	4 817
Subsidies (D.3) from Communities and Regions (S.1312)		
<i>Subtotal</i>	=	8 799
Subsidies (D.3) from local authorities (S.1313)		
<i>Subtotal</i>	=	626
Subsidies (D.3) from social security administrations (S.1314)		
Wage subsidies to hospital contractors		113
Wage subsidies under the Maribel scheme	+	948
Capitalisation of unemployment benefit subsidies	+	0
Reductions of employer's social contributions for specific groups	+	430
Service cheques (Law of 2002)	+	0
Social agreement (INAMI)	+	99
Rest homes: wage harmonisation	+	0
Rest homes: end of career	+	16
Other subsidies (principally incorrect registration of external transfers)	+	158
<i>Subtotal</i>		1 763
Subsidies (D.3) from EU institutions (S.212)		
CAP subsidies on products (D31)		148
CAP other subsidies (D39)	+	510
<i>Subtotal</i>	=	658
Total subsidies		16 663

Car scrap schemes subsidies existed at federal and state level between 2007 and 2013. It was the case of a conditional bonus (linked to the obligation to buy a new car), where no single ultimate beneficiary as such could be identified. These subsidies were recorded as other subsidies on products (D.319).

By the nature of the data sources, the subsidies are recorded on an accrual basis.

3.28.3. CALCULATION OF SUBSIDIES ON PRODUCTS (D.31)

The following table breaks down the various subsidies (D.3) by the government subsector which grants them. As may be seen, all large subsidies are coded D.31 or D.39, while the remainder (mostly paid by the Regions) are recorded under the residual heading "Other subsidies on production n.e.c. (D.39)".

CHAPTER 4

The income approach

4.0 GDP ACCORDING TO THE INCOME APPROACH

The income components of GDP split out by industry (A21) and institutional sector can be seen in the following tables (data for 2016 in € million).

Table 4.1: Compensation of employees (D.1)

2016 (in € million)						
D.1	S11	S12	S13	S14	S15	Grand Total
A	504			74		577
B	146			0		146
C	30 572			146		30 718
D	2 042			0		2 042
E	1 491		548	2		2 041
F	10 153			246		10 399
G	25 811			376		26 187
H	9 765		3 319	39		13 123
I	3 954			363		4 317
J	7 694		355	6		8 055
K		9 793		15		9 808
L	995			60		1 055
M	10 794	584		173		11 551
N	13 876			121		13 996
O			26 367			26 367
P	494		23 030	2	237	23 763
Q	20 725			68	1 673	22 465
R	1 173			12	234	1 418
S	2 222			150	956	3 328
T	0			457		457
Grand Total	142 409	10 378	53 619	2 308	3 099	211 813

Table 4.2: Other taxes on production and imports (D.29)

2016 (in € million)						
D.29	S11	S12	S13	S14	S15	Grand Total
A	32			24		55
B	10			0		10
C	654			13		667
D	254			0		254
E	112		0	0		113
F	174			24		199
G	658			49		707
H	256		0	7		264
I	134			35		169
J	132		0	3		135
K		1 965		0		1 965
L	596			3 535		4 131
M	204	4		13		220
N	163			13		176
O			0			0
P	3		0	0	4	7
Q	84			0	20	104
R	204			10	4	218
S	78			17	104	198
T	0			0		0
Grand Total	3 748	1 969	0	3 743	132	9 592

Table 4.3: Other subsidies on production (D39)

2016 (in € million)						
D.39	S11	S12	S13	S14	S15	Grand Total
A	286			234		520
B	2			0		2
C	1 842			9		1 852
D	30			0		30
E	226		0	0		227
F	251			18		269
G	750			26		777
H	633		0	4		637
I	145			16		161
J	226		0	2		228
K		36		0		36
L	283			4		288
M	825	1		9		834
N	2 180			46		2 226
O			596			596
P	111		209	0	20	340
Q	2 613			30	58	2 701
R	374			11	15	400
S	415			9	32	457
T	0			0		0
Grand Total	11 195	36	805	418	126	12 580

4.1 THE REFERENCE FRAMEWORK

As already indicated in the introductory section on the output approach, no independent estimate of GDP according to the income approach is compiled. Value added at basic prices and its income components (compensation of employees, net other taxes on production and imports, gross operating surplus/mixed income) are estimated simultaneously, with B.2g+B.3g being defined as balance. As like the whole national accounts, the GDP according to the income approach is estimated in the statistics department of the NBB working as a partner of the NAI.

Compensation of employees (D.1) is estimated by the combined use of bookkeeping information (annual accounts and social balance sheets information of non-financial corporations and NPI's, specific accounting statements for the financial sector, general government accounts) and administrative data relating to wages, salaries and social contributions paid recorded by the Social Security institutions (NSSO and NSSOPLA data). The distribution of D.1 by industries and sectors is carried out based on the characteristics (NACE code and sector code) of the employers recorded in the annual directory/business register.

Taxes and subsidies on products (D.21 and D.31), and other taxes and subsidies on production (D.29 and D.39) are known via the general government account and the rest of the world account (cf. 4.8 and 4.9). In a second step, these totals are allocated over institutional sectors/activities based on the nature of the taxes paid and subsidies received.

The **gross operating surplus/gross mixed income (B.2g/B.3g)** by sector/industry is the difference between the value added (B.1g), compensation of employees (D.1) and net other taxes on production (D.29 -D.39) by sector/industry.

The main data sources used for the income approach estimation are administrative data (social security data, fiscal data, and annual business accounts/social balance sheets from the Central balance sheet office). These data sources are available on a regular and timely basis, at quarterly and/or annual level. They cover the whole population. The estimation method does not make use of any survey data.

4.1.1 INTRODUCTION TO THE DIFFERENT SOCIAL INSURANCE AND SOCIAL ASSISTANCE SCHEMES IN BELGIUM

The following table sets out the various social insurance and social assistance schemes in Belgium, cross-classified by sector and by ESA 2010 category.

For the first three categories (social security schemes run by government, autonomous and non-autonomous pension funds), the employers' actual contributions (D.121) are added to gross wages and salaries (D.11) to arrive at the compensation of employees (D.1). The same applies to the fourth category (unfunded social insurance schemes managed by employers), except that employers' contributions are imputed contributions (D.122). For the fifth category (social assistance arrangements), there are no employers' contributions.

The meaning of the colours is as follows:



Does not exist (not provided for by ESA 2010 or by Belgian law)

None (at present)

	Social security schemes run by government	Autonomous pension funds	Non-autonomous pension funds	Unfunded social insurance schemes run by employers	Non-contributory social assistance arrangements
Federal Government (S1311)				<ul style="list-style-type: none"> ■ Wages paid during sickness ■ Retirement pensions ■ Industrial accidents 	<ul style="list-style-type: none"> ■ Guaranteed income for the elderly ■ Disability allowances ■ War pensions ■ FPS Health contributions towards hospitalisation costs ■ Maritime Transport Authority (RTM) staff retirement pensions (as from 1997 onwards)
Communities and Regions (S1312)				<ul style="list-style-type: none"> ■ Wages paid during sickness ■ Retirement pensions 	<ul style="list-style-type: none"> ■ Student grants ■ Transfers relating to youth protection and Fund for Special Assistance to Young Persons ■ Family allowances (since the 6th State's Reform in 2015)

	Social security schemes run by government	Autonomous pension funds	Non-autonomous pension funds	Unfunded social insurance schemes run by employers	Non-contributory social assistance arrangements
Local authorities (S1313)				<ul style="list-style-type: none"> ■ Municipal pension funds ■ Wages paid during sickness ■ Retirement pensions (subsidised education) ■ Non-statutory family allowances ■ Pensions paid directly by commune (non-contributory) 	<ul style="list-style-type: none"> ■ Social minimum income ■ Destitution relief
Social security administrations (S1314)	<ul style="list-style-type: none"> ■ General scheme for employees ■ Scheme for the self-employed ■ Mineworkers' scheme ■ Seafarers' scheme ■ Survivors' pension fund ■ Pool for semi-state bodies ■ ... 			<ul style="list-style-type: none"> ■ Wages paid during sickness (semi-state D) ■ Non-statutory family allowances (mutual organisations) 	

	Social security schemes run by government	Autonomous pension funds	Non-autonomous pension funds	Unfunded social insurance schemes run by employers	Non-contributory social assistance arrangements
Insurance corporations and pension funds (S128-S129)		<ul style="list-style-type: none"> ■ Insurance enterprises (industrial accidents, retirement group insurance, hospitalisation insurance with employers' contributions, etc.) ■ Mutual organisations (independent health care insurance) ■ Other minor pension funds: pension fund for Members of Parliaments, Senators' Retirement Fund, etc. 		<ul style="list-style-type: none"> ■ Contributions towards medical expenses ■ Non-statutory family allowances 	

	Social security schemes run by government	Autonomous pension funds	Non-autonomous pension funds	Unfunded social insurance schemes run by employers	Non-contributory social assistance arrangements
Non-financial corporations and other financial corporations (S11, S121_127)			<ul style="list-style-type: none"> ■ Corporations can no longer use non-autonomous pension funds (Law of 9 July 1975 and Royal Decrees of 14 and 15 May 1985) 	<ul style="list-style-type: none"> ■ BNR pension fund ■ Wages paid during sickness ■ Contributions towards medical expenses ■ Non-statutory family allowances ■ Redundancy payment under a collective agreement ■ Employers' share of contractual early retirement pensions 	
NPISHs (S15)				<ul style="list-style-type: none"> ■ Contributions towards medical expenses ■ Non-statutory family allowances 	<ul style="list-style-type: none"> ■ Destitution relief ■ Aid for developing countries

4.1.2 SOCIAL SECURITY IN BELGIUM

The main data sources used to compile remuneration of employees by industry and sector come from the social security database. This section gives an overview of how the social security system is organised.

In 2016, there were three main social security agencies which receive employers' actual contributions (D.121): the National Social Security Office (NSSO), which is the general collecting agency; the National Social Security Office for Provincial and Local Authorities (NSSOPLA), created in 1986 when it took over the NSSO's responsibilities for provincial and local authorities and associated bodies; and a specialised agency, the Seafarers' Relief and Contingency Fund (SRCF)¹¹³.

The collecting agencies are responsible for distributing the proceeds from contributions, current transfers from Federal Government (S.1311) and earmarked taxes between the agencies that allocate the various social benefits.

Holiday pay is part of statutory social security. It only applies to manual workers. Employers pay the collecting agencies a contribution to a holiday pay fund. This contribution is transferred to the agency which provides the holiday benefits: the National Office for Holiday pay (NOAH), which generally disburses to manual workers every year, via auxiliary bodies, an amount of money as their ordinary holiday pay.

As the holiday pay part of the Belgian social security system is not among social risks and needs within the meaning of ESA 1995, it follows that "social contributions" intended for the NOAH, the Seafarers' Paid Leave Office and other specific annual holiday funds (e.g., in the construction and diamond industries) are not actual social contributions within the meaning of national accounting but part of the remuneration of workers and seafarers.

As the institutional units running this branch of activity do not provide a market service, they are included in Federal Government. Their revenue and expenditure are therefore grouped with those of the latter, except "employers' contributions to holiday pay" which are completely transparent. In other words, employers' contributions are regarded as payment of wages to households that are then invested by the latter in an account with the NOAH, while holiday pay is regarded as a withdrawal of these sums by households when they can access the resulting funds held at the NOAH.

4.2 BORDERLINE CASES

The treatment and estimation of wages in kind is explained in section 4.7. To sum up, an estimation is done for advantages in kind (purchased and produced by employers), like advantages related to the use of company cars, meals, etc. Wages and salaries in kind exclude expenditure that benefits the employer because it is necessary for the production process, such as business travel and clothing used at work.

Goods and services purchased by employers and provided for free or at reduced prices to their employees are reclassified from intermediate consumption to wages/final consumption expenditure. This adjustment increases value added/GDP, compensation of employees and final consumption expenditure of households.

According to ESA 2010, wages and salaries do not include allowances or reimbursement of employees for travelling, separation, removal and entertainment expenses incurred in the course of their duties, but include meals and drinks, including those consumed when travelling on business but excluding special meals or drinks necessitated by exceptional working conditions.

Usually, in the private sectors (mainly sectors S.11 and S.12), business trips are mainly and increasingly financed through professional credit cards. The use of daily allowances (per diem allocation) is rarely used. In addition, these trip expenses are not recorded in the data sources used in the estimation of the compensation of employees, i.e., not in the NSSO data nor in business accounts data. In NSSO data, business trip expenses are not recorded as wages expenses that could generate social contributions. In the business annual accounts,

¹¹³ Another specialised agency, the National Retirement Fund for Mineworkers (NRFM), was dissolved in 1999, and contributions to it have since gone to the NSSO.

these kinds of expenditure are considered as a purchase of services, and not as a component of the wages and salaries. Consequently, business trips' expenses are recorded in intermediate consumption and not in compensation of employees. We believe that in this total amount of expenditure on business trips, drinks and meals that should be recorded in wages are negligible, and certainly below materiality threshold.

As regards the government sector, travel expenses (transportation, accommodation, meals, fees for conferences, etc.) are mostly reimbursed based on the costs actually incurred, supported by invoices. In some cases, only the meals are financed based on a per day allowance.

In all cases, these expenses are recorded as intermediate consumption (P.2) in the government accounts¹¹⁴. The travel expenses are included in total operating costs (code 12.11 of the budget economic regrouping). It is not possible to isolate them, but we estimate that they are far below the materiality threshold of 0.1% of GNI. The amounts for the meals and drinks that should be recorded in wages and salaries in kind are negligible.

Finally, let's mention that many international organisations are in Brussels (European Commission, NATO, etc.). Consequently, the importance of business trips for civil servants is certainly lower in Belgium than in other Member states.

The treatment of intangible fixed assets is explained in section 5.10. Purchased software recorded in company accounts as a current expense (P.2) is reclassified as GFCF (P.51). This adjustment increases value added/GDP, operating surplus, and gross fixed capital formation.

The borderline cases between taxes and subsidies on production and taxes and subsidies on products are described in section 4.8.

4.3 VALUATION

The valuation according to ESA 2010 is carried out by converting the economic/administrative aggregates (operating income/turnover, operating costs/purchases of goods and services, wages, salaries and social security contributions, business taxes, operating subsidies) into the corresponding ESA 2010 aggregates (output, intermediate consumption, compensation of employees, other taxes, and subsidies on production) (cf. 3.2).

Wages and salaries in kind are valued at basic price when produced by the employer, and at purchaser's price when purchased by the employer. The amount paid by the employees is deducted if they pay a reduced price.

The accrual principle is followed in the valuation of the different components of the income approach. Given the nature of the data sources used, compensation of employees is recorded during the period in which the work is done. Taxes and subsidies on production and imports are recorded on accrual basis in the general government accounts.

4.4 TRANSITION FROM ADMINISTRATIVE TO ESA 2010 CONCEPTS

As regards the comparison of the concepts used in private/public accounting with national accounts, please refer to very detailed description of the compilation of the output approach (section 3.4). There is a detailed description of all adjustment made to ensure a satisfactory transition from bookkeeping concepts to ESA2010 concepts for all sectors/industries for added values. This includes the assessments/adjustments made in the sources before they can be used for the national accounts estimates.

¹¹⁴ This is clearly mentioned in the guidance note for the budget economic regrouping: <http://www.budgetfederal.be/FR/figures/Documents/Classification%20C3%A9conomique%20janvier%202020.pdf> (see page 45 and page 56).

For a detailed description of the compilation of compensation of employees including all adjustments to comply with ESA2010 definitions, see section 4.7.

B.2g+B.3g is defined as the balance between added value and compensation of employees plus net other taxes on production and imports.

In determining the mixed income of self-employed persons, the distinction between intermediate consumption (purchases of goods and services used in professional activity) and final consumption is important. In the tax returns (VAT returns or personal income tax returns) one finds usable data related to intermediate consumption/professional expenses of self-employed persons:

- the purchases indicated in the VAT returns must relate to professional activity to be deductible
- the professional expenses that relate to purchases of goods and services indicated in the personal income tax returns are a good approximation for the inputs consumed in the production process of self-employed enterprises.

As shown in the table below, the specific adjustments made to the components of GDP according to the income approach are negligible. They are explained more in detail in the following sections.

Table 4.6: Various conceptual adjustments made to the GDP components of the income approach (2016, € million)

	Total sources	Data validation	Total conceptual adjustments	Exhaustiveness	Balancing	Final estimate
Compensation of employees	205 575	0	0	6 238	0	211 813
Gross operating surplus	136 364	0	0	8 704	-5	145 063
Mixed income	25 193	0	0	5 092	-141	30 145
Taxes on production and imports	59 526	0	202	0	0	59 728
Subsidies	16 663	0	0	0	0	16 663

4.5 THE ROLE OF DIRECT AND INDIRECT METHODS

Table 4.7: Estimation method by GDP components of the income approach (2016, € million)

	Surveys & Censuses	Administrative Records	Combined Data	Benchmark extrapolations	Commodity Flow Model	CFC (PIM)	Dwellings - stratification method	FISIM	Insurance	Other E&M	Other	Total (sources)
Compensation of employees	0	205 575	0	0	0	0	0	0	0	0	0	205 575
Gross operating surplus	0	0	101 907	0	0	10 035	24 421	0	0	0	0	136 364
Mixed income	0	0	25 193	0	0	0	0	0	0	0	0	25 193
Taxes on production and imports	0	59 526	0	0	0	0	0	0	0	0	0	59 526
Subsidies	0	16 663	0	0	0	0	0	0	0	0	0	16 663

Compensation of employees, taxes and subsidies are estimated based on administrative records. Gross operating surplus and mixed income are calculated as residual. Consequently, they are considered as based on combined data, except for dwellings of household (see section 3.18 for detailed explanations on the dwellings stratification method) and CFC for government and NPISH's (see section 4.12 for detailed explanations on the PIM model).

Direct methods are used to estimate almost the entire wage bill. We do not use indirect estimation methods or modelling to compile the compensation of employees.

Direct information is available from corporate accounting records and from quarterly returns to the NSSO and the NSSOPLA (S.11, S.12, S.15). Compensation of employees paid out by unincorporated businesses (S.14) - which account for only a small part of the total wage bill - is available from the NSSO. Compensation of employees in S.13 is known via specific administrative information available for the subsectors of S.13. There is no estimate based on models or extrapolation from a benchmark year.

However, exhaustiveness adjustments (wages in kind, gratuities, undeclared wages, domestic personnel) are derived in an indirect way using specific sources and hypotheses (see section 4.6).

The following table provides an overview of sources used and adjustments applied by sector. The methodology is described in detail in section 4.7.

Table 4.8: Compensation of employees: sources and adjustments

Compensation of employees – sources and adjustments						
2016 (€ million)						
	S11	S12	S13	S14	S15	S1
NSSO	33 874	599		1 529	981	36 522
Extrapolation of NSSO wages and salaries after comparison with social balance sheets/annual accounts	2 609	48			52	2 381
Social balance sheets and annual accounts (including " large enterprises")	93 938	2 362			1 804	92 204
NSSOPLA	5 168					4 915
Schedules A and annual reports		5 080				5 496
Accounting statements of insurance enterprises		2 148				2 088
General government sector accounts			53 255			53 255
Total administrative sources	135 588	10 236	53 255	1 529	2 837	203 450
Adjustments	6 820	142	365	780	261	8 364
Targeted reductions in D.121	1 248	32	365	62	126	1 832
SRCF (*)	85					80
Wages in kind purchased	688	24			3	715
Company cars	1 713	69				1 781
Wages in kind produced	59			5		64
Gratuities	516			46		562
Undeclared wages (incl. illegal economy)	2 367			293		2 660
Redistribution to SMEs	79	6		-16	2	70
Profit sharing	47	12				59
Local employment agencies	20					20
Domestic personnel (**)				379		379
Industrial accident insurance premiums				11		11
Priests					131	131
Total after adjustments	142 409	10 378	53 620	2 308	3 099	211 813

(*) Seafarers' Relief and Contingency.

(**) The total wages for domestic personnel are estimated at € 457 million of which € 379 million are not declared to the NSSO.

4.6 THE MAIN APPROACHES WITH RESPECT TO EXHAUSTIVENESS

The exhaustiveness of the estimate is guaranteed by the general procedure used: use of business register which includes all (officially registered) employers.

An estimation is done for wages and salaries in kind purchased and produced by employers (N7), advantages related to the use of company cars (N7), undeclared activities (N6 - these amounts are consistent with the amounts relating to undeclared value added), gratuities/tips (N7) and wages and salaries paid to domestic staff (N1), that in most cases are not officially recorded. Adjustments linked to illegal activities are recorded under item N2. Item N3 covers the mixed income linked to the auto-production in agriculture. These adjustments are described in detail in chapter 7.

Table 4.9: Exhaustiveness adjustments made to the GDP components of the income approach

	N1	N2	N3	N4	N5	N6	N7	Total exhaustiveness
Compensation of employees	457	8	0	0	0	2 651	3 122	6 238
Gross operating surplus	0	705	0	0	0	7 999	0	8 704
Mixed income	0	1 228	124	0	0	3 676	64	5 092
Taxes on production and imports	0	0	0	0	0	0	0	0
Subsidies	0	0	0	0	0	0	0	0

4.7 COMPENSATION OF EMPLOYEES

4.7.1 OVERVIEW

Compensation of employees is defined as the total remuneration, in cash or in kind, payable by an employer to an employee in return for work done by the latter during the reference accounting period (ESA2010, § 4.02). Compensation of employees (D.1) consists of the following items:

Table 4.10: Breakdown of D.1 by sector

	2016 (in € million)					
	S.11	S.12	S.13	S.14	S.15	S.1
Gross wages and salaries in cash and in kind D.11	108 730	7 451	36 126	1 986	2 361	156 654
Employers' social contributions D.12 = D.121 + D.122	33 679	2 927	17 493	323	737	55 159
Actual social contributions (D.121)	31 691	2 668	7 944	310	680	43 292
Imputed social contributions (D.122)	1 987	260	9 549	13	57	11 867
Compensation of employees D.1	142 409	10 378	53 619	2 308	3 099	211 813

Compensation of employees is calculated by institutional sub-sector. The data sources and the method of calculation differ according to the institutional sector concerned. In a second step, within each sector, compensation of employees is calculated by activity. The data sources are exhaustive for declared work. They cover all employees. Exhaustiveness adjustments (see below and chapter 7) are added to complement administrative data for undeclared work. Income tax data are not used in the compilation process. The compensation of employees paid to non-resident workers working for resident employers are estimated the same way as for resident workers. In the primary income accounts, the amounts related to these non-resident employees are recorded as paid to the rest of the world. See chapter 8.1 for more details on this topic.

Given the data sources used, the items listed in ESA 2010 §4.07 are excluded of the estimation of wages and are included in the intermediate consumption of the employers.

4.7.2 TOTAL COMPENSATION OF EMPLOYEES: NON-FINANCIAL CORPORATIONS (S.11)

4.7.2.1. Step 1: Calculation of wages and salaries according to NSSO

The NSSO supplies quarterly data by enterprise. These figures, based on quarterly returns from all employers established on Belgian territory (except those falling within the competence of other social security agencies) and employing workers under an employment contract, provide a lot of information on employed persons and their remuneration. The data are therefore confined to the components of the gross wages and salaries on which social contributions are payable, and those contributions. In addition to descriptive data on the enterprise, they include employers' contributions, reductions in contributions, days paid, holidays, workforce, and remuneration (wages, severance payments, bonuses, holiday pay and allowances, contractual/flat-rate salaries, on-call wages for lorry drivers, personal contributions), and, up until 2002, statistics on luncheon vouchers.

Wages in cash

For wages and salaries in cash, the calculation differs slightly by category of workers – "white collar", "civil servants" and "white-collar trainees", or "blue collar" and "blue-collar trainees" –because of the different holiday pay arrangements for manual and non-manual workers.

The method to calculate wages in cash (excluding double holiday pay) is the same whatever the category of worker. Among the variables available in the NSSO data by category of worker, "normal" wages, flat-rate wages, on-call wages, and bonuses are added up for each firm. The resulting sum includes social contributions payable by the employee and is therefore in line with the ESA2010 definition. Double holiday pay and supplementary allowance have then to be added. This is where the distinction between manual and non-manual workers arises.

To sum up, for white-collar workers, single and double holiday pay and the supplementary allowance are paid directly by the employer. Single holiday pay (normal wages during the month when holidays are taken) forms part of the remuneration which is subject to NSSO contributions and is therefore already recorded under wages. Double pay is a supplement which generally represents 85 % of gross remuneration for the month in which holidays are taken. It is excluded from the concept of remuneration but is subject to a personal contribution (13.07 %). Supplementary allowance on top of double holiday pay, which is non-contributory, is added. Since the amounts paid by way of this contribution are known, the NSSO can work out the amount of double pay which is included per worker in the "double holiday pay" variable.¹¹⁵

The holiday pay of manual workers is not paid directly by the employer but by the holiday fund to which the latter is affiliated, i.e., the National Office for Holiday pay (NOAH) or a specific funds. To make up single and double holiday pay, the employer pays a quarterly contribution (6 % of 108 % of gross remuneration) on remuneration for the quarter (wages, bonuses, and allowances), together with the other employers' contributions to the NSSO, and an annual contribution (10,27 % of 108 % of gross remuneration) which is directly transferred to the NOAH (or paid directly into a specific fund or the social protection fund for enterprises in the diamond and construction industries). This 10.27 % contribution is not recorded in the quarterly return, but two new variables are created for incorporation on a notional basis in the quarterly files, with a distinction being made between contributions paid for construction workers and other workers. Manual workers' holiday pay is calculated from this contribution [holiday pay = (contribution/10.27) *16.27].

Wages in kind

The NSSO instructions to employers require benefits in kind to be treated as follows: "Benefits in kind are regarded as remuneration for the calculation of social security contributions. They must be evaluated as accurately as possible, at current prices. Regarding the provision of free housing, the estimate should be based on rental value, unless the benefit can be evaluated on a standard basis."

Some benefits in kind as defined in ESA2010 are clearly excluded from the concept of remuneration for the purpose of calculating social contributions. These are:

- provision of a meal in a company canteen at below cost price
- benefits in the form of luncheon vouchers (exempt from social contributions if they meet a set of conditions)
- gifts in kind, in cash or in the form of gift vouchers, if they meet certain conditions (must not exceed a given amount)
- benefit from personal and individual use of a vehicle placed at the worker's disposal by the employer, whether for commuting purposes or for private use of company cars.

All benefits in kind are therefore statutorily declarable to the NSSO as remuneration subject to social contributions, except those benefits which are explicitly exempt. These other benefits in kind will be added to remuneration at further stage.

¹¹⁵ Supplementary allowance is defined as a percentage of double holiday pay. Personal contributions are only paid on holiday pay calculated at 85 % of the gross remuneration of the month in which the holiday period falls, but total double holiday pay represents 92 % thereof; it is therefore arrived at by taking 92/85 of the holiday pay calculated on the basis of the contributions received by the NSSO.

Actual social contributions

Employers' contributions to the NSSO are calculated as the sum of total standard and special contributions together. The personal contributions (already entered under gross wages and salaries) and the deductions to which the employer is entitled (except for targeted reductions in employers' contributions)¹¹⁶ are removed.

Many employers also make payments towards non-statutory benefits upon retirement or premature death (mainly payments to group insurance and pension funds), which are also actual social contributions.

A special contribution to the NSSO of 8.86 % is imposed on these payments. The amount of non-statutory benefit is obtained indirectly from this contribution.

Imputed social contributions

The only component of imputed contributions according to ESA2010 for which the NSSO has separate data is severance pay. Daily, weekly, or monthly guaranteed wages during absence due to accident or sickness are recorded by the NSSO as "normal" wages, whereas ESA2010 treats them as imputed contributions. These payments therefore do form part of the wage bill according to the NSSO but are not recorded in the correct place.

Conversely, amounts paid directly by the employer that must be regarded as a supplement to a benefit granted by the social security system do not constitute remuneration for NSSO purposes. This exemption is confined to supplements to statutory pensions (without involving an insurance company or an autonomous pension fund or constitution of a specific fund or a separate reserve), unemployment benefits (including supplements because of career breaks), and allowances granted due to sickness or accident.

Total compensation of employees in sector S.11 according to NSSO

The compensation of employees according to the NSSO is the sum of wages in cash and kind and actual and imputed social contributions calculated as described above. This total is the starting point for adjustments to ESA2010 definitions. Some elements of the compensation of employees according to ESA2010 are not actually subject to social contributions. The preliminary estimate based on social security data is therefore incomplete. Only after a series of additions, a breakdown is possible between gross wages and salaries (D11), on the one hand, and actual and imputed social contributions (D121 and D122), on the other hand.

Table 4.11: Compensation of employees according to NSSO (S.11)

S.11 (excluding "large companies")		2016 (in € million)
Gross wages and salaries according to NSSO	(1)	87 584
Actual social contributions according to NSSO	(2)	25 631
Imputed social contributions according to NSSO	(3)	1 226
Social contributions according to NSSO	(4) = (2) + (3)	26 858
Compensation of employees according to NSSO	(5) = (1) + (4)	114 442
<i>enterprises for which accounting data are used</i>	(5a)	80 568
<i>enterprises for which NSSO data are used</i>	(5b) = (5) - (5a)	33 874

4.7.2.2. Step 2: Use of annual business accounts, social balance sheets and extrapolation of NSSO data

Direct use of accounting data is indicated because their concept of the remuneration is more in line with ESA 2010 than that used by the NSSO. Annual business accounts cover all wage costs, irrespective of whether they are subject to social security contributions or not. These data are used where they are of sufficient quality, combining the advantages of the social balance sheet (which is confined to 'domestic' remuneration)

¹¹⁶ Recorded in gross terms.

and the annual accounts (which record any pensions paid directly by employers and the wages of statutory personnel who have the status of civil servant).

We must estimate remuneration using the 'domestic' concept. There is a reliable way to remove the total wage bill for foreign establishments: the use of the social balance sheets (based on a domestic concept). In this way, employees permanently employed abroad are not taken into consideration.

The drawback is that other groups, namely the statutory groups, are also not recorded in the social balance sheet. This problem can be reduced to a limited number of known corporations¹¹⁷. For these companies, heading 62 of the annual accounts is used.

A second necessary computation of the balance sheet data concerns supplementary payments for pensions paid directly by the employer (included in D.1 according to ESA2010 as imputed contributions). These may however simply be estimated by adding heading 624 from the annual accounts¹¹⁸.

Consequently, the methodology is as follows. Accounting data are used directly to calculate the wage bill for enterprises in the "core" sub-population in cases where the quality is good enough, i.e., meeting the following criteria:

- providing wage bill data that are neither zero nor missing from the three sources (NSSO, annual accounts and social balance sheet)
- providing accounting data deemed usable (i.e., belonging to categories A1, B1, B2, C1, C2, H1, H2 and H3)
- accounting year coinciding with calendar year.

For core enterprises, the wage bill is calculated as the sum of "personnel expenses" taken from the social balance sheet (code 1023) and "pensions" from the annual accounts (code 624).

Core enterprises' data are also used for calculating upgrade coefficients by sector, branch of activity and category of enterprise¹¹⁹ (large or small, with full or abbreviated accounting format) representing the average ratio between the wage bill as defined above (social balance sheet code 1023 + annual accounts code 624) and remunerations calculated from NSSO data.

For other enterprises, the amounts gathered from NSSO are revalued by means of upgrade coefficients to consider remuneration elements not covered by NSSO.

In this case the wage bill is calculated as the product the remunerations calculated from the NSSO data by the average upgrade coefficient of the corresponding sector/SUT/NACE/category combination.

For all enterprises, the wage bill taken from NSSO is regarded as a minimum (on the assumption that in the returns they submit to NSSO enterprises do not over-estimate the remunerations on which they have to pay social contributions etc.).

4.7.2.3. Step 3: Specific case - remuneration for the three large companies

Three large companies (SNCB-national railways, Belgacom/Proximus and the Postal Service) are excluded from the method for calculating remuneration. As with the other variables relating to these enterprises, remuneration is calculated by individual analysis of their annual accounts or reports. The amounts arrived at are incorporated without adjustment into the overall wage bill of sector S.11.

¹¹⁷ This applies only to three of the enterprises in the population covered by the directory of production units. The largest employers of statutory personnel are large public-sector enterprises (B-Post, the SNCB and Belgacom) which are processed individually based on their detailed accounting data, or enterprises covered by the NSSOPLA (mainly municipal utilities).

¹¹⁸ Heading 624 "pensions" covers only benefits supplementary to the statutory pensions that the employer pays directly ("non-contributory non-statutory pensions"; i.e., not non-statutory annuities and pensions paid by third agencies such as group insurance or pension funds).

¹¹⁹ Calculation of coefficients for about 900 sector/NACE branch of activity/category combinations.

Table 4.12: Intermediate D.1 (after first adjustments) for S.11

S.11		2016	
		<i>(in € million)</i>	
NSSO D.1 of companies for which accounting data are used (excluding large enterprises)	(5a)		80 568
Wage bill of this population according to accounting data	(6a)		90 669
NSSO D.1 of companies for which NSSO data are used	(5b)		33 874
NSSO D1 revalued via accounting data of companies for which NSSO data are used	(6b)		36 483
"Large enterprises" (sources: annual reports and business accounts)	(8)		3 269
(9) Intermediate D.1 for S.11	(9) = (6a) + (6b) + (8)	=	130 421

4.7.2.4. Step 4: Final adjustments to administrative data sources

On the one hand, these adjustments relate to the components of compensation of employees according to ESA2010, such as benefits in kind, gratuities, and undeclared labour. These items are not included in remuneration in the accounting data. Consequently, neither direct use of administrative data nor use of upgrade coefficients enable them to be considered.

On the other hand, the wages of workers falling within the competence of other small social security agencies must be added to the wage bill of enterprises covered by the NSSO.

Finally, it should be noted that since ESA2010 came into force, targeted reductions in employers' contributions are no longer recorded as negative revenue but are processed as wage and payroll subsidies: these are either wage-bill-related subsidies, subsidies related to the total workforce or employment of specific categories of people (the disabled, long-term unemployed), or subsidies based on the cost of training arranged or financed by companies themselves.

Belgium's national accounts were thus adapted: employees' remunerations have been revised upwards in their "social contributions" component, as have wage subsidies to enterprises (D39).

Wages in kind purchased by the employer

Vehicles supplied for employees' personal use

The benefit associated with the use of a vehicle put at the disposal of the worker by the employer is excluded from the concept of remuneration used by the NSSO but must be included in D.1. However, between 1997 and 2004, an employers' solidarity contribution of 33 % was imposed on the private use of company cars, so it was possible to indirectly deduce the amount of this benefit in kind.

Since 2005, this contribution has consisted of a monthly flat-rate amount per vehicle (depending on the vehicle's emissions) that the employers make available for their workers. This flat-rate contribution is payable regardless of the employee's financial participation and however high the employee's intervention may be and no longer enables us to work out the benefit associated with the use of a vehicle put at the disposal of the worker. Instead, it is information taken from the Household Budget Survey (HBS) that enables us to determine a global figure for lease cars, assuming that, in principle, two-thirds of this amount is paid by the employer as a benefit. This overall figure is then broken down by sector and by branch of activity according to an allocation formula defined based on figures for company cars notified by the NSSO for each declarant.

Other benefits over and above wages

The social balance sheet comprises an item on "benefits over and above wages". This heading refers to "benefits provided with a clear corporate purpose or with a view to fostering good relations between members of staff and strengthening their ties with the company (e.g. wedding presents, use of company sporting and cultural facilities, benefits from use of a medical service, use of employer's services, purchase of goods at cost price, etc.). These non-salary benefits are not taxable to the recipient insofar as they are not already included in personnel costs"; the amounts that appear under this heading are reproduced as they are.

Wages in kind produced by the employer

Goods and services produced by enterprises and made available to their employees at below market prices are a second type of wages in kind. An estimate is made for manufacturing of motor vehicles and for catering, being two branches of activity in which the amount of such goods and services may be substantial and is relatively easy to quantify. The resulting benefit is estimated by the following general formula: unit benefit in euros in 2000¹²⁰ x the number of persons concerned x frequency x price variation relative to base year 2000.

Tips

These are only estimated for hotels and catering, taxis, hairdressing and beauty care, as a percentage of turnover. The percentages arbitrarily applied are 5 % for the hotels and catering branch, 3 % for taxis and 1 % for hairdressing and beauty care.

Undeclared labour

A part of value added is due to undeclared labour. This is catered for by upgrading the figures for turnover/output, purchases of goods and services/intermediate consumption, but also wages/compensation of employees of SMEs in sector S.11 by percentages estimated by branch of activity.

The black economy is not covered by the administrative sources since it stems from hidden business activities or those conducted by undeclared businesses. With the changeover to ESA 2010 in 2014, new coefficients of increase for the black economy had been defined for value added with no corresponding repercussions for the estimates of undeclared wages (and employment).

Within the 2019 benchmark revision, a new method for estimating this black-market remuneration was introduced, based on the coefficients defined for value added. By the very definition of undeclared work, no employer contributions, nor any payroll tax are levied. It implied an upward revision of compensation of employees, and more particularly of its “gross wages and salaries” component for the private sector, especially in the construction, catering and wholesale, retail trade and repair branches.

Wages declared to the NSSOPLA¹²¹

In addition to its family allowance payment functions, the NSSOPLA is also responsible for collecting contributions in respect of the personnel of the public-sector bodies registered with it:

- communes, public-sector establishments belong to them, and associations of communes
- conurbations and federations of communes, and establishments belonging to them
- the French and Flemish Community Commissions (COCOF and COCON)
- regional development organisations
- provinces and public-interest agencies belonging to them
- public-interest agencies designated as such by the King
- associations of two or more of these agencies
- the non-profit organisation *Vlaamse Operastichting* for staff members appointed on a permanent basis to the *Opera voor Vlanderen* intercommunal structure and who are registered as keeping their status.

These provisions therefore concern mainly personnel of communes, provinces, and Public Social Welfare Centres (PSWCs), which form part of the general government sector (S.13). But it also concerns staff of MCUs, hospitals and rest homes run by PSWCs, classified as non-financial corporations (S.11). For these unit outside the general government sector, the overall cost to the employer is obtained by simply adding together various variables in the specific data file provided by the NSSOPLA:

Wages and salaries (D.11)

Gross wages and salaries are supplied for various categories of employees, i.e., established staff, temporary staff, subsidised contract staff, students, and other employees, covering:

- the wage bill subject to social contributions (including personal contributions)
- the wage bill not subject to social contributions (e.g., luncheon vouchers, personal share of payments for group insurance payments, reimbursement of the cost of commuting)

¹²⁰ Motor vehicle assembly (S.11)

¹²¹ Changed into ORPSS – Office des régimes particuliers de sécurité sociale – in January 2015

- double holiday pay (not included in the wage bill which is subject to contributions)
- overtime of subsidised contract staff.

Employers' actual social contributions (D.121)

These include:

- employers' contributions paid to the public sector, obtained as the difference between total contributions and personal contributions. The latter are calculated by applying to the gross wages supplied above a personal contribution rate which is specific for the various types of remunerations and employees
- employers' contributions for pensions, for established staff only.

Gross wages and salaries are combined with imputed social contributions (e.g., wages paid during sickness). It is not possible to isolate them. Employers' contributions for industrial accidents are added to actual contributions.

As for enterprises covered by the NSSO, the industrial accidents scheme is financed from contributions to insurance enterprises under a specific law. The amount of these contributions is known from the detailed annual accounts of insurance companies published by the National Bank.

The remuneration estimate described above is limited to units in sector S.11. Those in the general government sector (the majority, in this case) are an integral part of the calculation for that sector (S.13) based on public-sector budgets (see below).

Certain hospitals and rest homes run by PSWCs are not identified as separate entities from the latter, so their wage bill is combined with that of the public sector. Data for reclassifying them correctly to non-financial corporations (S.11) are extracted from detailed files supplied by the NSSOPLA.

Local Employment Agencies (LEAs)

LEA workers are regarded as employed by local employment agencies. In the production units' repertory, they are classified in temporary enterprises (SUT 78A, Employment-related activities) of the non-financial corporations' sector (S.11). However, wages paid to unemployed persons under LEA status are not covered by NSSO data¹²².

The wages of these workers are estimated based on hours of work recorded by the National Employment Office (ONEM) and the wage portion of each voucher (€ 4.1 per hour)¹²³.

Wages declared to the Seafarers' Relief and Contingency Fund (SRCF)

Merchant seafarers are covered by a special scheme funded by contributions collected by the SRCF, which provides data on flat-rate wages, actual wages, and employers' social contributions.

Profit sharing

Two sources of information make it possible to estimate profit shares granted by certain employers.

- On the one hand, the annual accounts in which a specific code is allocated to them: code 696 (distributable profits; other recipients). It should be noted that these profits are decided in year t but paid in t+1. Thus, the amount considered as profit sharing in 2016 comes from the annual accounts for 2015.
- On the other hand, an annual NSSO file listing employees solidarity contributions that are imposed on cash payments of company profit shares. As this contribution is 13.07 %, it is easy to work out the profit shares from it.

Depending on the availability of the information and its plausibility, we will give preference to using one or the other source to estimate the amount of these employees' shares in the company's profits.

¹²² Covering only these agencies' own staff.

¹²³ The long-term unemployed receive an overall monthly revenue equal to the amount of their full unemployment benefit, plus a tax-exempt amount of € 4.10 per hour worked.

Redistribution of contributions to the benefit of SMEs

This "redistribution" aims to alleviate the social security burden on SMEs by granting them a reduction in employers' social security contributions. It is a "one-shot" operation carried out in July of year t+1 based on the contributions for year t. The NSSO supplies us with a specific annual file comprising the amounts in question per declarant. These amounts are then broken down by sector and by branch of activity, according to the information in the file.

Targeted reductions in employers' social security contributions

As mentioned above, targeted reductions in employers' social security contributions are now treated as wage and payroll subsidies: employee compensation figures have thus been revised upwards in their "social contributions" component, as have subsidies to enterprises (D.39).

Those considered as target groups benefiting from a reduction in employers' contributions are:

- Persons considered as "old workers" – aged between 54 and 60 years old depending on the region
- Persons falling within the scope of an ACTIVA¹²⁴ or SINE¹²⁵ employment preparedness plan seeking to promote the recruitment of people who have been out of work for a long time. The reduction depends on age and salary
- Young workers (meeting certain age and wage criteria). All employers from the private and public sectors qualify for the target-group reduction, regardless of the number of workers they employ. However, to benefit from the young workers target-group reduction, employers must satisfy their obligation to provide a "first job", i.e., employ enough young people.
- People taking part in a career transition programme which helps employers in the non-market sector to take on people who have been out of work for some time and workers to acquire vocational training and professional experience that will enable them to re-position themselves on the labour market.
- Workers made redundant under a corporate restructuring programme (under certain criteria) to help them to find a job again.
- Companies that cut the working week to less than 38h on a voluntary basis or introduce a four-day week or a combination of these two formulas. The reduction consists of a flat rate cut in employers' social security contributions.
- Subsidised contract staff. Within the limits set by the appropriations available, the government grants (according to the Region) a financial contribution to public interest and non-profit organisations and recognised associations taking on unemployed jobseekers or workers who have been employed under a plan to cut unemployment. These so-called subsidised contract staffs are bound by a permanent or temporary employment contract.
- Persons subject to Article 60'¹²⁶. The Public Social Welfare Centres may benefit from an exemption from employers' social security contributions for people employed under Article 60, § 7 of the PSWCs' organic law.
- Workers taken on under an agreement concluded with the Ministers for Scientific Policy and Social Affairs and assigned to scientific research activities.
- Tutors/Mentors. An employer can benefit from a "tutors" target-group reduction for certain workers who monitor internships or who take on responsibilities for training under vocational training courses.
- HORECA. Since 2014 an employer can benefit a reduction for maximum 5 fixed full-time workers.
- Artists. The employer can claim a reduction in contributions to employ an artist. This exemption only applies for employers' contributions, and not for the employee's contributions.

¹²⁴ The long-term unemployed. Employers thus benefit from a cut in their social security contributions in the form of a target-group reduction for long-term unemployed jobseekers and a contribution to the worker's net wages through activation of unemployment benefit, which the employer can deduct from the worker's net wages.

¹²⁵ A scheme in the context of socio-economic measures to promote the re-integration of the long-term unemployed into the labour market that provides for an employer's wage subsidy on the one hand, and a target-group reduction in social security contributions on the other.

¹²⁶ These are 1) people who benefit from an allowance (living wages) pursuant to the Law of 26 May 2002 on the right to social integration (= people with Belgian nationality, and also foreigners entered into the population register); 2) any person of foreign nationality who can lay claim to financial social assistance, entered in the register of foreigners with an unlimited residence permit; 3) any person of foreign nationality who can lay claim to financial social assistance, entered in the register of foreigners but without an unlimited residence permit.

- Other specific target groups: domestic personnel, ...

Based on information supplied by the NSSO and NSSOPLA (quarterly files) matched against the business register, the amounts of each type of reduction are broken down by sector (including S.11) and industry¹²⁷.

Table 4.13: Amount of the reductions by source and type

2016	
<i>(in € million)</i>	
NSSO	
Older workers	479
Reintegration of unemployed workers	216
Young workers – first jobs	374
Restructuring/career change	24
Collective reduction in working time	10
Subsidised contract staff	268
Scientific research and universities	116
Tutors/Mentors	6
Horeca	10
Artists	8
Other	21
TOTAL NSSO	1 532
NSSOPLA	
Reintegration of unemployed workers/Restructuring	15
Young workers – first jobs	2
Subsidised contract staff	202
Article 60	81
Other	1
TOTAL NSSOPLA	301
TOTAL	1 832

Table 4.14: Amount of the reductions by sector

2016	
<i>(in € million)</i>	
S11	1 248
S121+122	10
S125	1
S126	15
S127	1
S128+S.129	5
S13	365
S14	62
S15	126
TOTAL	1 832

Drugs

The average wages of these employees as well as the number of laboratories are estimated based on information published in studies or released in the news media.

¹²⁷ More information available on the social security website.

The number of employees is estimated based on the assumption that half of the laboratories in Belgium work with just two employees.

Table 4.15: Final adjustments for remuneration in sector S.11

2016 (in € million)		
Wages in kind purchased	of which: vehicles supplied for employees' personal use	1 713
	of which other benefits over and above wages	688
Wages in kind produced		59
Gratuities/Tips		516
Undeclared work		2 358
Wages declared to NSSOPLA		5 168
LEA's		20
Wages declared to the SRCF		85
Redistribution to SMEs		79
Profit sharing		47
Drugs		8
Targeted reductions in contributions		1 248
Total		11 988

Table 4.16: Total remuneration for sector S.11

2016 (in € million)	
Intermediate D.1	130 421
Final adjustments D.1	11 988
D.1 total S.11	142 409

4.7.3 TOTAL REMUNERATION: FINANCIAL CORPORATIONS (S.12)

S.121

Compensation of employees for the National Bank of Belgium (NBB) is computed based on accounting data supplied by the NBB Bookkeeping Department.

S.122

Compensation of employees working for deposit-taking corporations is estimated based on:

- Accounting data (Scheme A),
- Bank Structural Business Survey (SBS),
- Administrative data from the National Social Security Office (NSSO).

Wages per enterprise are calculated from accounting data in Scheme A returns after deduction of wages paid abroad declared in the SBS and directors' remuneration. Non-cash benefits that are not recorded in the Scheme A data are also added.

The result obtained for each enterprise is compared with the NSSO data and, if it turns out to be less, an adjustment is added, as the NSSO wage is logically regarded as a minimum. Profit-sharing and SME redistribution are then added to the sum of wages obtained.

Compensation of employees (D.1) is therefore estimated in total. At a further stage, it is broken down between its various components based on accounting data from Scheme A.

Table 4.17: Total remuneration for subsector S.121 and S.122

S.121 & S.122	Data sources	Amount (2016) in € million
Total of compensation, payroll tax and pension benefits	Scheme A & annual business accounts NBB	5 900
- Directors' remuneration	Bank SBS	-38
- Wages paid abroad	Bank SBS	-194
+ Non-cash benefits	Bank SBS	13
+ Correction based on NSSO data	NSSO	9
+ SME redistribution	NSSO	4
+ Reduction in employers' contributions	NSSO	10
= TOTAL EMPLOYEE COMPENSATION		5094

S.125, S.126 and S127

The calculation of compensation of employees for these subsectors is based on figures supplied by the NSSO. The estimated method is the same as for sector S.11. An initial D.1 is calculated on the basis of NSSO data, annual accounts and social balance sheets. Adjustments related to targeted reductions in employers' contributions, redistribution to SMEs, company cars, wages in kind paid as well as profit sharing as calculated for sector S.11 are applied.

Table 4.18: Intermediate D.1, adjustments, and final D.1 for sub-sectors S.125-126-127

2016 (in € million)				
		S.125	S.126	S.127
<i>NSSO D.1 of enterprises for which accounting data are used</i>	(1a)	193	1691	160
Wage bill of this population according to accounting data	(2a)	224	1937	202
<i>NSSO D.1 of enterprises for which NSSO data are used</i>	(1b)	124	413	55
NSSO D.1 revalued via accounting data	(2b)	134	454	60
Intermediate D.1	(4) = (2a) + (2b)	358	2391	262
Adjustments	(5)	14	96	9
Wages in kind paid (excl. company cars)		3	20	1
Redistribution SMEs		1	-3	0
Company cars		10	52	7
Reductions in employers' contributions		1	15	1
Profit sharing		0	12	0
D.1 total	(6) = (4) + (5)	373	2486	271

S.128 and S.129

The sources for compensation of employees in the insurance sector are data from NSSO, Annex 12 of the annual accounts and the annual insurance Structural Business Survey (SBS).

For insurance companies under Belgian law, the data on compensation of employees according to Annex 12 are corrected with the SBS compensation to exclude foreign employees. The result is then compared per insurance company with the wages recorded by the NSSO. The D.1 per insurance company must be at least equal to NSSO wages. If not, an adjustment is made to obtain the amount of the NSSO wage.

Concerning the branches of companies under foreign law, the data from NSSO and the annual SBS are used. Data from annual accounts are not available since these companies have to report in their home country. Data of the SBS and the NSSO are compared. The NSSO data are considered as the lower bound. If the wage calculated is less than the NSSO wage, an adjustment is made.

For other enterprises registered in insurance sector as optional and supplementary health care insurance and for pension funds, the only information available is the NSSO data.

Profit sharing figures are then added to total wages.

The total compensation of employee for the insurance sector is obtained by adding up the amounts for all these categories of companies.

Table 4.19: Intermediate D.1, adjustments, and final D.1 for sub-sectors S.128 and S.129

Insurance and pension funds - S.128 & S.129	Data sources	Amount (2016)
		in € million
Insurance Belgian law:		
Compensation of employees	Annex 12 of the business annual accounts	1 978
- Wages paid abroad	Structural Business Survey	-167
+ Correction based on NSSO data	NSSO	30
(a) Sub-total insurance Belgian law		1 892
Branches:		
Compensation of employees	Structural Business Survey	72
+ Correction based on NSSO data	NSSO	51
(b) Sub-total branches		124
(c) Other enterprises	NSSO	133
(d) Reduction of employers' contributions	NSSO	5
Total compensation of employees (a)+(b)+(c)+(d)		2 153

Table 4.20: Remuneration of employees by sub-sector of the financial sector

2016 (in € million)	
S.121+S.122	5 094
S.123	0
S.124	0
S.125	373
S.126	2 486
S.127	271
S.128+S.129	2 153
S.12	10 378

4.7.4 TOTAL REMUNERATION: GENERAL GOVERNMENT (S.13)

As for all other aggregates in this sector, the compensation of employees of the general government sector is extracted from public sector accounts and realized budgets. For details we refer to the production approach (sections 3.21 and 3.22).

For a limited number of S13-units depositing annual accounts, wages are extracted from this source.

The total remuneration in S13 by activity and subsector is given in the next table.

Table 4.21: Remuneration of employees by industry and by subsector of S.13

2016					
(in € million)					
Sum of D.1	S.1311	S.1312	S.1313	S.1314	Grand Total
E	44	132	373		548
38A	44	132	373		548
H	748	1 943	629		3 319
49B		1 303			1 303
52A	748	640	629		2 017
J	5	351			355
58A	5				5
60A		351			351
O	9 257	4 240	11 236	1 635	26 367
84A	6 623	4 240	11 236		22 099
84B	2 634				2 634
84C				1 635	1 635
P	0	18 060	4 970		23 030
85A	0	18 060	4 970		23 030
Grand Total	10 053	24 724	17 207	1 635	53 619

4.7.5 TOTAL REMUNERATION: HOUSEHOLDS (S.14)

The wage bill for employees in this sector is estimated mainly based on NSSO data.

It is supplemented by industrial accident insurance premiums (based on percentages per branch of activity derived from the EEC quadrennial survey of labour costs¹²⁸), gratuities, wages in kind produced and undeclared wages, redistribution of contributions for SMEs and targeted reductions in contributions as calculated for sector S.11.

As in sector S.11, gratuities are a percentage of turnover, but in sector S.14 a distinction is made between units in this sector which do and do not have any staff. For units with staff, the wage bill is increased in the same proportions as in sector S.11. The balance of the gratuities is added to the gross mixed income (gratuities to employers without staff).

Wages in kind produced, i.e., goods and services produced by enterprises and made available to their employees at below market prices, are estimated for hotels, restaurants etc. The wage benefit is estimated by the same formula as in S.11: unit benefit in euros in 2002 x number of persons concerned x frequency x price change relative to base year 2002.

Undeclared wages paid by self-employed persons are estimated at a flat rate of 5 % of remuneration known to NSSO.

The wages of all workers in the “domestic services” branch of activity - which only occur in sector S14 (SUT 97A) - are estimated based on information from the Household Budget Survey¹²⁹ and extrapolated to the

¹²⁸ The gathering of four-yearly labour cost data is based on Council Regulation (EC) No. 530/1999 of 9 March 1999 on structural statistics concerning wages and labour costs. The result is detailed structural data on labour cost, worked hours and paid hours. All EU Member States, as well as Norway and Iceland, took part. The information provided is broken down by size category, economic activity (NACE) and by region for the largest countries. The data are gathered by national statistics agencies based on stratified random samples of enterprises or local units which in most countries means units with at least ten employees. The stratification is based on economic activity, size category and region (where applicable).

¹²⁹ The source is the HBS, which gives the average annual consumption expenditure per household at a very detailed product-by-product level. To stick as closely as possible to the definition of domestic services paid by households, it

whole population to obtain a total amount for domestic services (incl. LEA's and service vouchers). From this total the amount for service vouchers and LEAs - which appear elsewhere in the accounts and are known via administrative sources - are subtracted and the outlays/wages for domestic services (D1_S14_97A) are derived as a residual (€ 457 million). Of this amount only € 78 million appears in the official NSSO returns and the rest (€ 379 million) has to be entered as an adjustment/correction.

Table 4.22: Remuneration of employees paid in sector S14

S.14 2016 (in € million)	
NSSO returns	1 529
Industrial accident premiums	11
Gratuities	46
Undeclared wages paid by self-employed	293
Wages in kind produced	5
Adjustment for domestic services (97A)	379
Redistribution to SMEs	-16
Targeted reductions in employers' contributions	62
Total S.14	2 308

4.7.6 TOTAL REMUNERATION: NON-PROFIT INSTITUTIONS SERVING HOUSEHOLDS (S.15)

As for S.11, NSSO data and accounting data are used as a basis to estimate remuneration of employees for the staff of units recorded in NSSO database.

Figures for remuneration of ministers and priests (in Belgium, religious service providers attached to officially recognised religions are paid by the Government) are known from the S.13 account (based on public sector accounts and budgets).

An adjustment is made to integrate the targeted reductions in employers' contributions, wages in kind paid and redistributions to SMEs into the wage bill, as for sector S.11.

Table 4.23: Remuneration of employees in sector S.15

S.15		2016 (in € million)
<i>(1a) NSSO D.1 of NPI's for which accounting data are used</i>		1 712
(2a) Wage bill of this population according to accounting data		1 804
<i>(1b) NSSO D.1 of NPI's for which NSSO data are used</i>		981
(2b) NSSO D.1 revalued via accounting information		1 033
(4) Intermediate D.1	(4) = (2a) + (2b)	2 837
Adjustments		262
Ministers of religion		131
Wages in kind		3
Redistribution to SMEs		3
Reductions in employers' contributions		126
Total S.15		3 099

was decided to use the following headings: 4621 "domestic services": this covers household maintenance services (462101), childcare at home (462102) and services paid by LEA cheques and by service vouchers (462103).

4.7.7 BREAKDOWN OF COMPENSATION OF EMPLOYEES INTO WAGES AND SOCIAL CONTRIBUTIONS

Total remuneration for each sector is broken down into gross wages and salaries (D.11), actual social contributions (D.121) and imputed social contributions (D.122).

Total actual social contributions (D.121) are calculated within the framework of the accounts of general government (S.13) and of insurance enterprises and pension funds (S.125). Imputed social contributions (D.122) are calculated from the results of the EEC quadrennial survey on the level and structure of labour costs, information collected at NSSO on early retirement payments and information on pensions paid directly by employers (code 624 'Retirement and survivors' pensions' in the social balance sheets).

Once social contributions (D.121 and D.122) are calculated, gross wages and salaries (D.11) are obtained by the difference between total remuneration (D.1) and social contributions.

Actual social contributions (D.121)

Employers' actual social contributions are broken down into social contributions to general government (S.13) (mainly intended for social security purpose) and those insurance companies and pension funds (S.128 and S.129). They correspond to the D.6111 variable (employers' actual social contributions) of the resources side of the secondary distribution of income account for sectors S.13, S.128 and S.129. As the totals for these contributions are known, they have to be further broken down between the different sectors and branches of activity paying these contributions.

For sectors S.121, S.122, S.128, S.129 and S.13, actual social contributions paid to general government and their breakdown by branch of activity are determined within the compilation of the accounts for these sectors. In sector S.11, the amounts paid to agencies other than the NSSO (SRCF and NSSOPLA) are also known. The contributions still to be distributed among the remaining sectors (S.11, S.125, S.126, S.127, S.14 and S.15) and their branches of activity are therefore equal to total D.6111 received by S.13, less the amounts paid by sectors S.121, S.122, S.128, S.129 and S.13 and the D.121 amount paid to the SRCF and the NSSOPLA (portion paid by S.11). This amount is broken down among S.11, S.125, S.126, S.127, S.14 and S.15 and their branches of activity in line with the breakdown of employers' contributions set out in the NSSO file.

In the economic regrouping, actual social contributions paid to general government appear under codes 37.3 to 37.7

37.3	Social security contributions payable by government as employer
37.4	Social security contributions from other employers
37.5	Social security contributions from employees
37.6	Withholdings for the Survivors' Pension Fund
37.7	Other compulsory contributions

Most social security schemes are run by an institutional unit classified to the social security administrations sector (S.1314), although there are exceptions.

Table 4.24: Breakdown of actual social contributions received by S.13 by subsector

2016 (in € million)	
Federal government (S.1311)	
Contributions from large public companies	72
Communities and regions (S.1312)	
VRT pension funds	8
Local authorities (S.1313)	0
Social security funds (S.1314)	35 117
Total	35 197

Table 4.25: Employer's actual social contributions paid to S.13 by contributing (sub)sector

2016 (in € million)	
S.11	24 731
S.12	1 816
<i>S.121 + S.122</i>	938
<i>S.125</i>	64
<i>S.126</i>	416
<i>S.127</i>	44
<i>S.128 +S.129</i>	354
S.13	7 711
S.14	297
S.15	642
Total	35 197

For the contributions to the insurance and pension funds sector (S.128 and S129) a distinction must be made between:

- contributions for industrial accident insurance
- contributions for hospitalisation insurance
- employers' share of contributions to group insurance and pension funds
- contributions to subsistence security funds.

Industrial accident insurance is a compulsory insurance for employers, but the risk is mainly covered by private insurance companies. Total premiums paid by the employers appear in the detailed annual business accounts of insurance companies published by the National Bank. The payments are broken down by sector and by activity based on the result of the EEC survey on the level and structure of labour costs. The survey results include a variable representing these specific contributions as well as total remuneration by branch of activity, for the branches covered by the survey. The percentages obtained by comparing the two are extrapolated to all branches of activity. This makes it possible to compile a key to allocate the total amount among sectors and branches of activity. For sector S.13 (civil servants), industrial accident insurance contributions paid to insurance companies are obtained from public sector accounts and budgets.

The main forms of non-statutory insurance are hospitalisation insurance and supplementary pension insurance (group insurance and pension funds). The totals for hospitalisation insurance and group insurance are available from the annual insurance statistics broken down by type of insurance published by the National Bank. Data for pension funds are available in the aggregate annual accounts of pension funds published by the Financial Services and Markets Authority (FSMA).

For sectors S.121 and S.122, data on employers' premiums paid out for non-statutory insurance are available respectively in the accounts and Scheme A. In the case of insurance companies (S.128) falling under the supervision of the National Bank, the amounts of paid employers' premiums for non-statutory insurance are mentioned in Annex 12 to the annual accounts. For sector S.13, the amount of such contributions is obtained from public-sector accounts and budgets. For sector S.15, the NSSO file variable "payments for non-statutory pension insurance" is used.

The amounts to be distributed among S.11 and S.14 for these two types of insurance are then obtained as a balancing item. The employers' share of contributions to group insurance and pension funds is broken down between the two sectors and the branches of activity, as is the social security contribution of 8.86 % for these insurance funds (variable available in the NSSO file). Hospitalisation insurance is broken down based on a variable representing these payments in the EEC survey, as for industrial accident insurance.

Subsistence security funds (SSF) are legal persons set up in an industry upon the initiative of the social partners by means of a collective labour agreement that has been made mandatory, with a view to fulfilling missions of social interest, with the help of contributions paid by employers. They are run jointly and autonomously by representatives of employers and workers from the sector concerned. The purpose of these funds is to pay out social benefits, notably in the field of general worker health and safety. These SSFs are classified in sector S.128. These contributions can be collected either directly or through the NSSO, which

then carries out a contribution collection task on behalf of the funds. The portion of the contributions to SSFs paid via the NSSO is available from the NSSO itself, while the share of contributions paid directly by employers to SSFs is estimated on the basis of an evolution coefficient derived from NSSO data.

Table 4.26: Employer's actual social contributions paid to S.128-S.129

2016 (in € million)	
S.11	6 961
S.12	852
<i>S.121 + S.122</i>	346
<i>S.125</i>	37
<i>S.126</i>	250
<i>S.127</i>	35
<i>S.128 + S.129</i>	183
S.13	232
S.14	13
S.15	38
Total	8 095

The total for actual social contributions is broken down by sector as follows:

Table 4.27: Employer's actual social contributions

2016 (in € million)	
S.11	31 691
S.12	2 668
<i>S.121 + S.122</i>	1 284
<i>S.125</i>	101
<i>S.126</i>	666
<i>S.127</i>	79
<i>S.128 + S.129</i>	538
S.13	7 944
S.14	310
S.15	680
Total	43 292

Employers imputed social contributions (D.122)

For sectors S.121, S.122, S.128, S.129, imputed social contributions are taken from the business accounts of these sectors using annual accounts and reports for S.12

For sectors S.11, S.125, S.126, S.127, S.14 and S.15, information on early retirement payments is available from the NSSO. Data on pensions paid directly by employers come from companies' social balance sheets (code 624). This information is supplemented from the quadrennial EEC survey on the structure and level of labour costs, making it possible to calculate a ratio between imputed social contributions (D.122) and remuneration of employees (D.1) in the branches of activity covered by the survey. The resulting percentages are extrapolated to all branches of activity combined. These coefficients are then applied to the total calculated remuneration in these sectors, after deducting early retirement payments.

For a few "large companies"¹³⁰ in sector S.11, there is a specific estimate. They often self-insure for industrial accidents, pensions, and sometimes other social benefits. The amounts of the corresponding payments appear in their annual reports and business accounts.

The imputed social contributions of ministers of religion in sector S.15 are extracted from government budget information.

As can be noticed in table 4.28, in comparison with total D.1, imputed social contributions are not very important in non-public sectors. The Belgian legislation encourages the payments of social benefits through existing institutions. In particular, for pension, the use of group insurance or pension funds are compulsory.

For general government sector (S.13), the data sources for D.122 are public sector accounts and budgets. This concerns the system of pensions (old age, survivors, and disability) only¹³¹. In the core NA, the employers' imputed social contributions are not recorded on an actuarial basis but are calculated as follow: social benefits paid to employees, ex-employees, and survivors minus employees' actual social contributions (if any).

Table 4.28: Employer's imputed social contributions in sector S.13

Data for 2016 (€ million)	
Federal government (S.1311)	
Pensions	2 428
<i>Subtotal</i>	2 428
Communities and regions (S.1312)	
Pensions	5 629
<i>Subtotal</i>	5 629
Local authorities (S.1313)	
Pensions	1 493
<i>Subtotal</i>	1 493
Social security funds (S.1314)	
<i>Subtotal</i>	0
Total	9 549

Table 4.29: Employer's imputed social contributions by sector

2016 (in € million)	
S.11	1 987
S.12	260
<i>S.121 + S.122</i>	91
<i>S.125</i>	9
<i>S.126</i>	56
<i>S.127</i>	13
<i>S.128 + S.129</i>	91
S.13	9 550
S.14	13
S.15	58
Total	11 867

¹³⁰ The SNCB (national railways), Belgacom and B-Post.

¹³¹ From 2015 onwards (6th reform of the State), the payment of the family/maternity allowances to civil servants and the armed forces are organised by the regions.

Table 4.30: Compensation of employees and its components by sector

2016 (in € million)	D.1	D.11	D.12	D.121	D.122
		=	=		
		D.1 - D.12	D.121 + D.122		
S.11	142 409	108 730	33 679	31 691	1 987
S.12	10 378	7 451	2 927	2 668	260
S.121 + S.122	5 094	3 720	1 375	1 284	91
S.125	373	263	110	101	9
S.126	2 486	1 765	722	666	56
S.127	271	179	92	79	13
S.128+S.129	2 153	1 524	629	538	91
S.13	53 619	36 126	17 493	7 944	9 549
S.14	2 308	1 986	323	310	13
S.15	3 099	2 361	737	680	57
Total	211 813	156 654	55 159	43 292	11 867

Annex: overview of the method for the estimation of paid employment

The main data sources for the estimation method are:

- National Social Security Office (NSSO) statistics by enterprise (employees)
- National Social Security Office for Provincial and Local Authorities¹³² (NSSOPLA) statistics by entity (employees of provincial and local authorities)
- additional information on seamen, domestic staff, workers employed under a contract from a Local Employment Agency (LEA), embassy staff, working students (separate data from NSSO and from NSSOPLA), double counting between administrative sources, and border workers.

1.1.1.1.1 As regards employment in number of persons, NSSO and NSSOPLA statistics give information about paid employment at the end of each quarter for each enterprise. As, in the national accounts, the employment statistics are considered in relation to flow variables such as value added and compensation of employees, the end-of-quarter situation cannot be regarded as representative of the quarter. ESA 2010 recommends using a quarterly average. This is obtained by calculating the arithmetical mean of the situations at the beginning and the end of the quarter for each individual enterprise which becomes the basis for the estimation of paid employment in the Belgian national accounts.

The current form of NSSO and NSSOPLA statistics by enterprise makes it possible to adopt a paid employment approach entirely comparable with the method used for estimating the other aggregates of the national accounts.

Thus, the paid employment figures are obtained by aggregating individual data of enterprises on number of employees, taken mainly from the NSSO and NSSOPLA databases, according to the characteristics (branch of activity and institutional sector) set out in the directory of production units, so as to ensure the consistency of results.

An adjustment is made to avoid counting twice employees who are registered with both the NSSO and the NSSOPLA. This adjustment is based on information from the "Crossroads Bank for Social Security" regarding the number of persons registered with the two social security agencies: for each branch of activity, the proportion of workers registered with both agencies is extrapolated to the actual population of the NSSO and NSSOPLA records and deducted from the total. Another additional adjustment is introduced to avoid double counting between employees and self-employed: information from the Crossroads Bank for Social Security is used to eliminate those whose employed activity is secondary to a self-employed main activity.

The number of employees obtained after these adjustment needs three additional corrections:

- for workers not liable for contributions/allocated under other social security authorities (seamen, domestic staff, LEA¹³³, embassy staff, etc.): an estimate is made based on supplementary statistical information (other administrative sources, surveys, etc.)
- for working students, who are recorded in a distinct NSSO variable and a separate NSSOPLA file
- undeclared employment is estimated in a manner consistent with the adjustments made in the calculation of value added and compensation of employees in the national accounts.

The total of these various categories represents the domestic paid employment by quarter. The annual total is then derived as the average of the quarterly estimates.

Paid employment (annual average)

	2016
	<i>(thousands of persons)</i>
(1) Number of persons in paid employment based on administrative data	3.815
(2) Adjustments to ESA concepts	
<i>Adjustments for double counting</i>	-37
<i>Workers not liable for contributions/allocated under other social security authorities</i>	41
<i>Working students</i>	52
<i>Undeclared employment</i>	26
(3) Paid domestic employment in terms of number of persons in national accounts	3.897

National paid employment is obtained by adding the balance of border workers.

As regards employment in terms of number of hours worked, only the NSSO files are currently exploited in order to estimate the number of hours worked. Exhaustive estimation of total hours worked therefore involves the definition of conversion ratios to allow the transition from the amount of employment in terms of number of persons to the volume of labour expressed in number of hours. More precisely, estimating the number of

hours worked is based on calculating, based on NSSO individual statistics by enterprise, multiplier coefficients (number of hours worked per person) applicable at the most detailed level (140 branches of activity spread over 16 institutional sectors or subsectors) to the number of paid employees to arrive at the number of hours worked. In this process, a distinction is made between full-time and part-time work and between blue collar and white-collar workers, using all available information.

The conversion ratios are obtained by estimating the number of hours declared to the NSSO and dividing that figure by the number of persons recorded in the same files. These ratios are defined quarter by quarter.

An adjustment is made at the most detailed level to take undeclared labour into account consistently with the way this is done for the other aggregates of the national accounts (value added and compensation of employees).

Moreover, the number of hours worked is directly affected by the number of working days, the holiday traditions, etc., resulting in great sensitivity to seasonal variation and calendar effects. This implies adjustments for calendar effects to the number of hours worked to derive the published series.

The annual results are obtained by aggregating the quarterly estimates which are the result of the multiplication of the number of employees estimated according the method described in the previous point and the average number of hours worked per person.

Number of hours worked by employees

	2016
(1) Average time worked per employee based on administrative data (hours)	1.535
(2) Adjustments to ESA concepts (hours)	
<i>Annual holidays, public holidays and sickness (estimated)</i>	-125
<i>Undeclared labour</i>	28
<i>Adjustment for seasonal variations and calendar effects</i>	-3
(3) Average time worked per employee based on national accounts (hours)	1.435
(4) Total work volume of employees (millions of hours)	5.592
= (number of employees) * (hours per employee)	

4.8 TAXES ON PRODUCTION AND IMPORTS (D.2)

Table 4.31: Taxes on production and imports by category – data for 2016 (in € million)

Taxes on production and imports		Total	Received by S.13	Received by S.212
Taxes on production and imports	D2	59 728	57 901	1 827
Taxes on products	D21	50 136	48 587	1 549
Value added type taxes (VAT)	D211	29 179	29 179	0
Taxes and duties on imports excluding VAT	D212	2 715	1 176	1 540
Import duties	D2121	1 539	0	1 539
Taxes on imports excluding VAT and duties	D2122	1 176	1 176	1
Taxes on products except VAT and import taxes	D214	18 242	18 232	9
Other taxes on production	D29	9 592	9 314	278

As regards taxes on products (D.21), the FPS Finance provides the details necessary for compiling the national accounts. A more detailed description of the compilation is available in section 3.28.

Total other taxes on production (D.29) and their allocation by type come from data sources from the FPS Finance. The delimitation between D.21 and D.29 for totals received by the government is clearly defined. D.29 paid the European institutions (S.212) is the contribution to the resolution fund. The amount is known from administrative data. More information on the payments of taxes to the EUI can be found in section 8.2.

¹³² On 1st January 2017, the NSSO and NSSOPLA institutions merged into one social security Office, i.e. the NSSO.

¹³³ LEA: local employment agency

As regards borderline cases between a tax and a purchase of services, some in depth analysis is continuously led.

For the financial sector (S.12), we have exhaustive information on D.29 paid through business account information, and specific taxes paid by these companies. As regards households, almost 95 % of the total of D.29 concerns property taxes paid by owners of dwellings (the production of housing services is included in industry L). The rest of D.29 paid by unincorporated businesses is estimated via the results of the SBS survey among self-employed people. D.29 paid by S.15 and S.11 is estimated via annual business accounts information. An adjustment is made for excise duties accounted for in account 640 of the annual business account, to remove taxes on products from taxes on production and to evaluate production at basic prices.

The amounts of taxes that are found in the annual business accounts and SBS of non-financial enterprises (S.11 and S.14) and non-market NPI's (S.15) are aligned with the 'exogenous' amounts from the general government account (and the rest of the world account) via adjustment (aa) in phase II of the production approach process.

Within the 2019 benchmark revision, the breakdown of these D.29 taxes between domestic institutional sectors and branches of activity was refined based on more detailed data obtained from the FPS Finance. That breakdown was also adjusted following the sectoral reclassification of some NPIs. In addition, the analysis revealed that the allocation of D.29 to S.12 included some doubles. By removing them, a greater part of D.29 was allocated to S.11.

Table 4.32: Other taxes on production by type – data for 2016 (in € million)

Other taxes on production	S.1311	S.1312	S.1313	S.1314	S.212	S.13+S.212
Total	1 966	1 344	5 766	239	278	9 592
Advance payments on property	0	142	3 393	0	0	3 535
Advance payments on property	0	19	1 696	0	0	1 715
Opening tax	0	0	0	0	0	0
Regional tax payable by the building owners	0	93	0	0	0	93
Traffic taxes paid by corporations	0	524	52	0	0	577
Tax on automatic recreation appliances	0	52	0	0	0	52
Euro tax disc	0	22	0	0	0	22
Contribution to the protection fund for deposits and financial instruments	441	0	0	0	0	441
Contribution to the Resolution fund	0	0	0	0	278	278
Tax on pollution	0	84	0	0	0	84
Tax on waste products	0	3	0	0	0	3
Taxes on water	0	133	0	0	0	133
Emission permits	13	122	0	0	0	135
Annuities for patents	11	0	0	0	0	11
Monopoly contribution (National lottery)	99	0	0	0	0	99
Non-recurrent company contribution	0	0	0	222	0	222
Contribution on public mandates	0	0	0	8	0	8
Reimbursement for clinical biology	0	0	0	4	0	4
Contribution payable by the nuclear operators	160	0	0	0	0	160
Annual tax on credit trusts, credit companies and insurance companies	587	0	0	0	0	587
Annual tax on credit institutions	468	0	0	0	0	468
Other taxes on production	188	151	624	5	0	968

Since the 2019 benchmark revision, D.2 includes the non-collected VAT due to insolvency and bankruptcy. More information on this issue can be found in section 7.1.3.6.

4.9 SUBSIDIES (D.3)

Table 4.33: Subsidies by category – data for 2016 (in € million)

Subsidies		Total	Paid by S.13	Paid by S.212
Subsidies	D3	16 663	16 005	658
Subsidies on products	D31	4 083	3 936	148
Import subsidies	D311	0	0	0
Other subsidies on products	D319	4 083	3 936	148
Other subsidies on production	D39	12 580	12 070	510

For more explanation on data sources and estimation of subsidies paid by Government, refer to section 3.29. Total other subsidies on production (D.39) and their allocation by type come from data sources coming from the FPS Finance. The delimitation between D.31 and D.39 for totals paid by the government is clearly defined. The total subsidies do not include items listed in §4.38 of ESA 2010. More information on subsidies paid by the European Union can be found in chapter 8.3.

As regards D.39 paid by S.13, the most important item is wage subsidies. About two thirds of the other subsidies on production concern different types of *wage subsidies* (reductions in employers' social contributions targeted for specific groups, subsidies for "cheques services", withholding income tax kept by employers (for night work, shift work, R&D personnel) etc.

Public information (ONSS/ONSSAPL, FPS Finance) is available to allocate these amounts over sectors and industries. The amounts of D.39 received by S.13 (€ 804 million in 2016) and S.15 (€ 126 million in 2016) are exclusively wage subsidies. European *agricultural subsidies* are imputed in section A of S.11 and S.14.

The distribution of *interest subsidies* over industries in S.11 is known via information in the annual business accounts. Most of the *non-specified other subsidies on production* are imputed in S.11.

The amounts of subsidies that are found in the annual business accounts and SBS of non-financial enterprises (S.11 and S.14) and non-market NPI's (S.15) are aligned with the 'exogenous' amounts from the general government account (and the rest of the world account) via adjustment (aa) in phase II of the production approach process (see section 3.4 for more detail).

Within the 2019 benchmark revision, the breakdown of these subsidies between domestic institutional sectors and branches of activity was refined based on more detailed data obtained from the government.

In addition, subsidies on production attributed to the general government sector were revised upwards following the inclusion of the social Maribel employment subsidies attributed to units in the sector. It had not previously been possible to distinguish between those subsidies and the ones granted to companies. D.39 allocated to sector S.15 was slightly revised, due to the changes in the population of the sector S.15.

Car scrap schemes subsidies existed at federal and state level between 2007 and 2013. It was the case of a conditional bonus (linked to the obligation to buy a new car) where no single ultimate beneficiary as such could be identified. These subsidies were recorded as other subsidies on products (D.319).

Table 4.34: Other subsidies on production by type – data for 2016 (in € million)

Other subsidies on production	S.1311	S.1312	S.1313	S.1314	S.212	S.13+S.212
Total	3 057	6 830	420	1 763	510	12 580
Wages subsidies	2 977	4 286	0	1 701	0	9 062
Reductions on employer's social contributions for specific groups of employees ONSS	0	1 118	0	430	0	1 548
Reductions on employer's social contributions for specific groups of employees ONSSAPL/DIBISS	0	304	0	0	0	306
Subsidies for contractual wages in hospitals	0	0	0	113	0	113
Subsidies for activation of unemployment benefits	0	253	0	0	0	253
Service-cheques (Law of 2002)	0	1 742	0	0	0	1 742
Social agreement INAMI	0	0	0	99	0	99
Subsidies for wages harmonisation in MRS/MRPA	0	125	0	0	0	221
Subsidies for end of career in MRS/MRPA	0	320	0	-36	0	283
Income tax deducted at source by the employers	2 977	0	0	0	0	2 977
MARIBEL SOCIAL - non-market sector	0	0	0	1 096	0	1 096
Subsidies on disabled peoples wages	0	425	0	0	0	425
Interest subsidies	28	132	0	0	0	160
European subsidies CAP	0	0	0	0	510	510
Other subsidies on production n.e.c.	51	2 362	420	15	0	2 848

4.10 GROSS OPERATING SURPLUS

As already mentioned, the gross operating surplus (B2.g) and mixed income (B3.g) are calculated as balancing items. The conceptual adjustments to the added value in the production approach are fully reflected in (B2.g + B3.g). For instance, it is the case for differences from national accounts concepts to business accounting or for holding gains/losses (see section 3.4). It is also the case for adjustments for exhaustiveness.

The sectors S.11, S.12, S.13 and S.15 generate operating surplus only.

In sectors S.13 and S.15, the gross operating surplus corresponds to the consumption of fixed capital because the production is valued as the sum of costs in the case of non-market producers:

$$P1 = P2 + D1 + P51c + D29 - D39$$

$$P1 - P2 - D1 - (D29 - D39) = B2g = P51c$$

The sector S14 generates operating surplus (the balance of the generation of income account for dwelling services) as well as mixed income (the balance of the generation of income account in all the other industries in S.14).

Table 4.35: Gross operating surplus in sector S.14

2016 (in € million)		
Production of dwelling services	P.1	35 194
Intermediate consumption	P.2	7 243
<i>(of which Fisim)</i>		3 294
Taxes on production	D.29	3 529
Gross operating surplus	B.2g	24 421

Gross operating surplus is measured before deducting any interest, dividends or rent paid on financial or tangible non-produced assets borrowed or rented and before adding any interest, dividends and rent received on assets owned.

4.11 MIXED INCOME

Mixed income (income earned in the production process by unincorporated businesses) corresponds to the balance of the generation of income account in S.14 excluding the income earned in the production of dwelling services (which is an operating surplus because this activity does not require any labour input).

Mixed income is comprehensive, as it derives from the production approach (see chapter 3). It is measured before taking account of interest and rent paid on assets owned by others or interest, dividends and rent received on assets owned. The income of illegal activities by households are reported as mixed income (see section 4.6).

Table 4.36: Gross mixed income and gross operating surplus

		2016 (in € million)					
		S.11	S.12	S.13	S.14	S.15	S.1
Gross operating surplus + gross mixed income	B2g+B3g	97 937	12 573	9 864	54 566	267	175 207
Gross operating surplus	B2g	97 937	12 573	9 864	24 421	267	145 063
Gross mixed income	B3g	0	0	0	30 145	0	30 145

Annex: Overview of the method for the estimation of self-employed employment

The number of self-employed persons is estimated based on the data compiled by the National Institute for the Social Security of the Self-Employed (RSVZ/INASTI). There are three specific groups: self-employed persons, unpaid helpers and paid helpers. Each group may fall into one of the following categories: main activity, secondary activity, post-retirement-age activity.

Various adjustments are made to these administrative data to obtain statistics in line with the ESA 2010 definitions. These adjustments are intended to avoid double counting with employees (principally within the group pursuing a secondary activity on a self-employed basis) and to exclude self-employed persons who are not actually working (particularly self-employed persons active after retirement age). In addition, child minders recorded in the NSSO [National Social Security Office] and the NSSOPLA [National Social Security Office for Provincial and Local Authorities] are added to the adjusted RSVZ/INASTI totals. In the national accounts they are regarded as self-employed and therefore not as employees.

The table below shows the various adjustments:

Number of self-employed persons

	2016
	<i>(thousand persons)</i>
Number of self-employed persons: source RSVZ/INASTI on 31/12/2012	1.047
ESA adjustments	
<i>Adjustment for double counting</i>	-214
<i>Exclusion of non-active self-employed persons</i>	-57
<i>Other adjustments + child minders</i>	9
<i>Switch from end-of-quarter data to average annual data</i>	-6
Number of self-employed persons according to national accounts (annual average)	779

Since the RSVZ/INASTI classification of occupations is not directly compatible with the nomenclature of branches of activity (NACE-BEL) used in the national accounts, distribution keys are applied to allocate the number of self-employed persons by branch of activity. Those keys are compiled based on value added tax (VAT) data linked with the directory or – in the case of persons not liable for VAT – specific sources concerning some sub-groups.

In the absence of administrative data, an indirect estimation method is applied to calculate the hours worked of self-employed persons. It is based on the labour force survey (LFS) conducted by the General Directorate of Statistics plus several other data sets concerning the labour market.

The first phase entails drawing up transition coefficients so that hours worked per person in the case of employees can be converted to hours worked for self-employed persons:

- The labour force survey data are used to arrive at the hours worked per person for employees and self-employed persons per branch of activity at A38 level.
- The resulting figures for hours worked per person in the case of employees and self-employed persons are used to calculate coefficients per branch of activity (A38).

The next phase uses figures from the National Accounts on number of employees and hours worked by employees in order to obtain the average hours worked per employee. These figures are then multiplied by the transition coefficients to arrive at the estimated hours worked per self-employed person. It is necessary to add to these figures the hours worked by child minders, which are calculated separately. For that group, data are available in the source files for employees, but they are treated as self-employed workers.

The next table shows how the work volume for self-employed persons is derived at national level.

Number of hours worked by self-employed persons

	2016
Number of self-employed workers excluding child minders (x 1000) (a)	770
Average time worked per employee based on national accounts (b)	1.435
Transition coefficient (ratio hours worked self-employed/employees) (c)	1,591
Average time worked per self-employed person (d) = (b)*(c)	2.282
Hours worked by self-employed persons excluding child minders (millions of hours) (e) = (a)*(d)/1000	1.757
Hours worked by child minders (millions of hours) (f)	10
Total work volume of self-employed persons (millions of hours) (g) = (e) + (f)	1.768

4.12 CONSUMPTION OF FIXED CAPITAL

Consumption of fixed capital is estimated based on capital stock in accordance with ESA 2010 (see § 3.141).

Capital stock needs to be estimated when compiling the national accounts: on the one hand, consumption of fixed capital is needed to estimate the production (and value added) of non-market sectors (as the sum of costs). On the other hand, it allows to derive “net” aggregates from “gross” ones in the sequences of accounts of the various institutional sectors.

In Belgium, there is no exhaustive data source allowing to measure stocks directly; following international recommendations, the capital stock is therefore computed using the Permanent Inventory Method (PIM).

Some results are shown in Tables 4.32 *Consumption of fixed capital by industry (A*38)* and 4.33 *Consumption of fixed capital by institutional sector*. The consumption of fixed capital is estimated for all sectors and branches and all assets for which gross investments are (or, in the past, were) recorded in Belgium. The following sections describe in more detail the estimation methods used.

Table 4.37: Consumption of fixed capital by industry (A*38)

P51C	Year 2016 (€ million)
AA	1 037
BB	76
CA	1 678
CB	388
CC	774
CD	420
CE	1 908
CF	3 321
CG	1 258
CH	1 485
CI	721
CJ	371
CK	689
CL	1 094
CM	460
DD	2 091
EE	1 352
FF	2 898
GG	6 524
HH	6 901
II	1 154
JA	980
JB	1 791
JC	1 487
KK	3 087
LL	17 655
MA	3 768
MB	526
MC	544
NN	3 759
OO	3 331
PP	2 972
QA	2 323
QB	676
RR	532
SS	628
TT	0
Grand Total	80 656

Table 4.38: Consumption of fixed capital by institutional sector

	P.51c, 2016
	(€ million)
Non-financial corporations (S.11)	49 418
Financial corporations (S.12)	3 334
General government (S.13)	9 768
Households (S.14)	17 868
Non-profit institutions serving households (S.15)	267
Total	80 656

4.12.1 DEFINITION OF CAPITAL STOCK

Capital stock is the total value of fixed assets at a given point in time and for a defined area.

Non-financial assets (AN.1) are defined as outputs from production processes. The classification of produced non-financial assets (AN.1) is designed to distinguish among assets based on their role in production. It consists of fixed assets which are used repeatedly or continuously in production for more than one year (AN.11), inventories which are used up in production as intermediate consumption, sold or otherwise disposed of (AN.12), and valuables (AN.13).

Fixed capital formation occurs when these fixed assets (AN.11) are bought by resident producers or produced for own final use. It is fixed capital formation that is used when estimating capital stock.

Fixed capital formation includes acquisitions less disposals of the following assets¹³⁴:

- AN.1110 Dwellings
- AN.1120 Other buildings and structures, broken down into the following three assets:
 - AN.1121 Non-residential buildings
 - AN.1122 Other buildings and structures
 - AN.1123 Land improvements:
- AN.1131 Transport equipment
- AN.1132 ICT equipment, broken down into the following two assets:
 - AN.11321 Computers and hardware
 - AN.11322 Telecommunication equipment
- AN.1139 Other machinery and equipment
- AN.1140 Weapons systems
- AN.1151 Animal resources yielding repeat products
- AN.1152 Tree, crop and plant resources yielding repeat products
- AN.1710 Research and development
The specific treatment of R&D is explained in full in section 5.10.4.1
- AN.1720 Mineral exploration and evaluation
This item is not relevant for Belgium
- AN.1730 Computer software and databases
- AN.1740 Entertainment, literary or artistic originals
- AN.1790 Other intellectual property products.
This item is not relevant for Belgium

Gross capital stock is the value of all of the fixed assets at “as new prices” (or “current replacement costs”), i.e., the prices which would have to be paid if the same fixed assets were bought at the current time. By

¹³⁴ The classification mentioned here is the official one according to ESA 2010. As will be seen later, the National Accounts Institute (NAI) adopted a harmonized 5 digits classification for all detailed items.

contrast, net capital stock is the gross capital stock less the cumulative value of consumption of fixed capital¹³⁵ at a given moment.

Both gross and net capital stock can be valued at current prices or in volume. The capital stock at current prices values the fixed assets at the prices for the relevant time. The capital stock at constant prices values the fixed assets at the prices of one particular year. In the Belgian accounts, this is the year 2000. Like the other aggregates of the national accounts, it is however published in chain-linked volumes.¹³⁶

4.12.2 THE PERPETUAL INVENTORY METHOD (PIM)

The PIM is a method which enables the gross capital stock to be estimated based on historical series of gross fixed capital formation, the average service life of fixed assets and survival functions. With the help of depreciation functions, it is also possible to estimate consumption of fixed capital and the net capital stock. In a nutshell, the PIM is used to estimate the value of gross fixed capital formation made in the past and which 'survives' in the current period (i.e., which is still used in a process of production).

Gross fixed capital formation – historical series

Historical series of gross fixed capital formation are used to estimate the capital stock in accordance with the PIM. These series are available by institutional sector (2 positions), crossed by industries (A*38) and by assets (AN*).

For the model used in the Belgian national accounts, it is necessary to have series which are at least twice¹³⁷ as long as the average service life of the fixed assets. This is in line with the ESA 2010 methodology.

For this purpose, backward calculations of gross fixed capital formation were carried out mainly based on the following sources:

- gross fixed capital formation series of the national accounts estimated directly in accordance with ESA2010 (from 2009 onwards)
- gross fixed capital formation series of the national accounts in accordance with ESA 1995 converted to ESA 2010 (for the period 1995-2008)
- evolution of gross fixed capital formation series compiled by the Federal Planning Bureau for previous estimates of capital stock, combined with specific sector estimates for branches in public as well as in private sector (for the timespan 1853-1994).

In this way, a gross fixed capital formation series was estimated for the timespan from 1853 onwards, in 2000 prices, covering 5 institutional sectors, 38 branches of activity and 13 assets.

Average service lives

In addition to historical series regarding gross fixed capital formation, the PIM also uses the average service lives of fixed assets. On that basis, the longevity of fixed assets is defined in the PIM, and therefore the period during which these assets contribute to the capital stock. It is important that the service life is estimated as accurately as possible and in as much detail as possible.

In Belgium, average service lives are estimated by branch of activity (A*38) and by asset (AN.11).

These were initially based on a combination of previous service lives, used by the Federal Planning Bureau, and European 'best practice'. This 'best practice' was developed by the 'Centraal Bureau voor de Statistiek' (CBS) in the Netherlands. The average service lives obtained in this way were compared with international

¹³⁵ Consumption of fixed capital represents the decline in the value of fixed assets, during a period, as a result of physical deterioration and foreseen obsolescence, including a provision for losses of fixed assets as a result of accidental damage which can be insured against.

¹³⁶ This feature has not yet been changed for technical reasons linked to the IT program used to compute the PIM. Since 2006 however, in accordance with European practice, investments in volume are valued at previous year's prices in Belgian national accounts and published in chain-linked volumes.

¹³⁷ This is due to the characteristics of the probability density used to establish the survival function.

average service lives¹³⁸ by product and by branch. If the Belgian average service lives differ greatly from the international averages, they were adjusted¹³⁹.

For instance, new shortened reference values were set in 2003 for the asset “Other machinery and equipment” (then labelled “Pi2 -Metal products and machinery”) in all branches of industry. These new reference values gradually have an impact on estimates from 1985 onwards (previous reference values are reduced by 1 year each year until they reach their new reference value).

For the assets that were new in ESA 2010, services lives were defined as follows:

- for the "Computer hardware" sub-heading in ITC, average service live was set to 5 years
- for “Weapons systems”, the following information was provided by the Ministry of Defence: 10 years for weapons and land vehicles, 15 years for ships and 20 years for aircrafts
- for “Research and development”, the default service live of 10 years recommended by Eurostat in the dedicated Taskforce on R&D manual is used.

Moreover, for the “Telecommunications equipment” sub-heading in ITC, average service live was shortened to 11 years (against 15 to 25 years in ESA 1995).

Checking the service lives is an on-going process, by analysing depreciation practices through annexes of the annual business accounts. There has been no evidence that the service lives should be updated.

Table 1 shows the service lives¹⁴⁰ by asset and by A*38 branches of activities used from 2014 onwards in the national accounts.

¹³⁸ Cf. the OECD publication 'Methods Used by OECD Countries to Measure Stocks of Fixed Capital', from the 'National Accounts: Sources and Methods' series, 1993, Paris.

¹³⁹ This was for example the case for the service lives of 'metal products and machines' in industry.

¹⁴⁰ Note that investments in dwellings appear in two A*38 branches only: “KK Financial and insurance activities” and “LL Real estate activities”. The first branch (more specifically insurance companies – S.128) is obliged under a European directive to invest a minimum amount in dwellings, whereas the second branch includes investments in dwellings by household (S.14) and non-financial corporations (S.11).

Table 4.39: Average service lives (in years) by A*38 branch of activity and by fixed asset (AN)¹⁴¹

A38	AN.	AN.	AN.	AN.	AN.	AN.	AN.	11510 & 11520	AN.	AN.	AN.
	11110	11210 & 11220	11310	11321	11322	11390	11400		11710	11730	11740
AA		37	12	5	11	15		3	10	3	7
BB		33	10	5	11	20		3	10	3	7
CA		34	10	5	11	20		3	10	3	7
CB		38	10	5	11	19		3	10	3	7
CC		45	10	5	11	19		3	10	3	7
CD		38	10	5	11	18		3	10	3	7
CE		34	10	5	11	18		3	10	3	7
CF		34	10	5	11	18		3	10	3	7
CG		30	10	5	11	19		3	10	3	7
CH		35	10	5	11	21		3	10	3	7
CI		35	10	5	11	19		3	10	3	7
CJ		35	10	5	11	19		3	10	3	7
CK		35	10	5	11	19		3	10	3	7
CL		35	10	5	11	18		3	10	3	7
CM		35	10	5	11	18		3	10	3	7
DD		42	10	5	11	25		3	10	3	7
EE (S13)		60	8	5	11	15		3	10	3	7
EE (others)		40	8	5	11	15		3	10	3	7
FF		42	10	5	11	20		3	10	3	7
GG		40	8	5	11	15		3	10	3	7
HH (S13)		(a)	8	5	11	15		3	10	3	7
HH (others)		40	15	5	11	15		3	10	3	7
II		40	8	5	11	15		3	10	3	7
JA (S13)		60	8	5	11	15		3	10	3	7
JA (others)		40	8	5	11	15		3	10	3	7
JB		40	15	5	11	15		3	10	3	7
JC		40	8	5	11	15		3	10	3	7
KK	60	40	8	5	11	15		3	10	3	7
LL	60	40	8	5	11	15		3	10	3	7
MA		40	8	5	11	15		3	10	3	7
MB		40	8	5	11	15		3	10	3	7
MC		40	8	5	11	15		3	10	3	7
NN		40	8	5	11	15		3	10	3	7
OO		(a)	8	5	11	15	(b)	3	10	3	7
PP		60	8	5	11	15		3	10	3	7
QA		40	8	5	11	15		3	10	3	7
QB		40	8	5	11	15		3	10	3	7
RR		40	8	5	11	15		3	10	3	7
SS		40	8	5	11	15		3	10	3	7

(a) 55 years for roads, 70 years for shipping and inland waterway works, 60 years for other construction work

(b) 10 years for weapons and land vehicles, 15 years for ships and 20 years for aircrafts (source: Ministry of Defence).

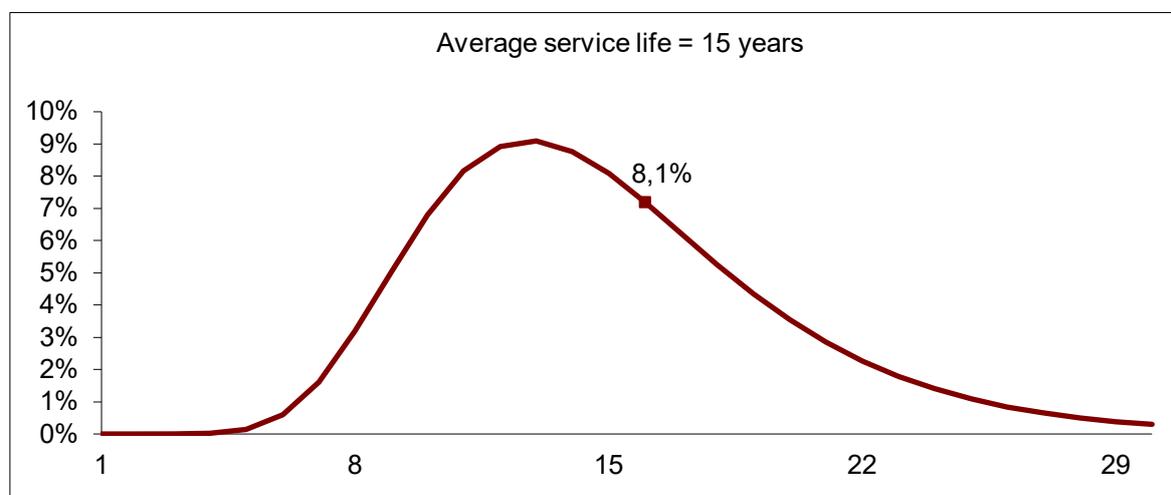
Survival function

Although the average service life of fixed assets is an important parameter of the PIM, it provides little information if the dispersion around the average is not known. The asset will wear out depending on the intensity with which it is used. However, it is possible that some assets will be exposed to exceptional conditions or that they are not as well maintained as others. All these factors influence the service life of assets, in such a way that they can be used for more, less or for exactly three years in the process of production. To characterise this dispersion around the average value, a bell-shaped probability density function is often used. This density indicates which part of the gross fixed capital formation realised previously has been discarded during a specific period.

¹⁴¹ Since mineral exploration is only a marginal activity in Belgium, asset AN.11720 is not considered for estimating gross fixed capital formation and capital stock. AN.11790 is assumed to be negligible and set to zero.

In Belgium, the log-normal probability density function is used¹⁴². The choice of a log-normal density was dictated by Eurostat's preference for this approach. The chart below shows an image of a log-normal density for a fixed asset with an average service life of 15 years.

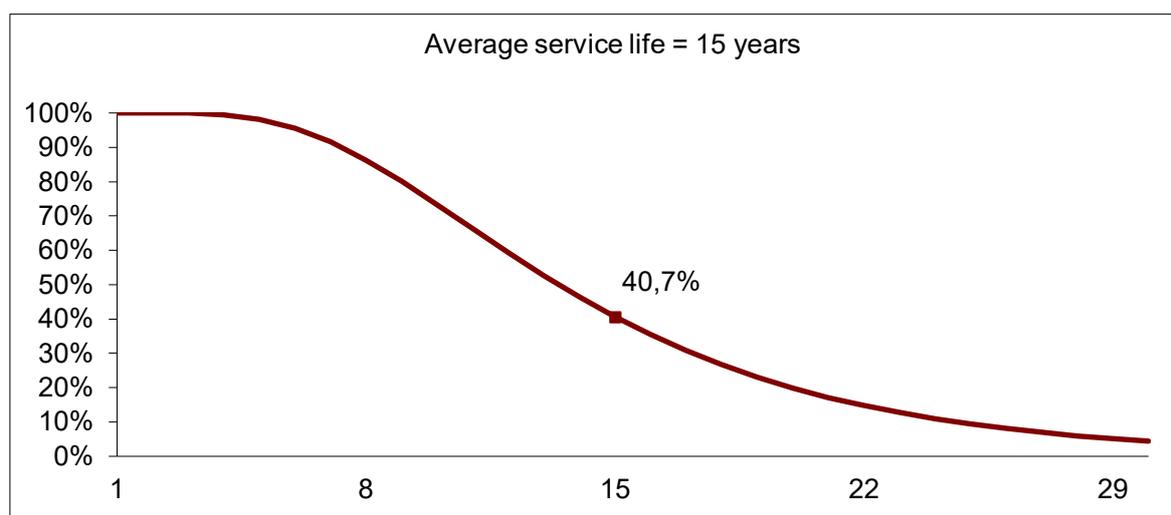
CHART: LOG-NORMAL PROBABILITY DENSITY FUNCTION



As the chart shows, the log-normal density is asymmetrical and more right-sided. The interpretation of this is that during the fifteenth year of the life of fixed assets of the same type (with an average service life of 15 years), just over 8 % of these fixed assets will be discarded.

The density indicates which part of the fixed assets is discarded during a specific period. It is essential, as regards the PIM, to know which part of the gross fixed capital formation, realised several periods previously, currently remains. It is measured by deducting from the total gross fixed capital formation for the first period, equal to 100 %, the part discarded for each subsequent period. In other words, a survival function must be estimated. The survival function is derived from the density (log-normal in Belgium) and takes the shape shown in the chart below.

CHART: LOG-NORMAL SURVIVAL FUNCTION



¹⁴² A variable x is distributed as log-normal if $\ln(x)$ is distributed according to the normal law. Here there is a direct relationship between the normal and log-normal distribution. Moreover, a whole series of normal distribution characteristics applies to the log normal. For a log-normal distribution, just as for a normal distribution, 95 % of the probabilities lie within a two standard deviation interval around the median.

Using the survival function described above, it is possible to calculate which part of the gross fixed capital formation produced during period 1 survives in each subsequent period. After 15 years, 40.7 % of the fixed assets are therefore still being used¹⁴³.

Once the gross fixed capital formation series, average service life and survival function are known, it is possible to estimate the gross capital stock with the PIM.

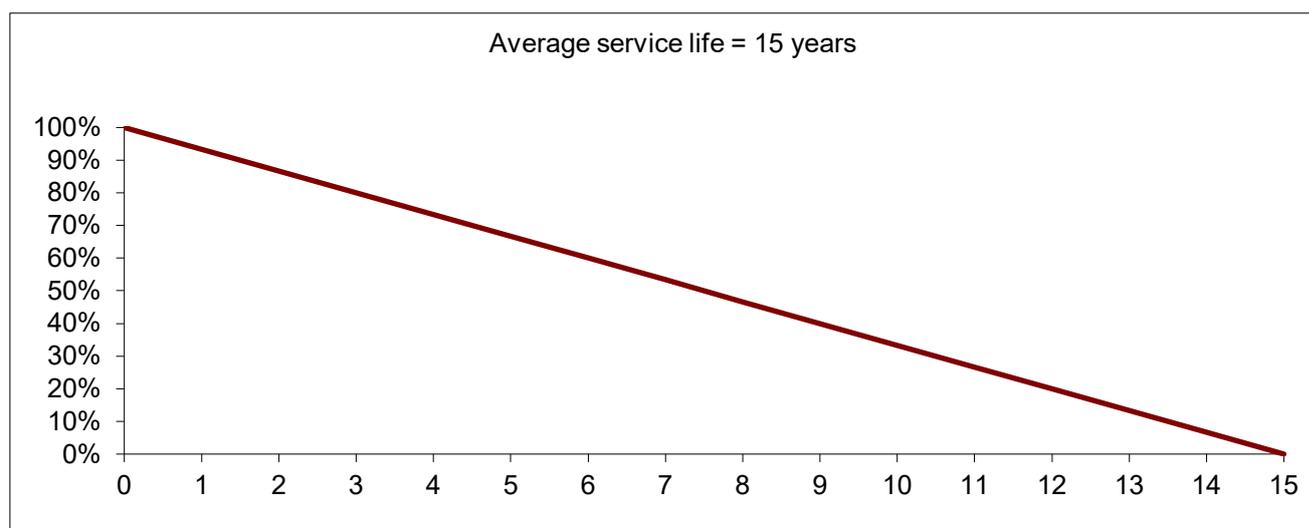
Depreciation function

As last step, the depreciation function of fixed assets will be used to compute consumption of fixed capital, and to estimate the net capital stock.

The survival function determines which part of the gross fixed capital formation realised is still surviving. However, the condition of this gross fixed capital formation is not known. It is highly likely that after a certain number of years of use, it will no longer be able to provide the same services as when it was bought, and it will therefore lose value. To illustrate the reduction over time of the services that the fixed assets can provide (and therefore their value too), the PIM uses a depreciation function. In accordance with paragraph 3.143 of ESA 2010, Belgium uses a 'straight line' function.

As a result, the value of the fixed asset is written off at a constant rate over its service life; consumption of fixed capital of a given investment is thus a constant share (1/ service life) of the value of this investment.

CHART: 'STRAIGHT LINE' DEPRECIATION FUNCTION



The chart above illustrates a 'straight line' depreciation function and shows the value of the fixed asset, expressed as a percentage of its as new value, for each period.

¹⁴³ The asymmetrical form (tending to the right) of the corresponding probability density explains why, after 15 years, only 40.7 % of the fixed assets are still used whereas the average service life is 15 years.

4.12.3 CONSUMPTION OF FIXED CAPITAL FOR NON-MARKET PRODUCERS

Output of non-market producers is estimated by summing up their production costs, of which consumption of fixed capital. The PIM provides data at the A*38 level for each 2-digits institutional sector (S.11, S.12, S.13, S.14 and S.15); non-market sectors are thus clearly and separately identified.

However, this breakdown is not always detailed enough for the purpose of calculating production -by summing the costs- at the common level of detail (i.e., SUT branches, which is a higher detail than the NACE 2 digits).

In order to obtain such a detail, some specific computations must be developed for the non-market sectors S.121, S.13 and S.15.

Consumption of fixed capital for S.13

Consumption of fixed capital for S.13 is estimated with the help of the PIM as described above, but the computation is made at a higher level of detail. Therefore, investments series specific to S.13 were developed to be able to compute its consumption of fixed capital by sub-sector (S.1311, S.1312, S.1313 and S.1314) and SUT-branches of activities. Furthermore, a specific repartition by product is used, so that the recommendations of GNI Committee on the Consumption of Fixed Capital on Roads, Bridges etc. (GNIC 497 Rev.1 annex 1) are followed. Indeed, government GFCF in construction works is split into dwellings (AN.111), buildings other than dwellings (AN.1121), other structures (AN.1122) and land improvements (AN.1123); at computation level, roads are separated from other structures, as well as hydraulic works.

Every time there has been market/non-market reclassifications, the consistency of the GFCF time series has been ensured also for the early years (both in S.13 and in the counterpart sector), and each sub-period with a different perimeter is calculated separately in the PIM with a coherent set of historical series of investments.

In the Belgian accounts, PIM is therefore computed along 5 different subsets:

- one for the years 1995-2001: until 2001 the television companies belonged to the private sector, while the wastewater treatment company *Aquafin* was part of the public sector
- one for 2002-2004: since 2002, the televisions companies are part of S.13 (and *Aquafin* is still in the public sector)
- one for 2005- 2008: since 2005, *Aquafin* has returned to private sector
- one for 2009-2013: since 2009, numerous reclassifications operated in the publications of 2014 and 2015 towards S.13 are fully considered from 2009 onwards
- one last for the years 2014 and after: The railway's operator *Infrabel* passed from S.11 to S.13 in 2014.

Service lives per asset are identical to those described above. They are set to 55 years for roads (precisely the recommended average lifetime estimate), 70 years for shipping and inland waterway works, and 60 years for other construction work. Availability of basic data does not allow to distinguish between the main components of infrastructure assets (earthwork, foundations, bridges, tunnels, surface layers for roads). For asset "AN114 weapon systems" service lives come directly from Ministry of Defence. As far as "tanks" are concerned, the Belgian army currently owns only light armed vehicles and no heavy tanks¹⁴⁴; a service live of 10 years is thus appropriate.

As far as transport equipment with relatively long service lives is concerned, some checks were done. Such equipment is present in two branches of government only:

- airplanes and ships: those can be found under "*AN114 weapon systems*" in branch 84 of Central government (S.1311). There, the service lives are already longer than average (15 years for ships and 20 years for planes).
- metros and trams: such assets owned by regional public transport companies are recorded as "*AN11310 transport equipment*" in branch 49 of State government (S.1312). We cannot isolate

¹⁴⁴ In the past, the Belgian army had tanks. These Leopard tanks (334 pieces) were bought between 1968 and 1971. Even assuming a service life of 25 or 30 years, they would not have any impact on CFC in the recent years.

metros and trams from other transport equipment (buses and lighter vehicles) in this branch, but if we estimate that half of the assets relates to metros and trams.

- Note that locomotives are not included in S.13, as the railway company and its related units are classified in S.11 in Belgian national accounts.

For S.13 too, log normal survival functions (no simultaneous exit assumption is used) and linear depreciation functions are used.

Consumption of fixed capital for S.121

Consumption of fixed capital of financial enterprises (S.12) is estimated using the PIM method as described above, with each asset being computed for all relevant A*38 activities. Using a key based on the relative weight of over 10 years cumulated investments of each SUT branch and subsector, consumption of fixed capital of the central bank (S.121) can be identified (as well as other subsectors).

Consumption of fixed capital for S.15

A similar method is used to estimate consumption of fixed capital for S.15. Initially, consumption of fixed capital for S.15 is estimated along the PIM as described above, with each asset being computed for all relevant A*38 activities. In a next step, a key is calculated based on the relative weight of over 10 years cumulated investments of any sub-branch in each A*38 branch in order to estimate at a more detailed activity level (A*64 and SUT branches).

Note that this breakdown method is also used to split the consumption of fixed capital of other sectors (S.11, S.12 and S.14) from A*38 to finer disaggregation levels (A*64 for example), and that CFC of dwellings is available separately for S.11, S.128 and S.14.

CHAPTER 5

The expenditure approach

5.0 GDP ACCORDING TO THE EXPENDITURE APPROACH

The expenditure components of GDP broken down by component and institutional sector are shown in the following table (data for 2016 in € million).

Table 5.0: Breakdown of GDP according to the expenditure approach

2016 (in € million)		
P.3	Final consumption expenditure	320 644
P.3_S13	Final consumption expenditure	100 047
P.31_S13	Individual consumption expenditure	64 976
P.32_S13	Collective consumption expenditure	35 070
P.3_S14	Final consumption expenditure	216 088
P.3_S15	Final consumption expenditure	4 509
P.5	Gross capital formation	104 305
P.51g	Gross fixed capital formation	100 114
P.511	Acquisitions less disposals of fixed assets	100 114
P.511_S11	Non-financial corporations	62 372
P.511_S12	Financial corporations	3 917
P.511_S13	General government	10 366
P.511_S14	Households	23 118
P.511_S15	NPI's serving households	341
P.512	Costs of ownership transfer of non-produced assets	0
P.52	Change in inventories	4 177
P.53	Acquisitions less disposals of valuables	14
P.6	Exports of goods and services	341 615
P.61	Exports of goods	243 154
P.62	Exports of services	98 461
P.7	Imports of goods and services	336 479
P.71	Imports of goods	241 377
P.72	Imports of services	95 102
GDP		430 085

5.1 THE REFERENCE FRAMEWORK

All components of the expenditure approach are compiled within the national accounts team. However, the data sources coming from surveys (HBS, SBS, etc.) are collected by Statbel, the partner in the National account institute in charge of collecting data.

Consumption expenditure by households is mainly based on the household budget survey (HBS) and on administrative data. See section 5.7 for further details. As regards final consumption expenditure by non-profit institutions serving households (P.3_S.15), it is extrapolated by combining administrative data and the results of the structure survey among NPIs (cf. 5.8). Consumption expenditure by general government is based on administrative sources (cf. 5.9).

To estimate gross fixed capital formation, three main data sources are used: the annual business accounts from the Central Balance Sheets Office of the National Bank of Belgium, the VAT returns, and the structural business survey (cf. 5.10). Estimates for changes in inventories (cf. 5.11) are mostly based on annual business accounts. Acquisition less disposals of valuables (cf. 5.12) are calculated using a commodity flow approach.

The amounts of the imports and exports of goods and services are based on the balance of payments data compiled within the National Bank of Belgium. This information is gathered via administrative sources (Extrastat) and specific surveys (Intrastat and imports and exports of services) (cf. 5.13 and 5.14).

5.2 THE BORDERLINE CASES

5.2.1 THE BORDERLINE CASES FOR HOUSEHOLD FINAL CONSUMPTION EXPENDITURE

The following borderline cases are included in final consumption expenditures of households:

- a) dwelling services produced by owner-occupiers (cf. 5.7.3.2.4)
- b) income in kind, such as:
 - i. goods and services received as income in kind by employees (advantages company cars and other income in kind, cf. 5.7.3.2.7)
 - ii. goods or services produced as outputs of unincorporated enterprises owned by households that are retained for consumption by members of the household (e.g., food and other agricultural goods, household services produced by employing staff, cf. 5.7.3.2.5 and 5.7.2.1)
- c) items not treated as intermediate consumption, such as:
 - i. materials for small repairs to and interior decoration of dwellings of a kind carried out by tenants as well as owners; (cf. 5.7.3.2.4)
 - ii. materials for repairs and maintenance to consumer durables; estimates for these types of services are included in HBS estimates and used for P.31_S.14. Examples are “maintenance and repair of vehicles” (cf. 5.7.3.2.7) and “maintenance and repair of other major durables for recreation and culture” (cf. 5.7.3.2.9)
- d) the value of any goods purchased under hire-purchase agreements
- e) purchases and sales of second-hand goods included in the estimates (see ESA 2010 §3.180-3.183); vehicles (cf. 5.7.3.2.7) and other goods (implicitly included in HBS results)
- f) FISIM used for final consumption purposes by households (cf. 5.7.3.2.12)
- g) insurance services by the amount of the implicit service charge (cf. 5.7.3.2.12)
- h) direct payments from insurer to repairer and other service providers, if relevant (cf. 5.7.3.2.7)
- i) the amount of car registration taxes as part of the taxes on products (cf. 5.7.3.2.7)
- j) pension funding services by the amount of the implicit service charge (cf. 5.7.3.2.12)
- k) payments by households for licences, permits, etc. which are regarded as purchases of services (see ESA 2010 §4.79 and 4.80) (cf. 5.7.3.2.12).

The following borderline cases are excluded from HFCE:

- a) social transfers in kind (example: health services cf. 5.7.3.2.6)
- b) all those payments by households which are to be regarded as taxes (see ESA 2010 §4.79 and 4.80) (cf. 5.7.2.1)
- c) subscriptions, contributions, and dues paid by households to NPISH; voluntary transfers in cash or in kind by households to charities etc. (see ESA 2010 §4.125- 4.126) (cf. 5.7.2.1); they are recorded as transfers (D.75) in the sector accounts
- d) expenditure that an owner-occupier incurs on the decoration, maintenance and repair of the dwelling not typically carried out by tenants (cf. 5.7.3.2.4).

5.2.2 THE BORDERLINE CASES FOR GROSS FIXED CAPITAL FORMATION

The following border cases are included in gross fixed capital formation (GFCF) in accordance with ESA 2010; more details over sources and methods will be found in section 5.10

- a) R&D (except R&D acquired to be used solely in the creation of further products of R&D and registered as intermediate consumption)

- b) structures and equipment used by the military
- c) computer software and databases
- d) entertainment, literary or artistic originals
- e) changes in livestock used in production year after year
- f) changes in trees that are cultivated year after year
- g) improvements to existing fixed assets beyond ordinary maintenance and repairs are included in our estimates for all assets. Note that, as far as land is concerned, the major improvements are identified as a separated asset (AN 1123 "Land improvement") but not showed separately. In our publication, they are therefore imbedded in the asset they are related to (AN1110 dwellings, AN1121 non-residential buildings or AN1122 other structures)
- h) the acquisition of fixed assets by financial leasing
- i) as car registration taxes are part of the purchaser price of cars and investment goods are always valued at acquisition costs in the corporate accounts, the acquisition of cars by enterprises (GFCF in cars) is valued at purchaser prices (including these taxes on products).

The following borderline cases, that should be included in GFCF, are however not estimated due to lack of data or lack of relevancy in the Belgian case:

- a) no information in the private sector data sources is available on light weapons and armoured vehicles used by non-military units
- b) mineral exploration and evaluation are considered to be non-existent in Belgium
- c) other intellectual property rights are supposed to be negligible, and there is no information available
- d) terminal costs, i.e., large costs associated with disposal, are considered to be negligible.

The following borderline cases are excluded from GFCF (in accordance with ESA2010 §3.130). See the relevant sections for more details:

- a) transactions included in intermediate consumption, like
 - i. purchase of small tools for production purposes
 - ii. ordinary maintenance and repairs
 - iii. the acquisition of fixed assets to be used under an operational leasing contract
- b) transactions recorded as changes in inventories (animals raised for slaughter; trees grown for timber)
- c) catastrophic losses on fixed assets
- d) machinery and equipment acquired by households for the purposes of final consumption.

As far as unincorporated enterprises are concerned, VAT records provide GFCF in a separate item, which allows isolating investments from intermediate consumption.

5.3 VALUATION

Final consumption expenditures are valued in the various sources at purchasers' prices. If output estimates are used, VAT and other net taxes on products are added, to ensure a correct registration in purchasers' prices. Own-produced products are estimated using the HBS data and valued in basic prices. Details on how vehicles supplied as employee compensation in kind are valued can be found in section 5.7.3.2.7.

The procedures applied to ensure that GFCF is valued at purchasers' prices including installation charges and other costs of ownership transfer are described in the section 5.10.2 where the data sources and their treatment are presented.

The steps taken to ensure that GFCF produced on own account is valued at the basic prices of similar fixed assets, and if such prices are not available, at the costs of production plus a mark-up (except for non-market producers) for net operating surplus or mixed income is described in the dedicated sections for each of the relevant assets (R&D see 5.10.4.1; software see 5.10.4.2, originals see 5.10.4.3)

In the same sections, the valuation of acquisitions of intellectual property products (computer software, entertainment, literary or artistic originals) is also described.

The steps taken to value disposals of existing fixed assets by sale at basic prices, deducting any costs of ownership transfer incurred by the seller are also described in the section 5.10.2 where the data sources and their treatment are presented.

The valuation of changes in inventories is addressed in section 5.11.

The valuation of export and imports of goods and services is described in 5.13 and 5.14. Exports of services valued at basic prices and imports of services at purchasers' price.

For all components, the basic sources of expenditure are recorded on an accrued basis in line with ESA 2010 §§1.101-1.105, corresponding to the calendar year.

Up till now, no adjustments have been made to exports and imports due to valuation of intra-group transactions within MNEs (transfer pricing). However, a Large case unit was created in 2021 in the Statistics department, making possible a more in-depth analysis of such transactions from 2021 onwards.

5.4 TRANSITION FROM PRIVATE ACCOUNTING AND ADMINISTRATIVE CONCEPTS TO ESA2010 NA CONCEPTS

This depends on the type of final expenditure transaction. The table below gives an overview of the adjustments applied to arrive at ESA2010 NA concepts.

Table 5.1: Conceptual adjustments by expenditure component and by type (2016 in € million)

2016 (in € million)						
	Total sources	Data validation	Allocation of FISIM	Allocation of insurance	Other conceptual	Total conceptual
P.3_S.14	196 244	0	883	7 135	0	8 019
P.3_S.15	5 289	0	21	10	-811	-780
P.3_S.13	112 387	0	942	119	-13 401	-12 341
P.51g	99 697	-1 007	0	0	853	853
P.52	18 685	-14 436	0	0	-60	-60
P.61	244 187	-1 761	0	0	0	0
P.62	99 552	-1 135	0	0	0	0
P.71	244 198	-3 095	0	0	0	0
P.72	96 712	-1 669	0	0	0	0

For HFCE, the production of *FISIM* is estimated in the production approach. A share of it is allocated to the final consumption expenditure in COICOP 12. The same occurs for *insurance* services.

For NPISH's FCE, the conceptual adjustments are the ones applied in the calculation of the production approach (see section 3.4.2.5)

For GGFCE, the other conceptual adjustment is the amount produced but not consumed by the government (sum of P.11, P.12, and P.131).

As regards GFCF, *data validation* adjustments are made for some large companies when source data (annual accounts, VAT, SBS) give contradictory information. In some cases, source material is also blurred due to restructuring operations (mergers and scissions). Individual corrections at an enterprise level are carried out after analysis.

Conceptual adjustments are made to adjust or complete administrative data to comply with ESA2010 concepts. It refers for instance to exclusion of transactions in land, corrections for valuation of disposals, corrections of misreported purchased software (reclassification from P.2 to P.51) and misreported real estate investments (reclassification from P.52 to P.51) or estimate of a mark-up for output for own final use of tangible fixed assets.

For changes in inventories, in 2016, a large data validation adjustment had to be made following an in-depth analysis of the annual business accounts of a few major companies. Another adjustment is made to eliminate holding gains or losses contained in the book value of the inventories.

As regards exports and imports, the *data validation* covers the adjustment done together by the balance of payments and the national accounts by scrutinizing the data of large companies.

In particular, the following conceptual adjustments are considered:

- Valuation of inventories: see section 5.11
- Computer software and databases: see section 5.10.4.2
- Entertainment, literary and artistic originals: see section 5.10.4.3
- Research and development: see section 5.10.4.1
- Financial services: see section 5.7.3.2.12

No adjustment is brought as regards durable goods of small value. On this topic, national accounts depend on the treatment of purchases of small tools in the annual accounts of the companies: when these purchases are treated as investment goods and are capitalized on the balance sheet, they are de facto considered as part of GFCF. If they are recorded as current purchases of goods in the profit and loss account, they are de facto considered as intermediate consumption. No attempt is made to correct the P2/P51 delineation used in business accounts. A possible correction would be immaterial compared to the GDP/GNI-levels.

Major repairs and improvements are treated the same way in the annual business accounts and the national accounts (as P.51). Therefore, no specific adjustment is needed for this item.

More details can be found in the chapters describing the different expenditure components (chapters 5.7 to 5.14).

5.5 THE ROLES OF DIRECT AND INDIRECT ESTIMATION METHODS AND OF BENCHMARKS AND EXTRAPOLATIONS

The various components of the expenditure approach can be estimated using direct or indirect methods.

Direct methods are methods based on sources directly giving the amount of the variable to be estimated. They include variables coming directly from the results of surveys or from administrative data. Indirect methods are used in the absence of such a direct value and may cover models, use of ratios, etc.

The various methods used are set out in the table below. Most of the components of the expenditure approach (P.5, P.6, P.7 and part of P.3) are estimated using direct methods/sources.

Methods	Abbre	Sources	Abbreviation
	viation		
Direct methods:			
Survey	S	Household Budgets Survey	HBS
		Structural Business Survey	SBS
		R&D Survey	RDS
		Other surveys (Intrastat, BOP)	OTS
Administrative	AD	Annual business accounts/Reports	AA
		Public administration budget	PUB
		VAT administration	VAT
		Extrastat	
		Other administrative sources	OAD
Indirect methods:			
Commodity flow	CF	Supply and use table	SUT
Benchmark extrapolation-base year	IPQ	Estimate of price x volume based on various survey or administrative sources	Miscellaneous
Benchmark extrapolation direct measurement	VPQ	Estimate of price x volume based on various survey or administrative sources	Miscellaneous
Dwellings stratification	DWS	Specific model for dwellings	Miscellaneous
PIM model for CFC	PIM	Specific model for P.51c	Miscellaneous
Other	OTH		Miscellaneous

The table below sums up the methods and sources used to estimate the various expenditure components.

Expenditure aggregate	Method	Source
P.31_S.13	AD	PUB
P.32_S.13	AD	PUB
P.31_S.14	S AD CF IPQ VPQ DWS OTH	HBS PUB/BP/OAD/AA SUT S/VAT/AD/Miscellaneous S/VAT/AD/Miscellaneous OAD/Miscellaneous OAD/Miscellaneous
P.31_S.15	S AD	S AD
P.51g	S AD	SBS/RDS AA/VAT
P.52	AD	AA
P.6, P.7	AD S	Extrastat Intrastat and BOP survey for P62/P72

In the expenditure approach, no item is based on models for a definitive year (t-2 or older), except the consumption of dwelling services. The methodology for dwellings was revised within the 2019 benchmark revision. A detailed description of the revised methodology can be found in section 3.18.

Estimates for P.31_S.14 items for which HBS is the main source are extrapolated from a base year. The most recent base year is 2010. The methodology is explained in full in section 5.7.3.

The other components of final expenditure (P.3_S13, P.3_S15, P.51, P.52, P.6, P.7) and the part of P.3_S14 for which no benchmark year estimation is used are estimated in a direct way using administrative and survey information. The estimates for GFCF in dwellings are classified as 'Combined data'.

The table gives an overview of the sources/methods used by expenditure component. More detailed explanations are given in the annex on the process table.

Table 5.2: Sources/methods by expenditure component and by type (2016 in € million)

2016 (in € million)											
	Surveys & Censuses	Administrative Records	Combined Data	Extrapolation and Models							Total sources
				Benchmark extrapolations	Commodity Flow Model	CFC (PIM)	Dwellings - stratification method	FISIM	Insurance	Other E&M	
P.3_S.14	2 143	11 507	0	89 296	22 419	0	36 242	0	0	34 636	196 244
P.3_S.15	0	5 031	0	0	0	267	0	0	0	0	5 299
P.3_S.13	0	102 738	0	0	0	9 768	0	0	0	0	112 506
P.51g	1 091	60 102	33 084	0	0	0	0	0	0	5 422	99 697
P.52	0	4 157	0	0	0	0	0	0	0	34	4 191
P.61	165 485	75 244	0	0	0	0	0	0	0	3 458	244 187
P.62	82 909	4 724	0	0	0	0	0	2 705	1 071	8 142	99 552
P.71	155 745	75 159	0	0	0	0	0	0	0	13 294	244 198
P.72	86 155	1 250	0	0	0	0	0	739	1 029	7 540	96 712

5.6 THE MAIN APPROACHES TAKEN WITH RESPECT TO EXHAUSTIVENESS

These are explained in chapter 7. The following summary table shows the size of the various exhaustiveness adjustments (breakdown by expenditure components and types of non-exhaustiveness (N1-N7)). This information is consistent with the Process Tables and Chapter 7.

Table 5.3: Exhaustiveness adjustment by expenditure component and by type (2016 in € million)

2016 (in € million)								
	N1	N2	N3	N4	N5	N6	N7	TOTAL
P.3_S.13								
P.3_S.14	457	1 503	0	7 344	0	0	1 921	11 225
P.3_S.15								
P.51g				512				512
P.52								
P.61		728						728
P.62		45						45
P.71		275						275
P.72		59						59
TOTAL	457	1 942	0	7 856	0	0	1 921	12 175

5.7 HOUSEHOLD FINAL CONSUMPTION EXPENDITURE (P.3_S14)

5.7.1 OVERVIEW

Final consumption expenditure of households is estimated in two steps. First, a basic estimate is made for each product according to the domestic concept of final consumption expenditure of households (including expenditure of non-residents in Belgium and excluding expenditure of residents outside Belgium). Next, adjustments are made when validating the basic estimates to ensure exhaustiveness and when balancing the GDP output and expenditure approaches.

The next table shows the results, main sources and estimation method used by COICOP category. The following section will describe the main sources used for the estimation of final consumption expenditure of households and their conversion to national accounts concepts, followed by a detailed description of the results and methods used by COICOP group.

Table 5.7.1: Detailed breakdown by COICOP group: results, method, and sources (2016 in € million).

COICOP		RESULTS 2016	Extra Estimation detail	METHOD	SOURCE Reference year	SOURCE Intermediate year
01	FOOD AND NON-ALCOHOLIC BEVERAGES	27 361				
01.1	Food	25 039		Extrapolation HBS	HBS	VAT Turnover
01.2	Non-alcoholic beverages	2 322	01.2.1	Extrapolation HBS	HBS	Excise duties
			01.2.2	PxQ	CPI and professional federations	
02	ALCOHOLIC BEVERAGES, TOBACCO AND NARCOTICS	8 754				
02.1	Alcoholic beverages	3 375		PxQ	CPI and FPS Finance (+ professional)	
02.2	Tobacco	4 694	SUT 12A01	PxQ	CPI and FPS Finance	
			SUT 17A06	Extrapolation HBS	HBS	Evolution COICOP 02.2
02.3	Narcotics	685		Commodity flow method	Various	
03	CLOTHING AND FOOTWEAR	10 375				
03.1	Clothing	8 533		Extrapolation HBS	HBS	VAT Turnover
03.2	Footwear	1 843		Extrapolation HBS	HBS	VAT Turnover
04	HOUSING, WATER, ELECTRICITY, GAS AND OTHER FUELS	50 005				
04.1	Actual rentals for housing	11 493		Specific method	Housing census 2011	
04.2	Imputed rentals for housing	24 749		Specific method	Housing census 2011	
04.3	Maintenance and repair of the dwelling	675		Extrapolation HBS	HBS	CPI and stock of dwellings
04.4	Water supply and miscellaneous services relating to the dwelling	3 019	Various	Extrapolation HBS	HBS	CPI and stock of dwellings
			SUT 38A01	Administrative data	Administrative data	
04.5	Electricity, gas and other fuels	10 069		Extrapolation HBS	HBS	CPI, FPS Economy and professional federations

05	FURNISHINGS, HOUSEHOLD EQUIPMENT AND ROUTINE HOUSEHOLD MAINTENANCE	12 922				
05.1	Furniture and furnishings, carpets and other floor coverings	4 390		Extrapolation HBS	HBS	VAT Turnover
05.2	Household textiles	874		Extrapolation HBS	HBS	VAT Turnover
05.3	Household appliances	1 840		Extrapolation HBS	HBS	VAT Turnover
05.4	Glassware, tableware and household utensils	938		Extrapolation HBS	HBS	VAT Turnover
05.5	Tools and equipment for house and garden	1 092		Extrapolation HBS	HBS	VAT Turnover
05.6	Goods and services for routine household maintenance	3 789	Various	Extrapolation HBS	HBS	VAT Turnover
			SUT 88A02; 81B01; 97A01	Commodity flow method	ONSS	
06	HEALTH	14 110				
06.1	Medical products, appliances and equipment	3 902		Administrative data	NSDII; SUT and VAT turnover	
06.2	Out-patient services	3 459		Commodity flow method	Various	
06.3	Hospital services	6 749		Commodity flow method	Various	
07	TRANSPORT	23 258				
07.1	Purchase of vehicles	6 639	29A02	PxQ	CPI and number of registration (FPS Mobility	
			30D02	Extrapolation HBS	HBS	VAT Turnover
07.2	Operation of personal transport equipment	14 218	07.2.1 & 07.2.3	Extrapolation HBS	HBS	VAT Turnover
			07.2.2 (SUT 19A02; 19A05; 19A07)	Other extrapolations	CPI, FPS Mobility and Transport	
			07.2.2_other	Extrapolation HBS	HBS	CPI
			07.2.3_45A01	PxQ	HBS & insurance companies	
			07.2.4_SUT 77	Other extrapolations	FPS Mobility & Transport & CPI	
			07.2.4_85A01	Administrative data	VAT Turnover	
			07.2.4_52A01 & 68B03	Extrapolation HBS	HBS	VAT Turnover & average kilometers
07.3	Transport services	2 401	07.3.1 & 07.3.2.1	Administrative data	Accounting of general government	
			07.3.2_other & 07.3.4 & 07.3.6	Extrapolation HBS	HBS	VAT Turnover; CPI; number of households
			07.3.3_79A01	Ratio	Balance of Payment	
			07.3.3_51A01	Administrative data	Balance of Payment	
08	COMMUNICATION	4 831				
08.1	Postal services	147		Extrapolation HBS	HBS	BIPT
08.2	Telephone and telefax equipment	242		Extrapolation HBS	HBS	BIPT
08.3	Telephone and telefax services	4 443		Extrapolation HBS	HBS	BIPT
09	RECREATION AND CULTURE	17 694				
09.1	Audio-visual, photographic and information processing equipment	2 350		Extrapolation HBS	HBS	VAT Turnover
09.2	Other major durables for recreation and culture	608		Extrapolation HBS	HBS	VAT Turnover
09.3	Other recreational items and equipment, gardens and pets	4 033	Various	Extrapolation HBS	HBS	VAT Turnover
			09.3.5	Extrapolation HBS	HBS	CPI and number of households
09.4	Recreational and cultural services	5 867	Various	Extrapolation HBS	HBS	VAT Turnover, output estimates,
			SUT 93A91; 91A91; 59A01; 60A01; 92A01	Administrative data	Non-market accounts (S.13 and S.15); FPS Economy; BIPT; annual accounts	
09.5	Newspapers, books and stationery	2 308		Extrapolation HBS	HBS	VAT Turnover
09.6	Package holidays	2 530		Commodity flow method	Production estimates, Balance of Payment statistics, ABTO	

10	EDUCATION	832				
10.1	Pre-primary and primary education	130	SUT 85A93	Administrative data	Accounting of general government	
			SUT 79A01	Commodity flow method	Production estimates, Balance of Payment statistics, ABTO	
10.2	Secondary education	203	SUT 85A93	Extrapolation HBS	HBS	Evolution 10.1
			SUT 79A01	Commodity flow method	Production estimates, Balance of Payment statistics, ABTO	
10.3	Post-secondary non-tertiary education	280		Administrative data	Accounting of general government	
10.4	Tertiary education	187		Administrative data	Accounting of general government	
10.5	Education not definable by level	31		Administrative data	Accounting of general government	
11	RESTAURANTS AND HOTELS	13 347				
11.1	Catering services	11 926		Extrapolation HBS	HBS	VAT Turnover
11.2	Accommodation services	1 420		Extrapolation HBS	HBS	Survey FPS Economy (number of nights)
12	MISCELLANEOUS GOODS AND SERVICES	27 093				
12.1	Personal care	4 423		Extrapolation HBS	HBS	VAT Turnover
12.2	Prostitution	954		Commodity flow method	Extrapolations	
12.3	Personal effects n.e.c.	1 057		Extrapolation HBS	HBS	VAT Turnover
12.4	Social protection	2 415		Commodity flow method	Various	
12.5	Insurance	7 135		Commodity flow method	Various	
12.6	Financial services n.e.c.	6 674		Commodity flow method	Various	
12.7	Other services n.e.c.	4 435	84A91; 94A91	Administrative data	Accounting of general government	
				Extrapolation HBS	HBS	VAT Turnover
				Extrapolation HBS	HBS	CPI and number of households
P.31 S.14	TOTAL FINAL HOUSEHOLD CONSUMPTION - DOMESTIC CONCEPT	210 579				
P.33	Resident consumption abroad	10 907		Other extrapolation	Balance of Payment	
P.34	Non-resident consumption in Belgium	5 398		Other extrapolation	Balance of Payment	
P.31 S.14	TOTAL FINAL HOUSEHOLD CONSUMPTION - NATIONAL CONCEPT	216 088				

5.7.2 MAIN DATA SOURCES AND THEIR CONVERSION TO NATIONAL ACCOUNTS RESULTS

Estimates of final consumption expenditure of households by COICOP group are based on different data sources, namely the household budget survey, various administrative sources (general government, professional federations, and balance of payments) and specific surveys. More detail on each of these sources is given below.

5.7.2.1 The household budget survey (HBS)

The household budget survey is organised by Statbel (FPS Economy) since 1995. It was a yearly survey until 2010, after which the survey became biannual. The survey provides information on average expenditure of households on a very detailed product level. A representative sample of all Belgian households is chosen each year, considering various criteria, namely place of residence, socio-professional status and age of the reference person and the number of persons in the household (cf. 10.3.2). The sample consisted of around 4 490 households in 2016.

The raw data provided by Statbel are processed through various steps for national accounts purposes. Adjustments are made for differences in population, concepts, definitions, and classifications between HBS and national accounts.

First, the annual average consumption expenditure per product is multiplied by the total number of private households in Belgium to obtain the total annual expenditure by COICOP group. In 2010, which is the latest

reference year that was introduced, there were 4 650 037 private households in Belgium, in comparison with 4 948 398 private households in 2019.

Next, differences in definitions and concepts between the HBS and ESA 2010 are analysed. If expenditure booked in the survey data are not considered as final consumption expenditure according to ESA 2010, they are excluded from the procedure. This is, for example, the case for fees to architects (P.51 - gross fixed capital formation), death duties (D.91 - taxes on capital) and various taxes levied by local authorities (D.59 - other current taxes). A full list of excluded expenditure is shown below.

List of excluded HBS categories

Code HBS		Type ESA 2010	
04122B	Rent on land - not-agricultural	D45	Rent
07242B	Road tax - cars	D59	Other current taxes
07242D	Road tax - motorcycles	D59	Other current taxes
07242E	Road tax - mobile homes/trailers	D59	Other current taxes
07242F	Road tax - other vehicles	D59	Other current taxes
04122C	Agricultural rents	D45	Rent
12704H	Fees for architects	P51	Gross fixed capital formation
12702D	Succession taxes and donation taxes	D91	Capital taxes
12702E	Fines and tickets, legal costs, bailiff costs	D75	Miscellaneous current transfers
12701B	Taxes on pets	D59	Other current taxes
12701C	Other taxes (not specified)	D59	Other current taxes

In a third step, links between the different classifications used in national accounts are established – namely, the COICOP classification, the classification for products in the supply and use tables (SUT) and the purchasing power parities (PPP) classification. The HBS also uses the COICOP-BE¹⁴⁵ classification.

Fourthly, all imprecise survey headings, such as “non-specified expenditure” and “pocket money¹⁴⁶” are distributed over specifically chosen COICOP headings which were deemed most likely to be concerned. These are mostly food and drinks (COICOP 01), tobacco (COICOP 02), clothing (COICOP 03), cultural and recreational services (COICOP09) and hotels and restaurants (COICOP 11), as shown below:

¹⁴⁵ COICOP-BE classification is the ECOICOP classification with an added level of detail (“six digits”).

¹⁴⁶ Expenditure by children.

Non-sorted expenditure: repartition by COICOP

Reference year 2010, in € million and %

COICOP01		Repartition key (in %)	Non-sorted expenditures
1	Food and non-alcoholic beverages	6,9%	181
2	Alcoholic beverages, tobacco and narcotics	8,7%	229
3	Clothing and footwear	18,2%	481
4	Housing, water, electricity, gas and other fuels	0,0%	0
5	Furnishings, household equipment and routine hous	9,1%	241
6	Health	1,1%	29
7	Transport	1,7%	45
8	Communication	0,5%	12
9	Recreation and culture	26,1%	687
10	Education	0,0%	0
11	Restaurants and hotels	18,8%	496
12	Miscellaneous goods and services	8,9%	235
TOTAL		100,0%	2 637

A final step is the conversion of the results of the HBS from a national concept to a domestic concept. The HBS provides data matching with the national concept of final consumption (final consumption by Belgian households) and allows identification of expenses by residents in Belgium and expenses by residents in the rest of the world. The figures have to be converted from the national concept to the domestic concept of final consumption (final household consumption on Belgian territory), using the estimates for consumption of residents in the rest of the world (P.33) and non-residents' consumption on Belgian territory (P.34) which are based on Balance of payment data. Tourism expenditure abroad by resident households (P.33) is deducted from the HBS, whereas non-residents' expenditure in Belgium (P.34) is added to the final consumption of resident households in Belgium. To break down the adjustment linked to the domestic concept of final consumption, non-residents' tourism expenditure in Belgium is split using the same repartition as the consumption of resident households in the rest of the world which is available in the HBS data.

The latest reference year of HBS that is used for national accounts purpose is 2010. It was decided not to integrate the 2014-2015 HBS results because of quality problems in the coverage of the survey. In January 2020, the household budget survey was reviewed by Statbel in collaboration with the NAI (more details in the products and more links to the economic reality). The results of this revised survey will be integrated in the national accounts within the 2024 benchmark revision.

The HBS based estimates are regularly checked and compared with other data sources. When available, exhaustive administrative data sources are preferred to HBS. For products for which it is relevant, the commodity flow method is used. The retail trade survey results are not used as such in the compilation process but are used to check and validate the results obtained from other data sources. Finally, an in-depth supply/use analysis by product is applied when compiling SUT tables. In using HBS results, the recommendations from the GNP Committee Task Force on Household budget surveys (CPNB/204) are followed, as detailed in section 7.1.3.5.

5.7.2.2 Administrative sources

All administrative data likely to provide quality information are used. An overview is given below, and more detailed information is available in §5.7.3:

- Excise duties on purchases of beverages and tobacco (FPS Finance)
- Statistics supplied by Ministries: vehicle registrations, transport by air and sea (FPS Mobility and Transport), hotel overnights and other short-duration accommodation, energy consumption (FPS Economy)
- Statistics supplied by professional federations: gas, electricity, petroleum and water producers and distributors, Belgian Automotive and Cycle Industry Federation (FEBIAC), Belgian Tour Operators Association (ABPTO)

- Statistics from supervisory bodies such as the Belgian Institute of Posts and Telecommunications (IBPT), the Gaming Commission, and the National Bank of Belgium (NBB)
- Consumer price indices, and related average prices, per COICOP-BE calculated by the FPS Economy
- Detailed annual accounts and operating reports of transport and gaming enterprises
- Business annual accounts of insurance enterprises and schedules A filed by banks
- Sector account of general government
- Sector account of NPISH's
- Turnover declared for VAT by retail trade, hotels, restaurants, hairdressers, and all other branches of activity in which households are the main customers.

5.7.2.3 Specific surveys

Beside HBS and administrative data, estimates arising from specific surveys are also used for some COICOP groups. An overview is given below, more detailed information is available in section §5.7.3.

- Retail trade survey (FPS Economy, DGS) data are used to validate calculated evolutions in intermediate years for certain COICOP groups
- The structural survey for insurance companies is used to identify the share of private final consumption in total production
- The population and housing Census 2011 is used to estimate the production /consumption of dwelling services
- SILC results are also used to estimate dwelling services
- Bank card and/or credit card payment statistics (new data source for on-line purchases).

5.7.2.4 Use of data sources

All relevant available data sources are used for estimating HFCE. For each individual COICOP item, the most suitable sources and methods are used. These sources and methods are regularly monitored and updated. Within the 2019 benchmark revision, some improvements were brought to the compilation of HFCE. Some more improvements are already in preparation for the 2024 benchmark revision.

First, in 2019, the estimate of **on-line purchases** was refined by means of detailed bank card and/or credit card payment statistics. This new source was used to distinguish between on-site and on-line purchases, and to ascertain whether a business or personal payment card was used. This implies a more accurate estimate of foreign on-line purchases by resident households. According to the Eurostat recommendations, on-line purchases made by residents via a non-resident website and delivered in Belgium are recorded both as domestic consumption expenditure and as an import of goods. This new estimate was introduced in household final consumption expenditure and imports with effect from 2011.

This adjustment is an example of a methodological revision designed to accurately reflect economic phenomena which are gaining ground. Household expenditure was thus increased by around € 2.8 billion in 2017. The impact is particularly significant for expenditure on clothing and footwear (COICOP 03), and expenditure relating to leisure and culture (COICOP 09).

There was no revision of estimates of on-line purchases by resident households via a Belgian website. According to the existing method, these purchases are implicitly estimated based on the turnover figures declared for VAT.

A second revision relates to **intermediate and final consumption concerning the maintenance and repair of housing** (included under "dwelling services" in the table above). According to the ESA 2010, an owner-occupier's expenditure on the decoration, maintenance, and repair of the home, being expenditure not normally borne by a tenant, should be excluded from final consumption, and classed as intermediate consumption in calculating the production of housing services. Conversely, expenditure typically borne by a tenant should be recorded as household final consumption. For information, major repairs (renovation) are recorded as investment expenditure.

Based on the information in the Household Budget Survey (HBS), the treatment of expenditure on the maintenance and repair of housing was revised, leading to a downward revision of household final consumption.

A third revision item concerns **improving the link between NACE codes and expenditure categories**. The estimate of household final consumption is based largely on the results of the household budget survey. A new base year is introduced periodically to determine the level of expenditure per category. For intermediate years, the figures are interpolated, usually based on the change in the turnover figures declared for VAT for activities whose NACE code corresponds to the expenditure categories in question. On the occasion of the benchmark revision, the appropriateness of the relevant NACE codes per expenditure category was reviewed and improved where necessary.

Finally, some revision points in the production approach affect the estimate of household final consumption expenditure. That applies to:

- financial services (including FISIM) and insurance services
- housing services
- benefits in kind of self-employed company administrators
- own account electricity production
- health and welfare services
- certain market production of general government and non-profit institutions serving households.

Another revision point concerns **the expenditure of Belgian residents abroad and of non-residents in Belgium** (cross-border expenditure). This topic is described in section 5.7.3.4.

Information related to the Mini-One-Stop-Shop have not been used in the estimation of HFCE yet. Given the small amounts for VAT-MOSS collected, we have not investigated the possibility of additional compilation work for HFCE based on MOSS data. The estimates of these telecommunications, broadcasting and electronic services are already included in our present compilation process for these aggregates. In addition, within our benchmark revision, we added estimates for internet sales in imports and HFCE, based on the use of credit cards data. These new estimates are quite high. By adding MOSS-linked estimates, we might introduce double-counting for final consumption of electronic services in our national accounts. However, MOSS-data and future OSS-data can be used to cross-check the results of the estimates based on these credit cards data.

A short description of these surveys can be found in chapter 10.

Due to the heterogeneity in methods, tables showing the figures from data sources (HBS or other) and their conversion into the national accounts results are presented for each COICOP category in the next chapter. As already mentioned, retail trade survey (FPS Economy, DGS) results are used for validation purpose only, and not as data source.

5.7.3 DETAILED CALCULATIONS BY COICOP ITEM

Final consumption expenditure of households is estimated by COICOP group, based on either extrapolation of reference years from the HBS or alternative methods, such as administrative sources, commodity flow estimates or other extrapolation methods. Estimations are done at a very detailed level, combining COICOP, PPP and SUT classifications.

The following section first describes the general method. A second section runs through the various sources and methods applied by COICOP group. In the third part, validation and exhaustiveness adjustments are described (section 5.7.3.3), in particular how the recommendations from the GNP Committee Task Force on HBS are applied. Next, the estimations for non-resident consumption in Belgium and resident consumption in the rest of the world are described (section 5.7.3.4). Finally, a summary table is given.

5.7.3.1 General method

The HBS is used for estimating final consumption expenditure of goods and services purchased frequently by Belgian households, and for which no valuation difficulties exist. Valuation difficulties could include:

- Involvement of a disbursing third party: health care (social security refund), vehicle repair (involving insurance enterprises)
- Substantial differences between ESA 2010 concepts and survey headings: gaming, FISIM, insurance services
- Expenditure where there may be confusion between different survey headings: rest home expenses compared to health care provided in rest homes, leasing compared with the provision of a vehicle by the employer.

Whenever these types of difficulties are present alternative methods are used, as described below by COICOP group.

For the goods and services selected, the HBS allows an estimate of final consumption expenditure by COICOP, PPP and SUT classifications for a certain year with an acceptable error margin. Analysis however shows that using the HBS estimates yearly can pose problems in evolutions. On the one hand, HBS results are only available after a certain delay, which is often too late for introduction in the national accounts. Moreover, as the survey is only biannual since 2010, yearly use is not possible anymore. On the other hand, given the limited size of the sample survey, year-on-year evolutions between two versions of the HBS can reflect an evolution in sample rather than an evolution in average consumption.

Therefore, it was decided to introduce the HBS results only for certain reference years. The following reference years were chosen: 1995 – 2000 - 2005 - 2010. As mentioned before, the reference year of HBS will be update within the next benchmark revision in 2024.

For intermediate years, the HBS results are interpolated using various types of evolution (mainly VAT turnover, production estimates and price and volume indicators) and extrapolated for the years following the latest benchmark year¹⁴⁷.

On the occasion of the 2019 benchmark revision, the appropriateness of the relevant NACE codes per expenditure category was reviewed and improved where necessary. The impact of the improving the link between NACE codes and expenditure categories was limited.

When a new reference year is introduced, the period between the two most recent reference years is reviewed. Linear interpolation between the two reference years allow to smooth the estimates using the estimated evolutions per year and avoid ruptures. A theoretical example of this method is shown below.

¹⁴⁷ To put it simple, we will later use « extrapolation » for all non-benchmark years.

Theoretical example of the introduction of a new reference year
 Period 2005-2012 of which 2005 and 2010 are reference years

	2005	2006	2007	2008	2009	2010	2011	2012
HBS (source)	1500	1600	1540	1470	1400	1550	n/a	100
Estimated evolution intermediate years	2,0%	1,5%	3,0%	-1,0%	-1,5%	2,0%	1,0%	3,0%
Base estimate (Extrapolation HBS 2005 using estimated evolutions)	1 500	1 523	1 568	1 552	1 529	1 560	1 575	1 623
Ratio HBS/Base estimate in reference years	1,000					0,994		
Correction coefficient: Ratio HBS/Base estimate for 2012, linear interpolation over five years	1,000	0,999	0,997	0,996	0,995	0,994		
Final estimates: Base estimate multiplied by correction coefficient	1 500	1 521	1 564	1 547	1 522	1 550		
Evolutions of final estimates		1,4%	2,9%	-1,1%	-1,6%	1,9%		

Alternative methods are applied if HBS results are deemed unreliable or higher quality sources are available.

- In some cases, administrative sources provide an estimate for final consumption expenditure, which is then directly used.
- Commodity flow methods are also sometimes applied. The results for final consumption expenditure of households are obtained by subtracting uses other than P.31_S.14 (intermediate consumption, final consumption of general government and NPISH, gross capital formation and exports) from supplies (production, imports, net taxes on products).
- Sometimes a combination of sources available (HBS, administrative data, commodity flow) is used. This often includes price X volume approaches.

The retail trade survey results are not used as such in the compilation of HFCE but are occasionally used to validate calculated developments in intermediate years for some COICOP groups.

For the COICOP categories for which other sources than HBS are used, the methods and conversion from the data sources to national accounts results are detailed in section 5.7.3.2.

For all COICOP items, the final table at the end of this section shows HBS figures or other data sources and their conversion into national accounts results. This table shows the different adjustments made.

The adjustments made to HFCE to exclude items treated as intermediate consumption of producers of illegal activities are described in chapter 7.

The final consumption in services of pension schemes is detailed under the description of COICOP groups 12.5 and 12.6.

5.7.3.2 Estimation by COICOP group

The following section describes the methods and sources used by COICOP group, before adjustments.

5.7.3.2.1. COICOP 01 – Food and non-alcoholic beverages

A. FOOD (COICOP 01.1)

Final consumption expenditure on food products is estimated via the HBS method. For reference years, expenditure is equal to HBS data. The in-between years are extrapolated from the reference years by evolution combining information from reported turnover to VAT authorities of non-specialised (NACE 47.1) and specialised (NACE 47.2) retail trade shops and reported sales of food products in the retail trade survey.

Results COICOP 01.1*Year 2016, in million*

COICOP	Reference year (HBS)	IV 2015	IV 2016	Result 2016 before final adjustments	E-commerce	Benefits in kind	Adjustments (§ 5.7.3.3)	Final result 2016
01.1	19 512	3,4%	2,6%	22 574	6	0	2 459	25 039

B. NON-ALCOHOLIC BEVERAGES (COICOP 01.2)

For non-alcoholic beverages, a distinction is made between “coffee, tea and cocoa” (COICOP 01.2.1) and “mineral waters, soft drinks, fruit and vegetable juices” (COICOP 01.2.2).

Estimates for COICOP 01.2.1 “coffee, tea and cocoa” are calculated using the HBS method. Reference years are equal to HBS estimates. Intermediate years are extrapolated using the evolution of excise duties on these products (D.2122.C and D.214.A).

Results COICOP 01.2.1*Year 2016, in € million*

COICOP	Reference year (HBS)	IV 2015	IV 2016	Result 2016 before final adjustments	E-commerce	Benefits in kind	Adjustments (§ 5.7.3.3)	Final result 2016
01.2.1	389	-3,4%	-0,7%	419	0,7	0	44	464

A price times quantity method is developed for “mineral waters, soft drinks, fruit and vegetable juices” (COICOP 01.2.2). Prices correspond with average prices calculated by the FPS Economy (division CPI) and volumes (hectolitres) are available via the “Belgian Brewers federation” and the “Fédération Royale de l’Industrie des Eaux et des Boissons rafraîchissantes”.

A distinction between final and intermediate consumption expenditure is needed and made using the HBS. For reference years, the share of final consumption expenditure is equal to the ratio between HBS estimates for these products and the calculated total consumption (five years moving average). For intermediate years, a linear extrapolation between reference years is applied. This method combines HBS results and administrative sources.

Finally, consumption expenditure of non-alcoholic beverages which are usually alcoholic, such as non-alcoholic beers, is moved from COICOP 01.2.2 to COICOP 02.1 based on the share of these beverages in the HBS data.

Results COICOP 01.2.2*Year 2016, in € million*

	P.31_S.14
COICOP 0.1.2.2	
Mineral or spring waters	532
Soft drinks and concentrates	990
Fruit and vegetable juices	336
TOTAL COICOP 01.2.2	1 858

5.7.3.2.2. COICOP 02 – Alcoholic beverages, tobacco, and narcotics

A. ALCOHOLIC BEVERAGES (COICOP 02.1)

A similar method as the one for COICOP 01.2 non-alcoholic beverages is used to estimate final consumption expenditure of alcoholic beverages. First a total consumption is estimated using other extrapolation methods. Next the share of final consumption expenditure is identified using indicators of professional federations or the HBS, the rest being considered as intermediate consumption of productive units.

For spirits (COICOP 02.1.1) and wine (COICOP 02.1.2), expenditure is calculated using extrapolations of excise duties revenues. The total value of excise duties received by the public administration for each type of product is extrapolated using the ratio between the average price of each product and the excise duty tariff. Final consumption expenditure is identified using HBS, as is the case for non-alcoholic beverages (COICOP 01.2.2).

Total consumption expenditure of beers is estimated by multiplying average prices received from the FPS Economy (division CPI) and volumes provided by the Belgian Brewers Federation. A yearly survey on direct and indirect sales of beers from the Belgian Brewers Federation also allows us to identify the share of final consumption expenditure.

Finally, consumption expenditure of non-alcoholic beverages which are usually alcoholic, such as non-alcoholic beers, are added to COICOP 02.1 (cf. §5.1.3.2.1).

Results COICOP 02.1

Year 2016

		%P.31_S.14	P.31_S.14 Final result
0211	Spirits	32,7%	301
0212	Wine	61,9%	1 985
0213	Beer	56,3%	1 089

B. TOBACCO (COICOP 02.2)

Consumption of tobacco products is also estimated using a price time volume method, where prices are provided by the FPS Economy (division CPI) and volumes are delivered by the Belgian Customs and Excise Office. It is assumed that all consumption expenditure of tobacco products is final consumption expenditure of households.

Consumption of tobacco paper used to roll own cigarettes (SUT 17A06) is estimated using the HBS in reference years and extrapolated based on the evolution of consumption of tobacco products. In 2016, expenditure on this product was equal to € 14 million.

Results COICOP 02.2

Year 2016, in € million

	P.31_S.14
12A01	
Cigarettes	3 116
Cigares	133
Tobacco	1 431
Tobacco paper	14
TOTAL	4 694

Consumption expenditure of smuggled tobacco products are included in COICOP 022. In 2016 the quantity of smuggled cigarettes was estimated as 6.5 % of legal sales and the street value was set at half the official price. A detailed description of the methodology can be found in chapter 7. In 2016, € 103 million was added to expenditure to take smuggling into account.

C. NARCOTICS (COICOP 02.3)

Household final consumption expenditure of narcotics is estimated per type of drugs, namely cannabis, XTC, amphetamines, cocaine, and heroin. A method is developed based on prevalence ratios, average consumption, population statistics and expert estimates. A detailed description of the methodology can be found in chapter 7. In 2016, drugs consumption expenditure was equal to € 685 million.

5.7.3.2.3. COICOP 03 – Clothing and footwear

Estimates for clothing and footwear expenditure are based on the HBS method. In reference years, the estimates are equal to those of the HBS. For intermediate years, the estimates follow the evolution of the following indicators:

- **Clothing** (COICOP 03.1): evolution of the reported turnover to the VAT administration of shops specialised in clothing (NACE 47.71), verified with the evolution of turnover reported in the retail trade survey for textile
- **Clothing** COICOP 03.1 - specific products 96A01, 95A05 and 77B01: evolution of the reported turnover to the VAT administration of shops specialised in clothing (NACE 96.01)
- **Footwear** (COICOP 03.2): evolution of the reported turnover to the VAT administration of shops specialised in footwear (NACE 47.721), verified with the evolution of turnover reported in the retail trade survey for textile
- **Footwear** COICOP 03.2 - specific product 95A01: evolution of the reported turnover to the VAT administration of shops specialised in the repair of personal and household goods (NACE 95.2).

The estimation of on-line expenditure (e-commerce) is important for this COICOP (for more details, see § 5.7.2.3).

Results COICOP 03
Year 2016, in € million

COICOP	Reference year (HBS)	IV 2015	IV 2016	Result 2016 before adjustments	E commerce	Other adjustments	Final result 2016
03.1	5 976	0,3%	-0,7%	6 488	831	1 136	8 456
03.1 - 96A01, 95A05 and 77B01	68	1,1%	-4,9%	71	0	6	77
03.2	1 594	-2,7%	-3,1%	1 531	329	-59	1 800
03.2 -95A01	36	1,4%	-0,9%	39	0	3	42
Total	7 674			8 129	1 160	1 087	10 375

5.7.3.2.4. COICOP 04 – Housing, water, electricity, gas, and other fuels

A. HOUSING (COICOP 04.1 and COICOP 04.2)

Final consumption of housing services is obtained directly from the estimate of output of housing services which includes services produced by the renting of houses as measured by the value of rents (COICOP 04.1) and services provided by owner-occupiers as measured by the value of comparable rents (COICOP 04.2).

The production of housing services is estimated according to a “*price x quantity*” approach, i.e., a method which combines an estimate of the quantity of housing with actual rents. The “quantity” component is based on observations of the housing stock derived from the ten-year censuses. The “price” component is based on observed monthly rents. As the rental data are generally derived from surveys, the estimate is based on an extrapolation method which applies the sample of observed rents in general to all housing with similar characteristics.

During the 2019 benchmark revision, the “*price x quantity*” method was adapted in numerous respects. The main change concerns the introduction of the results of the SILC (“Statistics on Income and Living Conditions”) survey, available from 2004 onwards. This survey, conducted under the auspices of the EU, includes a section on housing and a question on the monthly rents that tenant households pay for their housing. The

introduction of the results of this survey was accompanied by a new method of stratification conforming to the Eurostat recommendations. In Belgium, imputed and actual rents are estimated using a direct extrapolation method. Total production is estimated with the help of a volume times price approach, multiplying the number of dwellings by the rents. For owner-occupied dwellings, actual rentals for similar rented housing are used. Estimates are based on two reference years, corresponding with resp. the General Socio-Economic Survey 2001 and the Statbel population and housing Census 2011. Final consumption expenditure of households consists of the production in the household sector, a share in the production in the non-financial enterprise sector that corresponds with social housing services and excludes the estimates for final consumption expenditure of general government. More detail on the revised methodology for estimating dwelling services can be found in section 3.18.

Results COICOP 04.1 and COICOP 04.2

Year 2016, in € million

	COICOP 04.1	COICOP 04.2
	SUT 68B02	SUT 68B01
P.1 S.14	9 070	24 749
P.1 S.11 (social rents)	2 493	
P.31 S.13	70	
P.31 S.14	11 493	24 749

B. MAINTENANCE AND REPAIR OF THE DWELLING (COICOP 04.3)

According to the ESA 2010, an owner-occupier's expenditure on the decoration, maintenance, and repair of the home, being expenditure not normally borne by a tenant, should be excluded from final consumption and classed as intermediate consumption in calculating the production of housing services. Conversely, expenditure typically borne by a tenant should be recorded as household final consumption. Major repairs (renovation) are recorded as investment expenditure.

Depending on the product, the expenditure is therefore classified as final consumption or as intermediate consumption. The level of maintenance and repair expenses usually borne by tenants (COICOP 04.3) is equal to the results of the HBS for reference years. The estimate for intervening years is obtained by applying to the reference year a price times volumes index, where the volume index is determined by the evolution of the housing stock and the price index comes from the consumer price index.

Within the 2019 benchmark revision, based on the information in the Household Budget Survey (HBS), the treatment of expenditure on the maintenance and repair of housing was revised, leading to a downward revision of household final consumption (see also chapter 3.18).

Results COICOP 04.3

Year 2016, in € million

COICOP	Reference year (HBS)	IV 2015	IV 2016	E-commerce	Result 2016 before adjustment	Adjustments (§5.7.3.3)	Final Result 2016
04.3_17A06	65	1,8%	1,1%				
04.3_20D01	176	1,1%	1,1%				
04.3_27A04	33	1,1%	1,1%				
04.3_43B02	19	2,4%	2,4%				
04.3_43B01	19	2,6%	2,6%				
04.3_43B02	87	3,4%	3,4%				
04.3_95A01	0	3,4%	3,4%				
04.3_43C04	19	2,7%	2,7%				
04.3	418			58	539	78	675

C. WATER SUPPLY AND MISCELLANEOUS SERVICES RELATED TO THE DWELLING (COICOP 04.4)

Apart from refuse collection (COICOP 04.4.2 - SUT 38A01), the HBS is the preferred method for calculating the amounts paid for water distribution and other services relating to the dwelling for the reference years. The reference years are extrapolated according to price times volume evolutions.

Within the 2019 benchmark revision, the price evolution is determined by FPS Economy data (CPI), while the volume index used is equal to the evolution of the stock of dwellings for water supply (COICOP 04.4.1), for sewer collection (COICOP 04.4.3) and for other services related to the dwelling (COICOP 04.4.4). Further breakdown by SUT product is determined via the HBS.

Refuse collection charges paid (COICOP 04.4.2) represent market services invoiced by general government. Final consumption of households is provided directly by administrative data from the accounting of general government.

Results COICOP 04.4

Year 2016, in € million

COICOP	Reference year (HBS)	IV 2015	IV 2016	Result 2016 before adjustments	Adjustments (§5.7.3.3)	Final result 2016
0441	1 159	2,9%	2,5%	741	38	779
0442				650	49	700
0443	17	11,7%	1,6%	906	-26	880
0444	483	3,0%	3,7%	656	5	661
Total	1 659			2 952	66	3 019

D. ELECTRICITY, GAS AND OTHER FUELS (COICOP 04.5)

Final consumption of energy products is estimated via the HBS method for reference years. Intervening years are estimated by extrapolation of the base years using a price times volume index. Price trends are supplied by the FPS Economy (CPI). The trend in volume consumed is provided by various professional federations (SYNERGRID, Belgian Petroleum Federation) and by the FPS Economy (Energy balances). The breakdown by SUT products is the one of the HBS.

With the 2019 benchmark revision, the production of electricity by households (solar panels¹⁴⁸) was added to the HFCE. Households directly consume some of the electricity that they produce, and if they produce more than they consume they feed the surplus electricity into the public network. A reverse electricity meter records the corresponding value for the households (see chapter 3.10).

The value of the production of electricity by households is determined partly by the quantity and price of the electricity produced, and partly by the production subsidies that households receive from the government.

The *price* of the electricity produced corresponds to the energy component of the price paid by a consumer household. As electricity producers, households do not set the prices; it therefore seemed appropriate to assess the price of the electricity that they supply to the electricity grid via the energy component of the overall electricity price for the average end user.

Subsidies paid to households by the distribution network operators are added to supplement the estimate of production.

For 2016, the consumption of electricity by households is estimated at € 112 million. It corresponds to the production without the subsidies.

¹⁴⁸ It should be remembered that installations to produce electricity by households – essentially solar panels – are recorded as investment in housing. That was already the case before the 2019 revision.

Results COICOP 04.5
Year 2016, in € million

COICOP	Reference year (HBS)	IV 2015	IV 2016	Result 2016 before final adjustments	Self-production of electricity	E-Commerce	Benefits in kind	Other adjustments	Final result 2016
04510	3 507	12,9%	28,8%	4 758	112		20	407	5 297
04521	2 775	5,1%	-7,0%	2 382			19	250	2 651
04522	104	5,1%	-7,0%	89				7	96
04530	2 496	-17,8%	-32,5%	1 639		0,3		213	1 853
04541	21	13,2%	-9,1%	15				1	16
04549	127	1,4%	-0,9%	146				10	156
Total	9 030			9 029	112	0	39	888	10 069

5.7.3.2.5 COICOP 05 – Furnishings, household equipment and routine household maintenance

Except for domestic services (COICOP 05.6.2.1), the HBS is the preferred method to estimate expenditure on furnishings, household equipment and routine household maintenance. The method to estimate intervening years is to extrapolate from the reference years based on the evolution of VAT turnover for specific commercial activities, sometimes verified with the evolution of retail trade turnover as provided by the FPS Economy in the retail trade survey. The following indicators are used per COICOP:

- Furniture and furnishings, carpets, and other floor coverings (COICOP 05.1):
 - Furniture and furnishings (COICOP 05.1.1): VAT turnover of retail trade in household furniture in specialised shops (NACE 47.591) verified with the evolution of household goods in the retail trade survey
 - Carpets and other floor coverings (COICOP 05.1.2): VAT Turnover of retail sale of carpets, rugs, wall, and floor coverings in specialised shops (NACE 47.53)
 - Repair of furniture, furnishings, and floor coverings (COICOP 05.1.3): VAT Turnover of repair of personal and household goods (NACE 95.2)
- Household textiles (COICOP 05.2): VAT turnover of retail sale of textiles (NACE 47.51) and of carpets, rugs, wall, and floor coverings in specialised shops (NACE 47.53)
- Household appliances (COICOP 05.3):
 - COICOP 05.3.1 et COICOP 05.3.2: VAT turnover of retail trade in electronic household appliances in specialised shops (NACE 47.540)
 - COICOP 05.3.3: VAT Turnover of repair of personal and household goods (NACE 95.2)
- Glassware, tableware, and household utensils (COICOP 05.4): VAT turnover of retail sale of furniture, lighting equipment and other household articles in specialised shops (NACE 47.59)
- Tools and equipment for house and garden (COICOP 05.5):
 - Major tools and equipment (COICOP 05.5.1): VAT turnover of retail trade in electronic household appliances in specialised shops (NACE 47.540)
 - Small tools and miscellaneous accessories (COICOP 05.5.2): VAT turnover of retail sale of furniture, lighting equipment and other household articles in specialised shops (NACE 47.59)
- Non-durable household goods (COICOP 05.6.1): VAT turnover of retail trade in non-specialised shops (NACE 47.1)
- Domestic services by paid staff (COICOP 05.6.2.1): alternative method discussed below
- Other domestic services and household services (COICOP 05.6.2.2_3_9): VAT turnover of cleaning activities (NACE 81.2)
- Cleaning services (COICOP 05.6.2.2 96A01) and COICOP 05.6.2.9 96A01: VAT turnover of services for cleaning textile and fur products (NACE 96.01).

Results COICOP 05
Year 2016, in € million

COICOP	Reference year (HBS)	IV 2015	IV 2016	Result 2016 before adjustments	E commerce	Benefits in kind	Other adjustments	Final result 2016
05.1.1	3 330	4,0%	5,1%	3 771	57	0	302	4 130
05.1.2	90	-2,3%	1,5%	79	4	0	12	96
05.1.3	141	1,4%	-0,9%	151	0	0	13	165
05.2	825	-1,8%	-1,2%	743	33	0	99	874
05.3.1	1 694	-0,2%	0,4%	1 544	24	0	-55	1 512
05.3.2	162	-0,2%	0,4%	148	8	0	12	168
05.3.3	137	1,4%	-0,9%	148	0	0	13	161
05.4	724	2,6%	3,2%	781	48	0	109	938
05.5.1	404	-0,2%	0,4%	368	6	0	30	404
05.5.2	555	2,6%	3,2%	598	12	0	77	687
05.6.1	1 423	3,6%	2,7%	1 650	26	0	194	1 870
05.6.2.1	-	-	-	-	-	-	-	1 590
05.6.2.2_3_9	103	2,8%	5,6%	116	0	0	63	179
05.6.2_96A01	88	1,1%	-4,9%	92	0	0	57	149
Total	9 676			10 188	218			12 922

Regarding domestic services, final consumption expenditure is estimated using a specific method. The total final consumption is calculated biyearly based on HBS. This amount corresponds partially to services provided within the framework of “cheques for household services” and local employment agencies. It is broken down between cleaning services (SUT product 81B01) and social protection services without overnight stay and excluding childcare services (SUT product 88A02), based on information from the different regional administration services in charge of the subsidies for “cheques for household services”. The estimate calculated on balance is appropriated to domestic services produced by individuals of which households are deemed the employers (SUT product 97A01) (cf. section 4.7.5).

Domestic services
Year 2016, in € million

SUT product		
81B01	Cleaning services	852
88A02	Social protection services without overnight stay and excluding child care	282
97A01	Domestic services produced by individuals of which households are deemed the employers	457
TOTAL	Final consumption expenditure of households on domestic services (COICOP 05.6)	1 590

5.7.3.2.6 COICOP 06 – Health

Households' final consumption expenditure on health services are mainly estimated using the commodity flow method, where the final consumption expenditure is calculated as the balance obtained by subtracting uses other than households' final consumption (intermediate consumption, final consumption of general government and/or NPISH, exports) from resources (production, net taxes on products, imports).

A. MEDICINE AND OTHER PHARMACEUTICAL PRODUCTS (COICOP 06.1)

For medicine and other pharmaceutical products (COICOP 06.1), the total consumption expenditure is known from the detailed analysis of the quinquennial SUT¹⁴⁹ for the products medicine (21A02), other pharmaceutical products (21A03) and medical and dental appliances (32B04). For in-between years, the reported turnover of pharmacists (NACE 47.730), specialised shops in retail trade of medical and orthopaedic products (NACE 47.740) and specialised retail shops in photographic and optical products (NACE 47.782) to VAT authorities is used for extrapolation.

¹⁴⁹ Quinquennial SUT's (1995-2000-2005-2010-2015) are compiled more in depth, in order to feed the input-output tables. For this purpose, the surveys among companies are more detailed (annexes) than for 'normal' years.

Government consumption expenditure (P.31_S.13) is identified based on detailed information on refunds for medicine and certain pharmaceutical products of the National Sickness and Disability Insurance Institute (NSDII).

Expenses of NPISH are equal to the non-market production of the corresponding products (P.31_S.15 = P.13_S.15) for the whole time series.

Final consumption of households of the corresponding products is calculated as a residual item. The balancing of the SUT and the yearly information on P.31_S.13 and P.31_S.15 allows a verification of the ratio P.31_S.14 to total P.3.

Estimates for on-line purchases are added for these products. An adjustment for exhaustiveness (N7) is also added (157 € million).

Results COICOP 06.1
Year 2016, in € million

SUT products	P.3 Total	P.3 S.13	P.3 S.15	P.3 S.14	E-commerce
21A02 + 21A03	5 471	2 788	0	2 683	
32B04	1 451	404	0	1 047	
Total	6 921	3 192	0	3 729	19

B. OUT-PATIENT SERVICES (COICOP 06.2)

Out-patient services include medical services (COICOP 06.2.1), dental services (COICOP 06.2.2) and paramedical services (COICOP 06.2.3) provided directly to outpatients. These types of services may be delivered at home, in individual or group consulting facilities, dispensaries or the outpatient clinics of hospitals and the like.

The production of out-patient services corresponds to the output produced of the branches “general and specialised practitioners” (86B), “dental practitioners” (86C) and “other human health care practitioners” (86D). Out-patient services produced in hospital facilities (86A) are identified using the detailed accounting information of hospitals, available via the FPS Health and are added to the estimation of out-patient services production. Moreover, some blood bank services (86D02) are identified as enterprises classified in the non-market branch of social protection services without overnight stay (88A). The next table shows how the production per branch is converted to a production per product. Estimations also cover software produced for own account.

Intermediate consumption of these products is known thanks to the detailed analysis of the quinquennial SUT, where information of the Structural Business Survey (SBS) is used to estimate consumption of enterprises for industrial medicine (86B01), ambulant services in elderly homes (86B01) and consumption of medical laboratories and diagnostic images (86D01). The structure of the intermediate consumption of hospitals for these products and services is known yearly through the detailed annual accounting information available via the FPS Health.

The balance of payments provides us with estimates for imports and exports by product. Only imports and exports for general and specialist medical services are noted for out-patient care (86B01). Moreover, since the reference year 2015, within the SUT analyse, imports are considered for dentist services (86C01).

Net taxes are available in the accounting of general government and are equal to zero in 2016 for out-patient services.

Consumption expenditure of the general government for out-patient health care services is equal to the reimbursements made in the framework of the obligated health insurance (NSDII). Detailed information on the reimbursements is available and is set equal to the individual consumption expenditure of general government for out-patient health care by SUT product.

Finally, consumption expenditure of NPISH for out-patient health care services is zero in Belgium.

Conversion of production by industry to production by product
Year 2016, in € million

SUT product	Production Branches									TOTAL
	86A	86B	86C	86D	87A market	87A non-market	88A market	88A non-market		
	Hospitals	Medical Practitioners	Dental Practitioners	Other human health care providers	Social protection services with overnight stay		Social protection services without overnight stay			
Other						1		50	51	
62A01	Software	44	54	7	39	28	1	10	4	187
72A01		10			54	0		0		65
86A01	Hospital services (excl. 86A02)	12 549								12 549
86A02	Hospital services: geriatrics, psychiatry, rehabilitation	2 531								2 531
86B01	General and specialised medical services	4 110	8 148							12 258
86C01	Dental services			1 958						1 958
86D01	Services of medical labs, blood banks and diagnostic images	425			902				104	1 432
86D02	Services of nurses and other human health care providers	43			2 709					2 752
87A01	Nursing care facilities for elderly	246				5 370				5 616
87A02	(Nursing) homes excl. facilities for elderly, market	1 540				2 898				4 437
88A01	Child care facilities							1 001		1 001
88A02	Social protection services without overnight stay, market							1 172		1 172
87A92	(Nursing) homes excl. facilities for elderly, non-market						600			600
88A92	Social protection services without overnight stay, non- market								1 563	1 563
Total		21 498	8 202	1 965	3 705	8 296	602	2 183	1 721	48 173

The balance obtained by subtracting from the resources (production, imports, net taxes on products), the uses excluding final household consumption expenditure (intermediate consumption, exports, final consumption expenditure of general government and NPISH), is equal to P.31_S.14.

Estimation of P.31_S.14 for out-patient health services using the commodity flow approach

By SUT product, in € million, year 2016

	86B01	86C01	86D01	86D02	Total 06.2
P.1	12 261	1 958	1 328	2 983	
P.7	15	1	0	0	
D.21	0	0	0	0	
D.31	0	0	0	0	
Total supply	12 276	1 959	1 328	2 983	
P.2	2 905	68	263	146	
P.2_86A	2 573	67	144	11	
P.2_87A	50	0	0	0	
P.2_other	325	0	128	0	
P.3	9 367	1 891	1 065	2 836	
P.31 S.13	7 161	1 009	797	2 734	
P.31 S.14	2 206	882	267	103	3 459
P.31 S.15	0	0	0	0	
P.6	3	0	0	0	
Total use	12 276	1 959	1 328	2 983	

C. HOSPITAL SERVICES (COICOP 06.3)

Hospital services cover the services of general and specialist hospitals, the services of medical centres, maternity centres, nursing homes and convalescent homes which chiefly provide in-patient health care, the services of institutions serving elderly in which medical monitoring is an essential component and the services of rehabilitation centres providing in-patient care and rehabilitative therapy where the objective is to treat the patient rather than provide long-term support.

Production of in-patient care, including day-hospital services, is provided by hospitals and nursing care facilities for elderly. The allocation of the production per branch and per product was shown above. Products included in in-patient care are general hospital services (86A01), specific hospital services for rehabilitation, psychiatry, and geriatrics (86A02) and services in nursing care facilities for elderly care (87A02).

Intermediate consumption of in-patient care services is set at zero due to the nature of the service. The balance of payment statistics reports neither imports nor exports of these services. However, since the reference year 2015, within the SUT analyse, imports and exports are considered for hospital services (86A01).

Subsidies on products (D.31) are known via the accounting of general government and are equal to € 4 million for general hospital services (86A01) and € 202 million for nursing care homes (87A01).

Finally, individual consumption expenditure of general government is equal to the reimbursements reported in the data of the NSDII. There is no consumption expenditure of NPISH for these services.

The estimates for final consumption expenditure of households are calculated as a balance.

Estimation of P.31_S.14 for in-patient services using the commodity flow method

By SUT product, in € million, year 2016

	86A01	86A02	87A01	COICOP 06.3
P.1	12 547	2 531	5 623	
P.7	3	0	0	
D.21	0	0	0	
D.31	4	0	202	
Total supply	12 546	2 531	5 421	
P.2	0	0	0	
P.2_86A	0	0	0	
P.2_87A	0	0	0	
P.2_other	0	0	0	
P.3	12 543	2 531	5 421	
P.31 S.13	9 059	1 743	2 944	
P.31 S.14	3 484	788	2 477	6 749
P.31 S.15	0	0	0	
P.6	2	0	0	
Total use	12 546	2 531	5 421	

5.7.3.2.7. COICOP 07 – Transport

A. PURCHASE OF VEHICLES (COICOP 07.1)

Final consumption expenditure on new motor cars (COICOP 07.1.1.1), second-hand motor cars (COICOP 07.1.1.2) and motorcycles (COICOP 07.1.2) are calculated yearly based on a price times volume approach, as is explained in more detail below.

Purchases of bicycles (COICOP 07.1.3) are estimated using the HBS method.

There is no revision in the estimation of COICOP 07 due to the E-commerce, given the exhaustiveness of the estimation.

- *Purchases of new cars (COICOP 07.1.1.1)*

Final consumption expenditure on new cars is obtained by multiplying the number of newly registered cars for that year with an average price.

The number of registered new cars is available yearly via the FPS Mobility and Transport (DIV). The data allows us to exclude cars that were registered for less than one month and to break down by type of user (physical person or enterprise), by type of fuel (petrol, diesel, other) and by type of engine power (kW). The hypothesis, based on information from Statbel, is that 89 % of registered vehicles by physical persons are used for private goals. The other 11 % are deemed purchases of self-employed used for professional reasons (and recorded as P.51).

Average prices are based on statistics estimated in the framework of the consumer price index, delivered by the FPS Economy (CPI). Starting from this information, an annual average price per type of engine power (kW) and fuel can be determined. This average price considers the advertised discount on the catalogue prices ("*ristourne*"), VAT and the one-time registration tax.

Finally, final consumption expenditure on new cars is equal to the average price multiplied by the number of newly registered cars for each combination of engine power and fuel category.

Car scrap schemes were in place in Belgium between 2007 and 2013. Estimations were available in the accounting of the general government and subtracted from the total final consumption expenditure of new cars. In 2013, it was estimated at -4 million euros.

In total, final household consumption expenditure on new cars was estimated at € 5 540 million in 2016.

- *Purchases of second-hand cars (COICOP 07.1.1.2)*

Expenditure on second-hand cars (COICOP 07.1.1.2) are estimated by multiplying prices and quantities. However, a distinction needs to be made between:

- Cars traded between households, without any intermediate trader (such as a garage): these transactions are considered as internal operations within the household sector (S.14) and are not considered in the estimation of final consumption expenditure
- Cars traded between households via an intermediate trader (such as a garage): in this case, only the trade margin of the garage owner (intermediary) is considered in the estimation of final consumption expenditure of households
- Exports and imports of cars by households (for private use)
- Cars sold by companies to households, with or without an intermediary: the full amount of the purchase is booked as final consumption expenditure of households (and negative investment in S.11).

Registration data is available yearly via the FPS Mobility and Transport. The number of newly registered second-hand cars (including the imported ones) is broken down according to type of user (physical person, enterprise), type of fuel and age. The data also allows us to identify purchases where VAT was levied, as a special vignette "904" is then given. This facilitates the identification and exclusion of purchases within the sector of households, without an intermediary, as no VAT is levied on these transactions. Consequently, only transactions where VAT was levied are booked in the national accounts. The total number of second-hand cars purchased by households is thus equal to the sum of total purchases with VAT by physical persons, broken down by type of fuel and age.

As no direct information is available on the prices of second-hand cars at the FPS Economy (CPI), the average prices of new cars, corrected for age with a depreciation rate, are used, as shown in the next table. The depreciation rate is based on a comparative analysis of the value when bought new and the value when bought second-hand for some of the most popular models sold. The value when bought second-hand is based on information on prices from the "Moniteur Automobile". Using these depreciation rates, an average price (including VAT, excluding registration taxes) is obtained for each age category.

Estimating average prices of second-hand cars
Year 2016, in euros

Age	Residual value	Average price 2016 pub 2020
00-01	59%	14 905
01-02	52%	13 019
02-03	46%	11 430
03-04	37%	9 294
04-05	32%	8 057
05-10	25%	6 272
10-15	10%	2 509
15+	5%	1 254

Consequently, the total value of newly purchased second-hand cars is estimated by multiplying the number of registrations by physical persons, broken down by age category, and the average price by age category. This corresponds with the total value of all purchases by private persons, whether sold by enterprises or by other private persons via an intermediary agent. A distinction between these two types of transactions needs to be made, as they are booked differently in final consumption expenditure.

The hypothesis is made that all purchases of cars younger than five years are sold by enterprises; this corresponds with the life cycle of leased cars and seems plausible. For these purchases, the full value of the exchange is booked in the final consumption expenditure.

All transactions of cars older than five years are considered as transactions between households, via an intermediary agent. The trade margin applied is estimated based on the difference in the recommended sales prices for professionals (Federauto) and the prices recommended by the « Moniteur automobile » for transactions between households. The analysis was done for some of the most popular models. The final consumption expenditure of purchases of second-hand car between households, via an intermediary agent are equal to the value of purchases of second-hand cars older than five years, multiplied by the trade margin, which was equal to 35.5 % in 2016.

This estimated value of purchases of second-hand cars does not include registration taxes paid on all second-hand cars, which need to be included, as is shown in the table below. The amounts of this tax are known through the accounting of general government.

Results COICOP 07.1.1

Year 2016, in € million

	2016
New cars	5 540
Of which car scrap scheme	0
Second-hand cars	451
Sales professionals to private persons (full amount)	368
Sales private person to private person via a professional intermediary agent (35.5 % margin only)	24
Registration tax (all transactions)	60
Total P.31 S.14 07.1: purchases of cars before adjustment	5 992
Adjustments (§5.7.3.3)	-5
Total P.31 S.14 07.1: purchases of cars: final result	5 986

- *Purchases of motorcycles (COICOP 07.1.2)*

Purchases of motorcycles are estimated using a price times quantity approach. Quantities correspond to the number of new motorcycles registered (FPS Mobility and Transport, DIV). Prices are equal to an average price calculated based on the most popular models sold (analysis of the FPS Economy in the framework of the CPI). It is assumed that all purchases of second-hand motorcycles occur between private households offsetting each other, implying that no amount is recorded in the final consumption expenditure of households.

Results COICOP 07.1.2

Year 2016, in € million

Motorcycles	Number of registrations	Result before adjustments	Adjustments (§ 5.7.3.3)	Final Result 2016
New	26 015	239	-3	236
Second-hand	71 932			

- *Purchases of bicycles (COICOP 07.1.3)*

Purchases of bicycles (COICOP 07.1.3) are estimated using the HBS method in reference years. Intermediate years are extrapolated from the reference years for this category using reported VAT turnover of shops specialising in the retail sales of bicycles (NACE 47.785). This corresponded with € 417 million in 2016.

Results COICOP 07.1.3

Year 2016, in € million

COICOP 0.7.1.3	Reference year (HBS)	IV 2015	IV 2016	Result 2016 before adjustments	Adjustments (§ 5.7.3.3)	Final result 2016
Bicycles	285	6,1%	8,5%	407	10	417

B. OPERATION OF PERSONAL TRANSPORT EQUIPMENT (COICOP 07.2)

Expenditure on the operation of personal transport equipment (COICOP 07.2) is broken down into four different categories, each analysed below.

- *Spare parts and accessories for personal transport equipment (COICOP 07.2.1)*

Expenditure on spare parts and accessories is estimated using the HBS method for reference years. Intermediate years are extrapolated from the reference years based on the evolution of reported VAT turnover of retail trade shops specialised in spare parts and accessories of motor vehicles (NACE 45.320). The final estimate for these products amounts to €789 million.

Results COICOP 07.2.1

Year 2016, in € million

COICOP	Reference year (HBS)	IV 2015	IV 2016	Result 2016 before adjustments	Adjustments (§ 5.7.3.3)	Final result 2016
07.2.1	635	4,8%	2,2%	710	79	789

- *Fuels and lubricants for personal transport equipment (COICOP 07.2.2)*

The consumption of petrol (19A02), diesel (19A05) and LPG (19A07) is estimated by multiplying prices and quantities. Average prices are obtained through the FPS of Economy. Quantities are estimated by multiplying the yearly average kilometres driven in Belgium by personal vehicles (FPS Mobility and Transport), with the number of private vehicles (cars and motorcycles) in the car park of Belgium for that year (Federal Planning Bureau) – including the number of leased cars - and an average consumption of fuel by category per kilometre as estimated yearly by the consumer organisation “Test-Achats” and the FPS Mobility and Transport. It is assumed that the consumption of non-residents in Belgium is offset by the consumption of residents in the rest of the world, as no information on these items is available.

Results COICOP 07.2.2

Year 2016, in € million

COICOP		Result 2016 before adjustments	Adjustments (§5.7.3.3)	Final result 2016
07.2.2.1	Diesel	3 307	-4	3 303
07.2.2.2	Petrol	1 811	-9	1 802
07.2.2.3	Other fuels for personal transport equipment	49	0	49
07.2.2.4	Lubricants	23	-1	22
Total		5191	-14	5177

Consumption of other types of fuel (SUT 19A06 and 20F05) is estimated using the HBS for reference years. Intermediate years are extrapolated from the reference years using the consumer price index.

- *Maintenance and repair of personal transport equipment (COICOP 07.2.3)*

In general, the HBS method is used to estimate expenditure for the maintenance and repair of personal transport equipment. Intermediate years are extrapolated from reference years based on the evolution of reported VAT turnover of retail trade shops specialised in maintenance and repair of motor vehicles (NACE 45.20).

The HBS allows us to identify the share actually paid by the households for maintenance and repair services of motor vehicles. The amount is first fixed in reference years and then extrapolated in intermediate years using the evolution of yearly average kilometres driven in Belgium and the CPI. For the repair and maintenance of motor vehicles (SUT 45A01) - the most important category- results of the HBS are, in addition, supplemented with administrative data on settlements with insurance companies.

Settlements of insurance companies are treated as transfers between households and/or enterprises depending on the insured party (broken down based on the car park). Compensation awarded to households, which amounted to € 1 775 million in 2016, is therefore added to the estimation of final consumption expenditure for maintenance and repair of motor vehicles which was initially only based on HBS data.

Results COICOP 07.2.3.

Year 2016, in € million

	Result 2016 before adjustments	Adjustments (§5.7.3.3)	Final result 2016
SUT 45A01	4 235	50	4 285
Others	214	25	239
Total	4 449	75	4 524

- *Other services in respect of personal transport equipment (COICOP 07.2.4)*

Expenses on other services of personal transport equipment (COICOP 07.2.4) consist of leasing (SUT 77A01 and 77C01), depots (SUT 52A02) and driving school (SUT 85A01)¹⁵⁰.

Expenditure on driving school lessons (85A01) are equal to reported VAT turnover of driving schools (NACE 85.531), including VAT (21 %), or € 173 million in 2016.

Expenses for depots (52A02) are estimated using the HBS method in reference years. Intermediate years are extrapolated from the reference years by using price evolutions from CPI and the evolution of average kilometres driven.

Concerning leasing of motor vehicles, final consumption expenditure of households is not limited to leased vehicles by households but should also include leased vehicles by enterprises made available to employees for final use. In national accounts, company vehicles used by employees are booked as follows:

- costs allocated to enterprises and imputed to the professional activity should be booked as either intermediate consumption or investment depending on the type of leasing
- costs allocated to enterprises and not linked to the professional activity should be booked as salary from the point of view of the enterprise (payment in kind) and as a final consumption from the point of view of the employee (user of the vehicle)
- all costs attributed to the employee should be booked as final consumption expenditure.

Since 2002, costs related to company cars attributed to households, including the associated payment in kind, are identified in the HBS. Moreover, data from the FPS Mobility and Transport (DIV) allows identification of cars bought with operational leasing.

Concerning leasing of motor vehicles, the final consumption expenditure is estimated based on the HBS for available reference years. Intermediate years are extrapolated using the evolution of the leased car park (DIV)

¹⁵⁰ Before the 2019 benchmark revision, an estimation was made for “the rent of a garage not linked to a dwelling (SUT 68B03). Since the revision in 2019, this estimation has been included in COICOP 04.

and the consumer price index (CPI) for new cars. The leased car park corresponds with the sum of registered leased cars in the last four years, implying a life cycle of four years.

Since 2019 benchmark revision, the final consumption expenditure related to benefits in kind allocated by the enterprise to their administrator are identified separately.

The methodology to estimate benefits in kind allocated to administrators is the following. The final consumption expenditure related to benefits in kind attributed by the enterprise to their administrator is mainly estimated based on of a P x Q-method. The number of attributed benefits is taken from the Belcotax declarations. These declarations, which serve as basis for the completion of the personal income tax declaration, contain information on the kind of benefit in kind which is attributed to the administrator (electricity, car, food, ...). For the estimation of the market value of the attributed benefits, the average final consumption expenditure of a Belgian household in Belgium is used. Only the non-professional use of the benefits is considered as final consumption expenditure, estimated at a fixed percentage for certain benefits (company car and pc/internet).

Results COICOP 07.2.4.

Year 2016, in € million

	Result 2016 before adjustments	Benefits in kind for administrators	Adjustments (§5.7.3.3)	Final result 2016
SUT 85A01	173			173
SUT 52A01	191			190
SUT 77A01 + 77C01	2 881	439	47	3 366
Total	3 244	439	47	3 729

C. TRANSPORT SERVICES (COICOP 07.3)

Public transportation services by train (COICOP 07.3.1) and by bus (COICOP 07.3.2.1) are estimated based on of the annual accounts and supplementary statistics provided by the companies in charge of the exploitation - namely the SNCB/NMBS for trains and De Lijn, TEC and STIB for busses, tramway and metro. The related expenditure was equal to € 1.505 million in 2016.

Final consumption expenditure for passenger transport by air (COICOP 07.3.3) is based on the purchases of flight tickets via Belgian flight operators and tour operators. Purchases of flight tickets by non-residents in Belgium are estimated based on the credit card information provided by the Balance of payment. The treatment of data on credit cards was improved within the 2019 benchmark revision.

Purchases of flight tickets via tour operators in Belgium are estimated as a share of the production of activities of travel agencies and tour operators (SUT 79A), based on the following information:

- the ratio between private (P.3) and business (P.2) travels as reported in the travel section of the Balance of payments (which was reviewed within 2019 benchmark revision)
- the share of transactions related to direct purchases of flight tickets (excluding package holidays), as available in the information of the Belgian Tour Operators Association
- an assumed 10 % trade margin percentage.

Total final consumption expenditure of households on flight tickets corresponds to € 437 million in 2016.

For other transportation services, such as taxi services (COICOP 07.3.2.2), transport by sea (COICOP 07.3.4), the HBS is the privileged method for estimating consumption expenditure in reference years. In between years are calculated by extrapolating from the reference year based on the following indicators:

- for taxi services (COICOP 07.3.2.2; SUT 49B02), the evolution of the reported VAT turnover of taxi drivers (NACE 49.32) is used
- for other transportation by road (COICOP 07.3.2.2; SUT 49B01 and 49B02), the evolution of reported turnover of other passenger transport by road (NACE 49.39) is used

- for transport services by sea (COICOP 07.3.4), a price times volumes indicator is developed, where price evolutions correspond with the CPI and volume evolutions correspond with the evolution of the number of people boarding a ship (FPS Economy - DGS)
- other transportation services (COICOP 07.3.6), such as removal services, funiculars etc., fluctuate based on the CPI and the evolution of the number of private households.

Results COICOP 07.3.

Year 2016, in € million

COICOP	Result 2016 before adjustments	Adjustments (\$5.7.3.3)	Final result 2016
07.3.1	789	-4	785
07.3.2	791	6	798
07.3.3	437	215	651
07.3.4	10	1	10
07.3.5	0	0	0
07.3.6	73	83	157
Total	2 100	301	2 401

5.7.3.2.8 COICOP 08 – Communication

The HBS is the preferred method for estimating goods and services relating to communication. Extrapolation from the reference years is based on FPS Economy consumer price indices and volume statistics from resp. the annual accounts of BPost, several large telecommunications providers and the Belgian Institute of Postal and Telecommunications Services.

Results COICOP 08

Year 2016, in € million

COICOP	Result 2016 before adjustments	E-Commerce	Benefits in kind	Adjustments (\$5.7.3.3)	Final result 2016
08	4 429	28	14	359	4 831

5.7.3.2.9 COICOP 09 – Recreation and culture

The HBS is the privileged source for estimating the expenditure on recreational and cultural services in the base years. Results for intermediate years are extrapolated from the reference years using different sources.

- Expenditure on equipment for the reception, recording and reproduction of sound and picture (COICOP 09.1.1), information processing equipment (COICOP 09.1.3) and recording media (COICOP 09.1.4), are extrapolated using the reported VAT turnover of retail sale of information and communication equipment in specialised stores (NACE 47.4). Expenditure on software is included in COICOP 09.1 and are estimated based on the general method (HBS + extrapolation). The expenditure on software, including games (see below), are made independently of the output estimate.
- Expenditure on photographic and cinematographic equipment and optical instruments (COICOP 09.1.2) are extrapolated using the reported VAT turnover of retail trade of photographic, optical, and precision equipment in specialised stores (NACE 47.782).
- Expenditure on repair of audio-visual, photographic and information processing equipment (COICOP 09.1.5) are extrapolated using the reported VAT turnover of repair of computers and communication equipment (NACE 95.1).

- Expenditure on major durables for outdoor recreation (COICOP 09.2.1) and musical instruments and major durables for indoor recreation (COICOP 09.2.2) are extrapolated using the reported VAT turnover of retail trade shops specialised in sports and outdoor equipment (NACE 47.640).
- Expenditure on maintenance and repair of other major durables for recreation and culture (COICOP 09.2.3) are extrapolated using the reported VAT turnover of repair of personal and household goods (NACE 95.2).
- Consumption expenditure on games, toys, and hobbies (COICOP 09.3.1) follows the evolution of the VAT turnover of retail trade shops, specialised in games and toys (NACE 47.650). Video games are included in this category.
- Expenditure on equipment for sport, camping and open-air recreation (COICOP 09.3.2) follows the evolution of the VAT turnover of retail trade shops, specialised in sporting equipment (NACE 47.640).
- Expenditure on gardens, plants, and flowers (COICOP 09.3.3) are extrapolated using the VAT turnover evolution of shops specialised in flowers, plants, and seeds (NACE 47.761).
- Expenses on pets and related products (COICOP 09.3.4) are extrapolated using the VAT turnover evolution of shops specialised in pet food and accessories for animals (NACE 47.762).
- Veterinary costs and expenses on other services for pets (COICOP 09.3.5) are extrapolated from reference years using a price times volume indicator, where the price evolution is equal to the CPI for veterinary services (FPS Economy - DGS) and the volume indicator is equal to the evolution of the number of private households.
- Expenses on newspapers, books, and stationery (COICOP 09.5) are extrapolated based on VAT turnover of bookshops (NACE 47.61) and newspaper shops (NACE 47.62).

Expenditure on other recreational and cultural services (COICOP 09.4) is estimated based on various sources:

- Recreational and sporting services (COICOP 09.4.1) are estimated using the HBS method for the reference years. Reference years are extrapolated using the evolution of output according to national accounts of the industry "sports, leisure and recreation" (SUT 93A). Non-market sales (SUT 93A91) from NPISHs are known from the account of this sector (NACE 93A).
- Services of cinemas (COICOP 09.4.2.1, SUT 59A01) are estimated based on revenues of movie theatres in Belgium (information received from Statbel).
- Services of theatres and concerts (COICOP 09.4.2.1, SUT 90A01) are estimated using the HBS method for the reference years. These base years are extrapolated using the evolution of VAT turnover of creative activities, art, and entertainment (SUT 90A). Non-market sales (SUT 90A91) from NPISHs are known from the account of this sector (NACE 90A).
- Market services of libraries, museums, and zoological gardens (COICOP 09.4.2.2, SUT 91A01) are estimated using the HBS method for reference years. The reference years are extrapolated using the evolution of VAT turnover for creative activities, art, and entertainment (SUT 90A). Non-market services of theatres and concerts (SUT 91A91) are known via the NPISHs' account and amounted to € 17 million in 2016.
- Radio and television services (COICOP 09.4.2.3) are estimated based on information on revenues in the annual business accounts of several large telecommunications enterprises. Moreover, telecommunication services (SUT 61A01) are estimated using the HBS method for reference years and are extrapolated in intermediate years based on information of the Belgian Institute for Postal services and Telecommunications.
- Other cultural services (COICOP 09.4.2.4; 09.4.2.5 and 09.4.2.9) are estimated using the HBS method for reference years. Intermediate years are extrapolated from the base year, using the evolution of VAT turnover for creative activities, art, and entertainment (SUT 90A).
- Expenses on games of chance (COICOP 09.4.3) are estimated based on the annual accounts of the National lottery and "tiercés" companies, as well as information on net revenues reported to the gaming commission for casinos, gaming halls and bingo in bars.

An exception in COICOP 09 is the final consumption expenditure of packaged holidays, i.e. the bundling of both transport and accommodation in one package. In national accounts, the consumption should be booked as consumption on Belgian territory, if the bundling was done by a resident producer, even if it consists of a trip to somewhere outside Belgium. The details of the trip (accommodations and transport) are considered intermediate consumption of the bundling producer (*tour-operator*).

Expenditure on packaged holidays corresponds with a share of the production of tour operators in Belgium (SUT 79A). This portion is estimated by considering the share of private travels in total travels, according to the Balance of payments. In 2016, 88 % of the output of the tour-operators are estimated to be related to personal travels. Adding VAT (3.8 % in 2016), this total value of final consumption expenditure can then be divided by COICOP,

using the share of transactions linked to the direct sales of plane tickets or other travel accommodations, not in a package, according to the Belgian Tour Operators Association (ABTO). Finally, ABTO data also allows an allocation of consumption between travels in Belgium and in the rest of the world and HBS data permits the identification of travels related to education.

Consumption of travel services

Year 2016, in € million

			Results
P.1 (excl. VAT)			3 097
	Business travel (P.2)	BOP 12%	370
	Personal travel (P.31 S.14)	BOP 88%	2 727
VAT			103
P.31 S.14 (incl. VAT)			2 830
COICOP 07	Flight tickets (margin 10%)	ABTO 9,6%	27
COICOP 09	Travel in Belgium	ABTO 3,8%	108
COICOP 09	Travel in the rest of the world	Balance	2 521
COICOP 10	Travel - education	HBS	174

Estimates for COICOP 09 are summed up as follows.

Results COICOP 09

Year 2016, in € million

COICOP	Result 2016 before adjustments	E-commerce	benefits in kind	Adjustments (\$5.7.3.3)	Final result 2016
09.1	1 794	132	-	424	2 350
09.2	536	9	-	62	608
09.3	3 517	196	-	319	4 033
09.4	5 455	7	-	404	5 867
09.5	1 995	149	-	164	2 308
09.6	2 629	0	-	-99	2 530
Total	15 926	494		1 274	17 694

5.7.3.2.10 COICOP 10 – Education

Education expenditure consists primarily of the contribution of households to non-market education services (SUT 85A92 and 85A93) produced by general government and NPISHs, mainly covering course enrolments, examination fees and school monitoring. The amount of these items is therefore determined when the accounts of general government and NPISH are compiled. This corresponds to € 541 million in 2016.

In addition, two other types of education expenses are estimated using the HBS for reference years, namely organised school excursions (79A01 – cf. 5.7.3.9) and private lessons (85A02). Estimates for in-between years depend respectively on the evolution of VAT turnover of travel agencies and tour operators (SUT 79A) and on course enrolments of the non-market services.

Results COICOP 10
Year 2016, in € million

SUT product	Result 2016 before adjustments	Adjustments (§5.7.3.3)	Final result 2016
SUT 85A92	31	0	31
SUT 85A93	510	0	510
SUT 79A01	174	-1	174
SUT 85A02	108	9	117
Total	823	8	832

5.7.3.2.11 COICOP 11 – Restaurants and hotels

The HBS is the preferred method for estimating final consumption of catering services (COICOP 11.1) and accommodation services (COICOP 11.2) in reference years. The method to extrapolate from the reference years is based on the VAT turnover of restaurants, cafes, and caterers (NACE 56A). For accommodation services, a price times volume index is compiled, using the CPI and the number of nights spend in an accommodation for personal reasons. These are known from survey results provided by the FPS Economy.

Results COICOP 11
Year 2016, in € million

COICOP	Result 2016 before adjustments	Benefits in kind	Adjustments (§5.7.3.3)	Final result 2016
11.1	10 852	14	1 060	11 926
11.2	1 394		27	1 420
Total	12 246	14	1 087	13 347

5.7.3.2.12 COICOP 12 – Miscellaneous goods and services

A. PERSONAL CARE (COICOP 12.1)

The HBS is the preferred method to estimate the final consumption expenditure of personal care for the reference years. The method to extrapolate from the reference years is based on the VAT turnover of hairdressers and beauty care establishments (NACE 96.02). For goods associated with body care, the VAT global turnover of retailers is used, checked with results of the retail trade survey and the VAT turnover evolution of retail trade in specialised shops for cosmetics and personal care products (NACE 47.750). For electric household appliances (such as bathroom scale) and repair services of household goods, the VAT turnover evolution of the retail trade in specialised stores for electrical household appliances is used (NACE 47.540).

B. PROSTITUTION (COICOP 12.2)

Household final consumption expenditure of prostitution services are estimated per type of services, namely street prostitution, window prostitution, private and escort services, brothels and clubs, massage parlours and male prostitution services. A method is developed based on the number of services provided in a base year, the evolution of the male population and average prices. A detailed description of the methodology can be found in §7.1.3.2. In 2016, the consumption of prostitution services was equal to € 954 million.

C. PERSONAL EFFECTS N.E.C (COICOP 12.3)

Household final consumption expenditure of personal effects n.e.c. is estimated via the HBS for reference years. For intermediate years, the results of the reference years are extrapolated using the evolution of the VAT turnover of jewellers and clock and watch suppliers (NACE 47.77) and the VAT global turnover of retail trade, as no other specific information is available.

D. SOCIAL PROTECTION (COICOP 12.4)

Final consumption expenditure on social protection services is estimated via the commodity flow method by SUT product. It consists of social protection services with overnight stay, where health care is not the primary goal (market 87A02 and non-market 87A92), childcare facilities (88A01) and social protection without overnight stay, excluding childcare (market 88A02 and non-market 88A92).

The output of social protection services corresponds with the production of the industries "social protection activities with overnight stay" (87A) and "social protection services without overnight stay" (88A). A part of hospital production (activity 86A) is also allocated to social protection services with overnight stay, excluding nursing care for elderly (87A02). The allocation of the production of these activity branches by SUT product is shown above (cf. 5.7.3.2.6). The production of the general government is added to the non-market production of social protection services without overnight stay, excluding childcare (88A92). This was equal to € 125 million in 2016.

The intermediate consumption of social protection services is set at zero due to the nature of the services. The balance of payment statistics does not report imports nor exports of these services. Net taxes on products are known via the accounting of general government and are equal to zero.

Finally, the individual consumption expenditure of general government and of NPISH is known via the accounts of these sectors.

The estimates for final consumption expenditure of households are calculated as residual item, as shown in the table below for the year 2016. For the SUT product 88A02, the amount estimated is equal to the total final consumption of households. Household services (COICOP 05.6.2, SUT 88A02) are estimated separately and deducted from this total. The balance of product 88A02 remains in COICOP 12.4 social protection services and amounted to € 66 million in 2016.

Estimating social protection services using the commodity flow method

Year 2016, in € million

	87A02	87A92	88A01	88A02	Household services (COICOP 05 88A02)	88A92	TOTAL COICOP 12.4
P.1	4 442	600	1 000	1 163		1 685	8 891
P.7	0	0	0	0		0	0
D.21	0	0	0	0		0	0
D.31	0	0	0	0		0	0
Total supply	4 442	600	1 000	1 163		1 685	8 891
P.2	0	0	0	0		0	0
P.2_86A	0	0	0	0		0	0
P.2_87A	0	0	0	0		0	0
P.2_other	0	0	0	0		0	0
P.3	4 442	600	1 000	1 163		1 685	8 891
P.31 S.13	2 642	0	688	807		0	4 137
P.31 S.14	1 800	6	312	356	-290	223	2 407
P.31 S.15	0	594	0	0		1 462	2 056
P.6	0	0	0	0		0	0
Total use	4 442	600	1 000	1 163		1 685	8 891

E. INSURANCE (COICOP 12.5)

Estimates for final consumption expenditure of households on insurance services are determined via the commodity flow method and based on information from the structural survey for insurance companies (SSIE).

Individual life insurances (65A01) can only be consumed by households. This implies that the sum of (total output and imports minus exports) is equal to private consumption. Imports and exports are known via the balance of payment data.

Output of non-life insurances (65A02) - such as fire, health, transportation, and others - can be consumed by households (P.31_S.14 or P.2), by general government (P.2), corporations (P.2), NPISH (P.2) or non-resident entities (exports). The output estimation method for non-life insurance is described in section 3.10.2.6.

The allocation of the production between IC of HFCE is estimated by a combination of two methods:

- An analysis by insurance product (e.g., the output of the sub-product “6.5 Business liability insurance” will be allocated to IC, etc.).
- When the product analysis is not fully conclusive (e.g., for Motor insurance), output is allocated to IC or HFCE in proportion of the premium payable by type of clients, based on SSIE’s results regarding the breakdown of non-life premiums paid per type and per sector.

In the specific case of IC of owner-occupied dwellings, we first estimate the “Fire insurance and other insurance for dwellings” consumed by households (*assurance habitation*) which is fully allocated to S.14. The split between HFCE and IC is based on the results of the Household Budget Survey (HBS). A key is established from the respective weightings of the corresponding HBS headings.

HBS items and breakdown of insurance between P.2 and P.3

HBS headings	P.2	P.3
Fire insurance for the building	X	
Fire insurance for contents		X
Fire insurance for building + contents ¹⁵¹	0.7	0.3
Insurance related to dwellings not elsewhere specified		X

COICOP 12.5 Insurance

Year 2016, in € million

	P.11	Taxes	P.2	P.3
Life insurance	2972	380	0	3321
Private life insurance (COICOP 12.5)	2419	146	0	2550
Pension funds and groupe insurance (COICOP 12.6)	553	234	0	771
Non-life insurance	6097	1973		4585
Insurance connected with the dwelling			885	537
Insurance connected with health			82	1603
Insurance connected with transport			709	2052
Other insurance			1158	393
Total				6127
COICOP 12.5				5356
COICOP 12.6				771

F. FINANCIAL SERVICES N.E.C. (COICOP 12.6)

The final consumption expenditure of financial services corresponds to a share of total production of financial services computed at a NACE 5-digits level.

¹⁵¹ Broken down respectively based on the ratio between owners and total housing stock and the ratio between tenants and total housing stock.

Concerning financial services (COICOP 12.6.2; SUT 64A01 and 64A02), the following hypotheses are set for the repartition of the estimated market supply between intermediate and final consumption¹⁵²:

- activities of the central bank (NACE 64.110): all production is allocated to intermediate consumption
- activities of deposit-taking corporations except the central Bank (S122/NACE 64.190): the production of these corporations, other than FISIM, is identified at a detailed level via the Structural Survey for credit institutions. Commission revenues (SUT 64A01) are allocated between intermediate and final consumption using information of the Structural Survey for credit institutions. Other monetary intermediaries also have production of auxiliary services (66A01 and 66A02) as explained below
- activities of holdings (NACE 64.200): all production is allocated to intermediate consumption
- activities of collective investment funds (NACE 64.300): the share of final consumption expenditure is determined by the proportion of shares held by households¹⁵³ ;
- activities of leasing companies (NACE 64.910): all production is allocated to intermediate consumption
- consumer credit facilities (NACE 64.921): all production is allocated to final consumption expenditure of households
- mortgage facilities (NACE 64.922): all production is allocated to the intermediate consumption of the owners of dwellings
- other credit facilities (NACE 64.929): a share of the production (12 % in 2016) is allocated to P.31_S.14; this share is calculated based on the results of a survey
- factoring (NACE 64.991): all production is allocated to intermediate consumption
- activities of stock exchange companies (NACE 64.992): a share of the production (40 % in 2016) is allocated to P.31_S.14, calculated based on the results of a survey. Taxes levied on this production are also allocated accordingly
- other financial service activities (NACE 64.999): all the production is allocated to the intermediate consumption.

The final consumption expenditure of FISIM (COICOP 12.6.1.0; SUT 64A03) is calculated based on the share of households as consumers in total loans and deposits. This share is known from a survey among the banks. Moreover, to classify FISIM related to the producers of dwelling services into P.2, we use a share based on data available on amounts of credits to households by type of loan (mortgage loans or other loans). Therefore, the mortgage loans are assumed to be associated to producers of housing services, while the residual loans are assumed to be linked to final consumption.

The final consumption by HH of auxiliary financial services (COICOP 12.6.2; SUT 66A01_S12) is based on the share of turnover allocated to the households for the industry “auxiliary activities for financial services, excluding pension funds and insurances (NACE 66A)”. It is the same method as for the share of the production attributed to the households for the activity “other monetary intermediates (NACE 64A)”. In addition, a fixed ratio of 2/3 of the production of auxiliary activities realised by units classified in S.14 is added to the total final consumption expenditure of households derived from the production figures by units categorized in S.12_66A. Finally, for other industries also producing auxiliary financial services (based on SUT analyses, notably for operational leasing (77A)), the production is also allocated between final and intermediate consumption, using the same hypothesis as for branch 66A.

It is assumed that the private final consumption expenditure of auxiliary services for insurances and pension funds (66A02) is equal to zero, because households pay directly to the pension funds and insurance companies, which then pay the auxiliary enterprises.

Finally, consumption expenditure on pension funds (COICOP 12.6.2; SUT 65A04) are calculated using the commodity flow approach. As the sum of total output and imports are either consumed by households or exported - and imports and exports are known from the balance of payment data - final consumption is equal to output plus imports minus exports.

¹⁵² Also considering possible amounts of imports and exports which is exogenous information (BoP).

¹⁵³ The import of financial services corresponding to management costs of non-resident mutual funds is also allocated to P.2 and P.3_S.14 according to the ownership of these funds (resident corporations or households).

G. OTHER SERVICES N.E.C. (COICOP 12.7)

Apart from non-market services of general government and NPISH, the HBS is the preferred method to estimate the final consumption of other services. The method used to extrapolate from the reference years relies on a price times volume indicator or on the turnover of a corresponding branch of activity, as shown below.

- For legal services and accounting (COICOP 12.7.0.2) the price times quantity indicator is a combination of the evolutions of the consumer price index (DGS) and of the number of private households
- Funeral services (COICOP 12.7.0.3) are extrapolated using the evolution of turnover reported to VAT authorities for the branch funeral services (NACE 96.03)
- In other fees and services (COICOP 12.7.0.4) different types are distinguished with, different indicators:
 - For sauna, solarium and other personal services, extrapolations of the HBS reference years results are done, using the evolution of the reported VAT turnover of the branch other personal services (NACE 96)
 - For advertisement (73A01) and other printing services (18A02) the volume indicator is the number of private households and the price indicator, the consumer price index.

The final consumption expenditure of households on administrative fees (COICOP 12.7.0.1) is known via the accounting of general government. It corresponds with sales of the general government of administrative documents delivered to households, such as identity cards etc.

In other fees and services (COICOP 12.7.0.4), other non-market services from the general government and NPISH are included. It concerns other sales of general government (SUT 84A91) and sales of NPISH for services furnished by trade unions and other membership organisations (SUT 94A91). Moreover, market services furnished by trade unions are included (SUT 94A01).

Estimates for COICOP 12 are summed up as follows.

Results COICOP 12
Year 2016, in € million

COICOP		Result 2016 before adjustments	E- Commerce	Fisim	Insurance	Exhaustiveness N2	Other adjustments (§5.7.3.3)	Final result 2016
12.1	Personal care	4 174	64				185	4 423
12.2	Prostitution					954	0	954
12.3	Personal effects n.e.c.	860	82				116	1 057
12.4	Social protection	2 407					8	2 415
12.5	Insurance				7 135		0	7 135
12.6	Financial services n.e.c.	5 790		883			0	6 674
12.7	Other services n.e.c.	4 000					435	4 435
12	Total	17 231	146	883	7 135	954	743	27 093

5.7.3.3 Adjustments

The basic estimates are subjected to three types of adjustments: exhaustiveness, conceptual adjustment and balancing of the production and expenditure approaches. A detailed breakdown of the estimates is shown in section 5.7.3.5.

The first adjustments concern exhaustiveness. The exhaustiveness corrections correspond with the items “N” in the GNI process table.

The illegal economy (**N2**) and consumption expenditure that should have been recorded (**N1** -domestic services) are added to the total estimates. There is a compensation for intermediate consumption (IC) of producers of prostitution services and smuggling of tobacco products in HFCE. See section 7.2 for more details.

Given that the HBS only surveys private households, it is necessary to include expenditure of collective households (mostly people living in nursing homes, in religious orders, in prisons or for a permanent stay in hospitals). Imputed rents and consumption specific for collective households' members are also added.

In addition, the highest income categories are underrepresented in the sample of the HBS. Not all revenues (and linked consumption) are declared (underground consumption), giving concerns of biased estimates. As a result, the final consumption expenditure is levelled up based on the ratio between disposable income of households as estimated in HBS and disposable income of households as estimated in national accounts.

Finally, a five-year moving average is used to smooth the sometimes-strong fluctuations from the HBS results (that can be due to variations in sampling rather than economic changes).

In 2016, the upward coefficient including all these aspects was equal to 8.5 %. This adjustment is included in the GNI process table under **N4**. The amount added is equal to 7.344 million €.

Another correction for exhaustiveness of data (**N7** in the GNI process table) is a compensation for statistical deficiencies in the data, given experience of previous arbitrages. Before the 2019 benchmark revision, this amount was allocated under expense categories which use the HBS as main source. Now, we identify which product should be increased within a SUT analyse instead of applying a proportional final arbitrage. Within the 2019 benchmark revision, this new SUT analyse was introduced from the reference year 2015 on. In 2016, the total amount added in this context is equal to 1921 million €.

A final type of adjustment to the estimates is linked to the balancing between the GDP production and expenditure perspectives. Household final consumption is compared with the other GDP components, and analysed in the context of the income accounts of households. If considered necessary, an adjustment of final consumption expenditure is then introduced to balance GDP production and expenditure approaches. This validation adjustment is made in the framework of a SUT/IOT analyse. In 2016, the amount added in this procedure is equal to € 602 million.

5.7.3.4 National and domestic concepts

The final consumption expenditure by COICOP group is estimated according to the domestic concept, meaning that all consumption (by residents and non-residents) on the Belgian territory is included.

To estimate the final consumption expenditure according to national concept (meaning consumption of all residents in Belgium and in the rest of the world), the expenditure of Belgian residents abroad (P.33) is added and the expenditure of non-residents in Belgium (P.34) are removed.

The values of consumption of residents in the rest of the world (P.33) and of non-residents in Belgium (P.34) are estimated based on balance of payments statistics for private travels. Within the 2019 benchmark revision, P.33 and P.34 were revised. Indeed, the balance of payments data on travel were revised to include the statistics on payment by bank card and/or credit card. The new balance of payments data are available from the reference year 2015. For the purposes of the national accounts, figures were back casted based on historical series for the period 1995-2014. The incorporation of new balance of payments data has an upward impact on both the level of consumption expenditure by residents abroad and the level of expenditure by non-residents in Belgium.

Two corrections are carried out on data derived from balance of payments:

- exclusion of packaged holidays sold by resident tour operators of which the costs need to be considered as domestic household final consumption. This point was an important revision within 2019 benchmark revision. Indeed, tour operators sell an "all-inclusive" service, the total value of which – i.e., the operator's margin plus hotel and transport costs – is equal to the tour operator's production. That production is attributed entirely to domestic household final consumption. Intermediate consumption comprising the value of imported services (hotels and transport) is also recorded in the tour operators' activity. In the balance of payments, those service imports are recorded under "Travel" but should not be included in the final consumption of residents abroad (and vice versa regarding exported services). Residents' final consumption abroad should therefore be adjusted in that respect. That adjustment was already made in the past, but the new estimation method of identifying the imported intermediate

consumption of tour operators was revised. This is based on a more refined definition of the production and intermediate consumption of tour operators, as explained as follow:

- Estimation costs (P.2) of tour operators on total activities of travel agencies, tour operators, reservation and related activities (79A) in Belgium: 35% of the intermediate consumption (P.2) of NACE 79.11 + NACE 79.9 of S.11 and S.14; plus the intermediate consumption of NACE 79.12. Moreover, a share of corrections of NACE 79A other than corrections linked to commercial goods is considered.
- Identification of costs linked to hotel and transport costs (Source Structural business survey (ESE) (+/- 85%))
- 10% of costs linked to hotel and transport costs are supposed to be in Belgium and so excluded of the correction on P.33.
- The estimate of the costs linked to hotel and transportation costs of foreign tour operators which must be exclude of the correction P.34 (because it is recorded as an households' expenditure abroad) is based on a ratio deduced from the correction on P.33)

The revision of the intermediate consumption of tour operators has an upward impact on both the final consumption of residents abroad and that of non-residents in Belgium.

- inclusion of transportation expenses (calculated based on BoP data for transport).
 - Credit card purchases by residents in the rest of the world to be added in P.33
 - Credit card purchases by non-residents in Belgium to be added in P.34

The estimates for P.33 and P.34 are shown in the tables below.

Estimates for P.33
Year 2016, in € million

NA code	IMF code	BOP	Correction Packages holidays (Tour-operators)	Correction flight tickets	Results
P.72_P.2	239 Other business travel	826			
P.72_P.33		12 203	-1 866	570	10 907
	238 Expenditures cross-border workers	730			
	241 Health travel expenses	332			
	242 Educational travel expenses	37			
	243 Other travel expenses	11 104			

Estimates for P.34
Year 2016, in € million

NA code	IMF code	BOP	Correction Packages holidays (Tour-operators)	Correction flight tickets	Results
P.62_P.2	239 Other business travel	459			459
P.62_P.34		6 450	-1 216	164	5 398
	238 Expenditures cross-border workers	267			
	241 Health travel expenses	332			
	242 Educational travel expenses	14			
	243 Other travel expenses	5 836			

5.7.3.5 Summary

The next table shows a detailed breakdown by COICOP group of the estimates for final household consumption expenditure. A distinction is made between estimates based on the HBS method and other methods. Exhaustiveness corrections as reported in the process tables are isolated, as well as corrections made based on a SUT analysis and data validation. Moreover, the amounts added within the introduction of e-commerce and benefits in kind of administrators are isolated. Finally, any needed correction in the framework of balancing GDP between production and expenditure approaches is also identified.

Detailed breakdown P.31_S.14 by COICOP group
in € million, 2016

	COICOP02	Base estimates HBS	Exhaustiveness corrections HBS estimates (N4)	Base estimates, other methods	On-line purchases	Benefits in kind	SUT corrections (N7)	Balancing	TOTAL
01.1	Food	22 574	1 918		6		225	316	25 039
01.2	Non-alcoholic beverages	419	36	1 846	1		21	-1	2 322
02.1	Alcoholic beverages	0	0	3 365	10	0	1	0	3 375
02.2	Tobacco	13	1	4 692	0	0	-12	0	4 694
02.3	Narcotics	0	0	684	0	0	0	0	685
03.1	Clothing	6 559	557	0	831	0	610	-24	8 533
03.2	Footwear	1 570	133	0	329	0	-183	-6	1 843
04.1	Actual rentals for housing	0	0	11 493	0	0	0	0	11 493
04.2	Imputed rentals for housing	0	0	24 749	0	0	0	0	24 749
04.3	Maintenance and repair of the dwelling	539	0		58	0	78	0	674
04.4	Water supply and miscellaneous services relating to the dwelling	2 302	0	650	0	0	66	0	3 019
04.5	Electricity, gas and other fuels	9 029	767	-67	0	39	330	-30	10 069
05.1	Furniture and furnishings, carpets and other floor coverings	4 002	340	0	62	0	1	-13	4 391
05.2	Household textiles	743	63	0	33	0	38	-3	874
05.3	Household appliances	1 839	156	0	31	0	-180	-6	1 840
05.4	Glassware, tableware and household utensils	781	66	0	48	0	45	-3	937
05.5	Tools and equipment for house and garden	966	82	0	18	0	28	-3	1 092
05.6	Goods and services for routine household maintenance	1 858	158	1 596	26	0	107	43	3 788
06.1	Medical products, appliances and equipment	0	0	3 729	19	0	153	0	3 901
06.2	Out-patient services	0	0	3 459	0	0	0	0	3 459
06.3	Hospital services	0	0	6 749	0	0	-1	0	6 749
07.1	Purchase of vehicles	407	35	6 231	0	0	-31	-1	6 639
07.2	Operation of personal transport equipment	1 141	97	12 420	0	439	125	-4	14 218
07.3	Transport services	158	13	1 942	0	0	288	-1	2 401

5.8 NPISH FINAL CONSUMPTION EXPENDITURE (P.3_S15)

The population and the estimation of the output of the NPISH sector is explained in chapter 3. As explained in section 3.1.3, our register of unit is exhaustive. It is also the case for NPISH's. The distinction between market and non-market NPI's was improved in the 2019 benchmark revision and is fully described in section 3.1.3.1.

Final consumption expenditure of NPISHs is equal to their non-market output (P.13). The value of NPISH total output (P.1) is calculated by branch of activity as the sum of production costs, i.e., the sum of compensation of employees (D.1), intermediate consumption (P.2), fixed capital consumption (P.51c) and other taxes on production less other subsidies on production (D.29-D.39). In Belgian accounts, all types of NPISH's are treated the same way. The treatment of the different data sources (detailed in chapter 3) follows the same general procedure as for all other domestic units, except general government.

NPIs are grouped into four different categories (H1 to H4) for the needs of the estimation procedures. These categories reflect the level of information available about the entity over a given year. The first group H1 consists of entities which have filed a full presentation of the annual accounts. H2 units are entities that have filed the abbreviated presentation of the annual accounts and answered at least one optional field. NPIs classified in the H3 group have filed the abbreviated model of the annual accounts but left empty the optional fields. At last, units in the H4 group are entities for which no annual account is available over the given period. The information available for H4 entities are thus wages declared at the National Social Security Office (NSSO) and VAT filings (although most NPIs are exempt from paying VAT). In terms of production or value added, the estimate for S.15 is very reliable, because compensation of employees is always available. See chapter 3 for more detail on the calculation methods and results for S.15.

The total output of NPISHs is the following:

Table 5.8.1: total output of NPISHs

2016 (in € million)	
Variable	
P.2	1666
D.1	3099
D.29	132
D.39 (-)	-126
P.51c	267
P.1	5038

The total output by NPISHs' category of unit is the following, knowing that the ESA2010 adjustments are calculated for all categories together:

Table 5.8.2: total output of NPISHs by category

2016 (in € million)			
Category	Total before adjustments	Adjustments	Total after adjustments
H1	2116		
H2	1073		
H3	1106		
H4	1555		
Total	5849	-811	5038

The non-market output is then calculated by subtracting P.11 and P.12 from P.1.

For sector S.15, P.12 represents own account production of software, R&D, and a very small amount for own production of own products. These items are calculated according to the standard methodologies, detailed in sections 5.10.3 and 5.10.4.

The amount of P.11 is derived from business accounting data of NPISHs, considering headings 70 and (74-740). In addition, an adjustment linked to the heading 730/1 "Membership fees" in the annual business accounts of NPAs is applied. The membership fees regarded as compensation for a service obtained (P.11) should be included in P.11. For sector S.15, the hypothesis is that it is the case for activities in education (NACE 85) and for entertainment and sport services (NACE 90 to 93).

Table 5.8.3: total of market output of NPISHs by business accounts headings

2016 (in € million)	
Variable	
Market production derived from code 70	435
<i>Of which correction (a2) for membership fees</i>	23
Market production derived from code 74-740	69
P.11	504

For 2016, the calculation of P.13 is the following:

Table 5.8.4: total of non-market output of NPISHs

2016 (in € million)	
Variable	
P.1	5038
P.11 (-)	-504
P.12 (-)	-25
P.13 = P.3	4509

From the Process table, the following table shows the values derived from individual categories of sources and values of conceptual adjustments:

Table 5.8.5: Extract from the process table

2016 (in € million)					
Administrative data (including removing P.11 and P.12)	CFC	Fisim component of intermediate consumption	Insurance component of intermediate consumption	Other conceptual adjustments	Total
5 021	267	21	10	-811	4 509

Given the nature of the activities of this sector, and its small size, there is no exhaustiveness adjustment nor balancing adjustment.

In the Belgian national accounts, the NPISHs' social transfers in kind are equal to the non-market production. Given the data sources at our disposal, the social transfers in kind corresponding to purchased market production are negligible for this sector.

The consumption of fixed capital is estimated the same way as for all other sectors/industries, i.e., via a PIM model. This methodology is described in section 4.12.

5.9 FINAL CONSUMPTION EXPENDITURE OF GOVERNMENT (P.3_S.13)

The definition of the population of the government sector and its sub-sectors is described in sections 3.1.3 and 3.1.5.

The methods for estimating the output of non-market branches of general government are already detailed in sections 3.21 and 3.22. In brief, this output is measured as the sum of production costs. To arrive at final consumption expenditure, the following items must be removed:

- market output
- output for own final use
- payments in respect of other non-market output

and social benefits in kind provided by market producers must be added. The methods for estimating these variables are described below.

The following table shows the different components of P.1 and P.3 for general government and the four sub-sectors.

Table 5.9.1: total output of government by component and by subsector

2016 (in € million)					
	S.13	S.1311	S.1312	S.1313	S.1314
Output (P.1)	80 196	15 839	37 698	23 997	2 663
Market output (P.11)	3 142	53	1 608	1 482	0
<i>of which:</i>					
- market branches of activity	53	53	0	0	0
- non-market branches of activity	3 089	0	1 608	1 482	0
Output for own final use (P.12)	3 216	900	2 263	25	27
Other non-market output (P.13)	73 838	14 886	33 827	22 490	2 636
Payments in respect of other non-market output (P.131)	7 018	2 668	2 111	1 939	300
Social transfers in kind - purchased market production (D.632)	33 227	317	7 221	281	25 408
Final consumption expenditure (P.3)	100 047	12 535	38 937	20 832	27 744

The next table shows an excerpt from the Process table, where the removing of P.11, P.12 and P.131 is already included in administrative data.

Table 5.9.2: Extract from the process table

2016 (in € million)					
Administrative data (including removing P.11, P.12 and P.131)	CFC	Fisim component of intermediate consumption	Insurance component of intermediate consumption	Other conceptual adjustments	Total
89 362	9 768	942	0	-25	100 047

Given the nature of the activities of this sector there is no exhaustiveness adjustment nor balancing adjustment. The 'other conceptual adjustments' cover mainly adjustments made to follow the accrual basis principle.

5.9.1 MARKET OUTPUT (P.11) AND PAYMENTS FOR NON-MARKET OUTPUT (P.131)

In the Economic regrouping, sales appear under economic codes¹⁰² 16 and 18. All data are taken as such from the budgets.

(i) Code 16 - Sales of non-durable goods and services

¹⁰² Cf. 3.1.4. for a description of economic codes.

This category includes income from sales of non-durable goods and services by the general government sector, and income from the renting of buildings, premises, means of transport, technical equipment, and other assets (income from the renting of land is coded 28.3).

Where a subsector of the general government sector which produces non-market services also has marginal, occasional sales of market goods and services, the resulting income is recorded under code 16.

Taxes paid by households or corporations on the ownership or use of vehicles, boats or aircraft, shooting, hunting, or fishing licences, etc. are regarded either as taxes or as purchases of services. The distinction between a tax and the purchase of a service from general government is based on the following criterion: if authorisation is granted automatically upon payment of the amount due, it is treated as a tax, but if general government uses an authorisation procedure to implement a regulatory function (e.g. verifying the competence or qualifications of the person concerned), the amount paid has to be regarded not as a tax but as payment for the purchase of a non-market service from general government, unless the amount is clearly disproportionate to the cost of providing the service.

(ii) Code 18 - Income from civil engineering work and other investment goods produced

This group covers work done by one subsector of the general government sector for another of its subsectors or for another sector. From the point of view of the subsector or sector for which the work is done, it may be investment work (e.g., new work or major maintenance) or maintenance work; from the point of view of the department that does the work, the income is current income.

The next table shows the sales for general government.

Table 5.9.3: sales by S.13

2016 (in € million)		
Federal Government (S.1311) without the Belgian Official Gazette Publishing Office (market branche)		
Code 16		1 574
Sales of Infrabel (railways infrastructure)	+	1 058
Sales by Belgian Official Gazette Publishing Office	-	53
Differences in definition of "Federal Government"	+	89
<i>Subtotal</i>		2 668
Communities and Regions (S.1312)		
<i>Subtotal</i>		3 718
Local authorities (S.1313)		
<i>Subtotal</i>		3 421
Compulsory social security (S.1314)		
<i>Subtotal</i>		300
Total (P.11 + P.131)		10 107

The breakdown of sales by product is based on a more detailed analysis of some budgets. Due to a shortage of data for Communities and Regions (S.1312) and local authorities (S.1313), our knowledge of sales by product is incomplete, and is based on some assumptions.

Only certain sales by non-market activities of general government are regarded as market sales of goods and services. The table below shows the market output (P.11) of non-market activities by industry and by product.

Table 5.9.4: market output of non-market activities by industry and by product

2016 (in € million)		
SUT branch of activity	SUT product	Amount
General government, except defence and social security (85A)	Renting of buildings	778
	Ship pilotage fees	79
	Sales of timber	49
	<i>Sub-total</i>	<i>906</i>
Education (85A)	Meals in school canteens	135
	Boarding schools fees	42
	University research contracts	535
	<i>Sub-total</i>	<i>711</i>
Waste (38A)		689
Transport infrastructure (52A)		494
Public television (92A)		289
Total		3 090

All other sales recorded in the budgets are regarded as payments for non-market output (P.131).

Table 5.9.5: payments for non-market output by industry and by product

2016 (in € million)		
SUT branch of activity	SUT product	Amount
General government, except defence and social security (85A)	Non-market social assistance	125
	Others	4 115
Compulsory social security (80C)	Others	300
Public education (85A)	Course enrolment and examination fees	467
	School monitoring	43
Waste (38A)	Others	99
Public transportation (49B)	Transport tickets	712
Transport infrastructure (52A)	Others	1 157
Total		7 018

As can be seen in the table below, the item "Others" for branch of activity 85A is quite substantial and is calculated as a balancing item. It includes income from the delivery of documents to households (identity cards, driving licences, etc.), searches in population registers, renting of barriers of the "Nadar" type, kiosks and festivity equipment, work done by civil protection services (removal of wasp nests), sales of admission tickets to museums, halls, swimming pools, sale of administrative forms, photocopies and various publications, miscellaneous work for third parties (statistical or computer work, road works, etc.).

5.9.2 OUTPUT FOR OWN FINAL USE (P.12)

In Belgium, output for own final use mainly includes the production of computer software and major databases, investment in originals for films and research and development (R&D). The own-account output of fixed capital goods produced by some public units consolidated in the general government sector is also considered (information is available in their annual accounts). No adjustment is made to estimate other own-account output of fixed capital goods. Wage and other costs are recorded as final consumption expenditure, which is therefore over-estimated, whereas public-sector investments are underestimated. It is difficult to say whether this results in a material under-estimate of GDP (because P51c is underestimated), but it should be noted that the staff of

most Belgian administrations deals only with maintenance and minor repairs, whereas major repairs and new investments are systematically contracted out to public works companies.

The estimation of output for own account of software, investment in originals and R&D is discussed more in detail in section 5.10.3.

Table 5.9.6: output for own final use by type

2016 (in € million)	
General Government (S.13)	
Software	557
Originals	8
R&D	2 285
Railways infrastructure	309
Own-account output of fixed capital goods produced by some public enterprises consolidated in the general government sector	57
Total	3 216

5.9.3 SOCIAL TRANSFERS IN KIND – PURCHASED MARKET PRODUCTION (D.632)

Social transfers in kind (D.63) payable by general government include those provided directly within the framework of its non-market output (D.631) and those transferred via purchased market production (D.632).

In the economic regrouping, D.632 appears under code 34, "Transfers of household income". This category includes payments to households to cover costs arising from certain risks and needs, without any equivalent and simultaneous counterpart from the recipient.

These payments are mostly recorded in the social security administrations subsector, in the form of allocations paid to households under insurance schemes, whether directly to households or to production units (for example, hospitals or care establishments) as full or partial remuneration of services rendered to eligible persons.

Social insurance administrations do not meet every risk and need. Consequently, central, state, and local authorities also pay allocations to households in need of government assistance. Specific cases are survivors' pensions (paid to the surviving dependants of Belgian officials) and war pensions.

Code 34.1 Widows' and orphans' pensions

In Belgium, there is no autonomous fund for widows' and orphans' pensions, so their gross amounts are recorded under code 34.1. Withholdings from wages (included in gross pay) are recorded as government income under code 37.5 (social security contributions payable by employees).

Code 34.2 War pensions

These comprise all pensions, annuities and ex gratia payments granted by government for psychological or physical injury arising from acts of war and risks incurred.

In Belgium, war disability compensation included in military pensions is not regarded as a transfer, since it cannot be isolated, but as an old-age pension (code 11.33).

Code 34.3 Other social benefits

Social benefits in this group are broken down into benefits in cash (code 34.31) and in kind (code 34.32).

By convention, the risks or needs which can give rise to social benefits are:

- a. sickness,
- b. disability or infirmity,
- c. industrial accident or occupational disease,
- d. old age,
- e. bereavement,
- f. maternity,

- g. family,
- h. job creation,
- i. unemployment,
- j. housing,
- k. education,
- l. destitution.

Most social benefits are paid in cash. Benefits in kind include:

- state contributions towards daily cost of hospitalization
- direct contributions: pharmaceuticals, prostheses, appliances provided directly to military and civilian victims of war or political turmoil
- medical, surgical and hospital care provided directly to the disabled, the destitute, refugees, etc.

Code 34.4 Other benefits to households as consumers

These are likewise broken down into benefits in cash (code 34.41) and in kind (34.42).

This group includes, by convention:

- a. travelling scholarships awards
- b. compensation for the loss of consumer goods (e.g., loss of furniture due to natural disaster)
- c. savings premiums granted periodically (those paid to an enterprise's own personnel are coded 11.12).

Code 34.5 Other benefits to households as producers

This category records benefits other than operating subsidies, e.g., prizes and awards for artistic activities.

Table 5.9.7: social transfers in kind by sub-sector

2016 (in € million)	
Federal Government (S.1311)	
Medical expenses	103
Benefis in kind for particular groups of people to energy consumption	135
Others	79
<i>Subtotal</i>	317
Communities and Regions (S.1312)	
Health care assistance	3 135
Birth and childhood assistance (antenatal consultations, consultations for infants and 3 to 6 year-olds, creches and day nurseries, etc.). Help for the disabled and elderly (reception and accommodation, assistance with daily life etc.)	4 085
<i>Subtotal</i>	7 221
Local authorities (S.1313)	
Help for the destitute (rents, pharmaceutical expenses, medical and paramedical care, living expenses in rest homes, cost of domiciliary meals, etc.) and refugees	281
<i>Subtotal</i>	281
Compulsory social security (S.1314)	
Health care assistance within the framework of compulsory health insurance	25 398
Other assistance (medical expenses arising from industrial accidents and occupational diseases, etc.)	10
<i>Subtotal</i>	25 408
Total social security benefits in kind provided by market producers (D.632)	33 227

The consumption of fixed capital is estimated the same way as for all other sectors/industries, i.e., via a PIM model. This methodology is described in section 4.12.

5.9.4 FINAL CONSUMPTION EXPENDITURE AND ACTUAL FINAL CONSUMPTION

There is a distinction between two types of final consumption: final consumption expenditure and actual final consumption.

Final consumption expenditure (P.3) includes the consumption expenditure for which each sector ultimately pays. The final consumption expenditure of general government (P.3_S13) is divided into individual consumption expenditure (P.31_S13: the individual consumer is identifiable) and collective consumption expenditure (P.32_S13). P.31 is conventionally broken down in line with a list of headings in the COFOG classification of the functions of government. It includes, for example, expenditure on education and health¹⁰³. The second, which comprises all other items in the COFOG classification, records expenditure on the "traditional" or "core" functions of government (defence, justice, police, general administration) and a residue of non-market services to corporations and households, such as transport infrastructure, which cannot be, by convention, individually identified.

Final consumption expenditure therefore does not include the health expenditure of households that is initially borne by them but subsequently refunded by social security. These refunds are included in the final consumption expenditure of general government.

Actual final consumption (P.4) includes goods and services used (consumed), irrespective of how they are funded. The actual final consumption of households is therefore the sum of their final consumption expenditure and social transfers in kind (D63) from general government or NPISHs¹⁰⁴ ($P.4_S.14 = P.3_S.14 + P.31_S.13 + P.3_S.15$). Social transfers in kind from general government to households correspond exactly to its individually identifiable final consumption expenditure. Conversely, the actual final consumption of general government includes only goods and services that are included in collective final consumption expenditure.

The distinction between individual consumption expenditure (P.31) and collective consumption expenditure (P.32) is made when the final tables of general government expenditure by function and transaction are compiled.

The table below provides details of the final consumption expenditure of general government by subsector for 2016. Items that cover individual services are indicated by outside borders.

¹⁰³ In ESA 2010, all final consumption expenditure of general government, except expenditure on general administration, regulations, research, etc., attributed to one of the following COFOG headings (revised version of 1998) is treated as consumption expenditure on individual services: 07 Health, 08.1 Sport and leisure activities, 08.2 Culture, 09 Education, 10 Social protection. The collective consumption expenditure of general government corresponds to all its other final consumption expenditure.

¹⁰⁴ According to ESA 2010, consumption expenditure by NPISHs is regarded, by definition, as individually identifiable.

Final consumption expenditure (P.3)			Federal government	Communities and regions	Local government	Social security funds	General government
Item							
Government function							
Total Final consumption expenditure (P.3)			12535	38937	20832	27744	100047
Total Individual consumption expenditure (P.31)			1176	27042	9014	27745	64977
	07 Health		295	3288	98	26414	30094
	08 Recreation, culture and religion		108	309	1340	0	1756
	09 Education		0	18823	5593	0	24417
	10 Social protection		773	4622	1984	1331	8710
Total Collective consumption expenditure (P.32)			11359	11894	11818	-1	35070
Total	01 General public services		2317	2743	5416	-1	10475
	01 General public services	01.1 Executive and legislative organs, financial and fiscal affairs, external affairs	2105	718	1933	0	4757
		01.2 Foreign economic aid	49	18	7	0	74
		01.3 General services	42	-274	3044	0	2812
		01.4 Basic research	8	1761	0	0	1768
		01.5 R&D General public services	0	73	-16	0	57
		01.6 General public services n.e.c.	62	7	0	0	69
		01.7 Public debt transactions	52	439	449	-1	938
		01.8 Transfers of a general character between different levels of government	0	0	0	0	0
	02 Defence		3516	0	0	0	3516
	02 Defence	02.1 Military defence	3343	0	0	0	3343
		02.2 Civil defence	0	0	0	0	0
		02.3 Foreign military aid	151	0	0	0	151
		02.4 R&D Defence	22	0	0	0	22
		02.5 Defence n.e.c.	0	0	0	0	0
	03 Public order and safety		3354	95	3320	0	6769
	03 Public order and safety	03.1 Police services	1363	0	2682	0	4046
		03.2 Fire-protection services	50	95	545	0	690
		03.3 Law courts	1045	0	2	0	1047
		03.4 Prisons	606	0	0	0	607
		03.5 R&D Public order and safety	13	0	0	0	13
		03.6 Public order and safety n.e.c.	276	0	90	0	367

04 Economic affairs		1611	6804	1700	0	10115
04 Economic affairs	04.1 General economic, commercial and labour affairs	276	1237	404	0	1917
	04.2 Agriculture, forestry, fishing and hunting	0	96	7	0	102
	04.3 Fuel and energy	169	25	-37	0	157
	04.4 Mining, manufacturing and construction	0	2	1	0	3
	04.5 Transport	955	5002	1215	0	7172
	04.6 Communication	42	1	1	0	44
	04.7 Other industries	0	81	85	0	166
	04.8 R&D Economic affairs	169	357	13	0	539
	04.9 Economic affairs n.e.c.	0	4	12	0	16
05 Environment protection		246	718	780	0	1744
05 Environment protection	05.1 Waste management	203	179	636	0	1018
	05.2 Waste water management	0	24	-82	0	-58
	05.3 Pollution abatement	5	201	56	0	262
	05.4 Protection of biodiversity and landscape	2	53	22	0	77
	05.5 R&D Environmental protection	32	18	0	0	49
	05.6 Environmental protection n.e.c.	4	245	147	0	395
06 Housing		0	131	294	0	425
06 Housing	06.1 Housing development	0	1	20	0	21
	06.2 Community development	0	42	161	0	202
	06.3 Water supply	0	0	-21	0	-21
	06.4 Street lighting	0	47	133	0	180
	06.5 R&D Housing and community amenities	0	2	0	0	2
	06.6 Housing and community amenities n.e.c.	0	39	2	0	41
07 Health		460	3403	100	26414	30377
07 Health	07.1 Medical products, appliances and equipment	59	68	0	3319	3446
	07.2 Outpatient services	1	25	46	12241	12313
	07.3 Hospital services	14	3080	6	10824	13924
	07.4 Public health services	220	116	46	30	412
	07.5 R&D Health	28	4	0	0	32
	07.6 Health n.e.c.	138	111	2	0	251
08 Recreation, culture and religion		150	1214	1420	0	2784
08 Recreation, culture and religion	08.1 Recreational and sporting services	0	130	635	0	765
	08.2 Cultural services	108	179	704	0	991
	08.3 Broadcasting and publishing services	0	832	4	0	836
	08.4 Religious and other community services	0	0	67	0	67
	08.5 R&D Recreation, culture and religion	43	9	0	0	51
	08.6 Recreation, culture and religion n.e.c.	0	65	10	0	75
09 Education		0	19115	5605	0	24721
09 Education	09.1 Pre-primary and primary education	0	5431	2853	0	8283
	09.2 Secondary education	0	8677	1418	0	10095
	09.3 Post-secondary non-tertiary education	0	1	8	0	9
	09.4 Tertiary education	0	2316	205	0	2520
	09.5 Education not definable by level	0	2070	876	0	2947
	09.6 Subsidiary services to education	0	329	233	0	562
	09.7 R&D Education	0	3	0	0	3
	09.8 Education n.e.c.	0	289	12	0	301
10 Social protection		879	4714	2197	1331	9121
10 Social protection	10.1 Sickness and disability	222	2929	34	373	3558
	10.2 Old age	137	31	202	223	593
	10.3 Survivors	0	0	19	0	19
	10.4 Family and children	0	1292	359	213	1864
	10.5 Unemployment	0	0	8	501	509
	10.6 Housing	0	199	-1	0	199
	10.7 Social exclusion n.e.c.	415	171	1362	21	1968
	10.8 R&D Social protection	1	1	0	0	2
	10.9 Social protection n.e.c.	105	91	213	0	409

	Data for 2016 (millions of euros)	Federal Government (S.1311)	Communities and Regions (S.1312)	Local authorities (S.1313)	Social security (S.1314)	EU Institutions (S.212)	Total (S.13+S.212)
D.3	Subsidies	4 817	8 799	626	1 763	658	16 663
D.31	Subsidies on products	1 760	1 969	206	0	148	4 083
D.311	Subsidies on imports	0	0	0	0	0	0
D.319	Other subsidies on products	1 760	1 969	206	0	148	4 083
	BNR losses	1 117	0	0	0	0	1 117
	Losses incurred by the Postal Service	255	0	0	0	0	255
	Losses incurred by PSWC hospitals	0	0	4	0	0	4
	Car scrap schemes	0	0	0	0	0	0
	FED - offshore wind energy	271	0	0	0	0	271
	FC - green certificates	0	1 229	0	0	0	1 229
	WR - green certificates	0	567	0	0	0	567
	BCR - green certificates	0	27	0	0	0	27
	CREG: degressivity offshore/electricity/natural gas	117	0	0	0	0	117
	Losses incurred by PSWC rest homes	0	0	202	0	0	202
	European subsidies (CAP)	0	0	0	0	148	148
	Subsidies to drinking water companies (FR)	0	146	0	0	0	146
	Other subsidies on products	0	0	0	0	0	0
D.39	Other subsidies on production	3 057	6 830	420	1 763	510	12 580
	Reductions of employer's social contributions for specific groups of employees ONSS	0	1 118	0	430	0	1 548
	Reductions of employer's social contributions for specific groups of employees ONSSAPL/DIBISS	0	306	0	0	0	306
	Contractual wage subsidies to hospitals	0	0	0	113	0	113
	Capitalisation of unemployment benefit subsidies	0	253	0	0	0	253
	Service cheques (Law of 2002)	0	1 742	0	0	0	1 742
	Social agreement (INAMI)	0	0	0	99	0	99
	Rest homes: wage harmonisation	0	221	0	0	0	221
	Rest homes: end of career	0	268	0	16	0	283
	Income tax deducted at source by employers	2 977	0	0	0	0	2 977
	Interest subsidies n.e.c.	28	132	0	0	0	160
	Subsidies on disabled persons' wages	0	425	0	0	0	425
	European subsidies (CAP)	0	0	0	0	510	510
	VAT over-compensation	0	0	0	0	0	0
	MARIBEL scheme - non-market sector	0	0	0	1 096	0	1 096
	Other subsidies on production n.e.c.	51	2 367	420	10	0	2 848

5.10 ACQUISITIONS LESS DISPOSALS OF PRODUCED FIXED ASSETS

5.10.1. OVERVIEW

The estimation of acquisitions less disposals of produced fixed assets is based on administrative data sources (annual business accounts and VAT data) and on the results of the Structural business survey. The following tables shows acquisitions less disposals of fixed assets by NACE sections (A*21) and types of assets. A separate row was included to identify investments in dwellings made by owner-occupiers.

Table 5.10.1.1 Acquisitions less disposals of fixed assets by activity (A*21) and assets

P.51g, 2016 (in € million)	AN.111	AN.112	AN.113 & AN.114	AN.115	AN.117	Total
Agriculture, forestry and fishing (A)		338	721	66	31	1 156
Mining and quarrying (B)		6	44		6	56
Manufacturing (C)		2008	6 298		4 723	13 029
Electricity, gas, steam and air conditioning supply (D)		903	1 384		186	2 473
Water supply; sewerage, waste management and remediation activities (E)		380	896		93	1 370
Construction (F)		1 737	1 600		218	3 555
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)		1 965	3 657		1 494	7 115
Transportation and storage (H)		3 807	2 899		353	7 059
Accommodation and food service activities (I)		524	494		21	1 038
Information and communication (J)		195	2 308		2 588	5 091
Financial and insurance activities (K)	19	9	2399		1334	3 761
Real estate activities (L)	24 616	2 453	247		49	27 364
<i>of which related to owner-occupied dwellings</i>	<i>15 292</i>					<i>15 292</i>
Professional, scientific and technical activities (M)		1354	2 816		2 109	6 279
Administrative and support service activities (N)		462	6 070		1473	8 004
Public administration and defence; compulsory social security (O)		1 635	865		895	3 395
Education (P)		1408	172		2 139	3 720
Human health and social work activities (Q)		2 237	1 669		226	4 132
Arts, entertainment and recreation (R)		332	433		143	908
Other service activities (S)		121	390		99	610
Total	24 635	21 872	35 361	66	18 180	100 114

Total acquisitions less disposals of fixed assets can also be presented by (sub)-sector as shown in the following tables:

Table 5.10.1.2 Acquisitions less disposals of fixed assets by sector

2016 (in € million)	
Non-financial corporations (S.11)	62 372
Financial corporations (S.12)	3 917
Central bank, deposit-taking corporations and money market funds (S.121 + S.122 + S.123)	665
Non-monetary investment funds, other fin. Intermediaries, except insurance corporations and pension funds, and captive financial institutions and money lenders (S.124+125+127)	2 257
Financial auxiliaries (S.126)	654
Insurance corporations and pension funds (S.128 + S.129)	341
General government (S.13)	10 366
Households (S.14)	23 118
Non-profit institutions serving households (S.15)	341
Total	100 114

Table 5.10.1.3 Acquisitions less disposals of fixed assets by sector and assets

2016 (in € million)						
	S.11	S.12	S.13	S.14	S.15	S.1
AN.111 Dwellings	3 719	19	0	20 897	0	24 635
AN.112 Other buildings and structures	15 295	10	5 704	708	155	21 872
AN.113 & AN.114 Machinery and equipment and weapons systems	29 765	2434	1 613	1395	155	35 361
AN.115 Biological resources	44	0	0	23	0	66
AN.117 Intellectual property products	13 549	1455	3 049	96	31	18 180
Total	62 372	3 917	10 366	23 118	341	100 114

A table showing the breakdown of intellectual property products (AN.117) into the subcategories (R&D, mineral exploration, software, databases, originals, others) and where relevant, giving the share of own account GFCF is presented below:

Table 5.10.1.4 Breakdown of intellectual property products (AN.117) into the subcategories

ASSET		Total, 2016 (in € million)	Share of own account GFCF
AN11710	Research and development	11 065	75%
AN11720	Mineral exploration and evaluation	0	
AN11730	Computer software and databases	6 416	65%
AN11740	Entertainment, literary or artistic originals	699	100%
AN11790	Other intellectual property products	0	
AN117		18 180	73%

In the capital account, some aggregate estimate of purchases and sales of land is made, that is registered in category NP1 "Acquisition less disposals of natural resources":

- S.11: estimates on the base of a ratio between dedicated rubrics in SBS (INVTER/(INVTER+INVBUTEREX+INVBUNE))
- S.13: specific rubric from public accounting (see infra section 5.10.3.3)
- S.122: specific rubric in the structural survey of banks
- S.128: specific rubric in the structural survey of insurance companies
- balancing item of the above operations is allocated to S.14.

The capital account also covers category NP2 "Acquisition less disposals of contracts, leases and licences", which are only estimated the following sectors:

- S.128: specific rubric in the structural survey of insurance companies
- S.13: licences of mobile phone (counterpart S.11), purchases of carbon credits (counterpart S.2)
- S.2: rubric 480 of the balance of payment
- balancing item of the above operations is attributed to S.11

Category NP3 "Purchases less sales of goodwill and marketing assets" is negligible and is set to zero due to lack of data.

The major improvements to land are not isolated, as we do not have enough data to adequately estimate these improvements from other investments in buildings and infrastructure. It is considered that major improvements to land (AN.1123) are included in the fixed asset that lies above it (AN.1110, AN.1121 or AN.1122). Such an assumption is in accordance with a practical approach that states that if improvement is impossible to separate from land itself, it must be registered as a composite asset in category with highest value (source: Eurostat, «Training on general introduction to ESA 2010», Luxembourg, December 2013). A similar approach is used for costs of ownership transfers, which are in Belgium included in the fixed asset that lies above it. For the purposes of the GNI inventory, costs of ownership transfers are explicitly mentioned in the table below.

Table 5.10.1.5 Acquisitions less disposals of non-produced assets and costs of ownership transfers

2016 (in € million)							
	S.11	S.12	S.13	S.14	S.15	S.1	S.2
NP1 Acquisitions less disposals of natural resources	550	3	38	-591	0	0	0
NP2 Acquisitions less disposals of contracts, leases and licenses	-826	0	5	0	0	-821	821
NP3 Purchases less sales of goodwill and marketing assets	0	0	0	0	0	0	0
<i>Pm Registration duties (on dwellings and land)</i>	-559	0	3992	-3433	0	0	0

To conclude this first section, an excerpt from the Process Table is included hereafter, showing the values of gross fixed capital formation derived from individual categories of sources and values of conceptual, exhaustiveness and balancing adjustments.

Table 5.10.1.6 Process table for gross fixed capital formation (P.51g)

GDP & GNI components, 2016 (in € million)		Basis for NA Figures					Adjustments				Final Estimate
		Surveys	Adm. Records	Combined data	Extrap + models	Other	Data validation	Conceptual adj.	Exhaustiveness	Balancing	
P51g		1 091	60 102	33 084	5 422	0	-1 007	853	512	60	100 114
Dwellings	AN.111	19	2 138	22 507	0	0	0	0	0	-29	24 635
Other buildings and structures	AN.112	-1	21 757	0	128	0	86	-105	0	6	21 872
Machinery and equipment	AN.113	-165	35 825	0	206	0	-747	160	0	55	35 335
Weapons systems	AN.114	0	26	0	0	0	0	0	0	0	26
Cultivated biological resources	AN.115	0	64	0	3	0	0	-1	0	0	66
Intellectual property products	AN.117	1 237	292	10577	5 085	0	-347	798	512	27	18 180

5.10.2. MAIN DATA SOURCES AND THEIR CONVERSION TO NATIONAL ACCOUNTS FIGURES

Three main data sources are used to estimate gross capital formation:

- the annual business accounts from the Central Balance Sheets Office of the National Bank of Belgium (§10.1.1.3 & §10.1.1.4)
- the VAT declarations (§10.1.1.8) and
- the results of the Structural Business Survey (SBS) (§10.1.1.10).

In those three sources, the 'one year' rule is embedded in the definition of what must be registered in rubrics related to GFCF.

5.10.2.1. The Central Balance Sheets Office of the National Bank of Belgium

As indicated in the description of the calculation of GDP via the output approach, every Belgian corporation is legally obliged to submit its annual accounts to the Central Balance Sheets Office (CBSO) of the National Bank of Belgium.

An important benefit of using the CBSO data is that the information provided for large corporations, the so-called A1 corporations (H1 if non-profit), contains a great amount of detail. This is not the case for most small and medium-sized corporations (SMEs), for which a distinction is only made between total tangible and total intangible fixed assets. It must however be underpinned that investments of A1 corporations form most investments.

The annual accounts of an A1 corporation include different headings that relate directly to the estimate of investments according to ESA 2010 methodology. These headings can be included in four groups, all pertaining to six types of tangible fixed assets, as described in table 5.10.2.1.1:

- Acquisitions
- Sales and disposals
- Depreciation and amounts written down
- Cancelled revaluation gains

In the case of a small corporations (the B and C categories units), an abridged schedule of the annual accounts is available, where only the headings related to totals of tangible fixed assets (8169/8179/8309/8239) are present.

A description of the different headings/categories of the annual accounts used to estimate P.51 is shown in the next table (5.10.2.1.2).

Table 5.10.2.1.1: Data relating to investments in annual business accounts (full accounting schedules)

	Heading	Acquisitions of:
Tangible fixed assets	8161	Land and buildings
	8162	Plant, machinery, and equipment
	8163	Furniture and vehicles
	8164	Leasing and similar rights
	8165	Other tangible fixed assets
	8166	Assets under construction and advance payments
	8169	Total tangible fixed assets
Other	6503 ¹⁵⁴	Interests recorded under assets =(capitalized)
		Sales and disposals of:
Tangible fixed assets	8171	Land and buildings
	8172	Plant, machinery and equipment
	8173	Furniture and vehicles
	8174	Leasing and similar rights
	8175	Other tangible fixed assets
	8176	Assets under construction and advance payments
	8179	Total tangible fixed assets
	Heading	Depreciation and amounts written down of:
Tangible fixed assets	8301	Land and buildings
	8302	Plant, machinery, and equipment
	8303	Furniture and vehicles
	8304	Leasing and similar rights
	8305	Other tangible fixed assets
	8306	Assets under construction and advance payments
	8309	Total tangible fixed assets
	8299	Acquired from third parties
	Heading	Cancelled revaluation gains of:
Tangible fixed assets	8231	Land and buildings
	8232	Plant, machinery, and equipment
	8233	Furniture and vehicles
	8234	Leasing and similar rights
	8235	Other tangible fixed assets
	8236	Assets under construction and advance payments
	8239	Total tangible fixed assets

The abovementioned headings are used in the following way to compute administrative ESA 2010 aggregates.

¹⁵⁴ Renamed in rubric 6502 since 2017, contents did not change.

Table 5.10.2.1.2: Computing basis data for NA figures

	Detailed schedule (categories A1 and H1)	Abridged schedule (categories B1, B2, C1, C2, H2 and H3)
P51111 acquisition of new tangible assets at purchaser's prices	8161+8162+8613+8164+8165+8166	8169
P51131 disposal of existing tangible assets at book value	(8171 - 8301 + 8231) + (8172 - 8302 + 8232) + (8173 - 8303 + 8233) + (8174 - 8304 + 8234) + (8175 - 8305 + 8235) + (8176 - 8306 + 8236)	8179 - 8309 + 8239

The rubrics 816* of the annual accounts cover acquisition of new (P.51111) as well as existing (P.51112) tangible assets; those two types of assets cannot however be distinguished, so that the whole amount is registered under category P.51111.

Corporations must also report in their annual accounts the disposals of tangible assets valued at acquisition prices (rubrics 817*), as well as amounts written down (rubrics 830*) and revaluation gains or losses (rubrics 823*).

Combining those information (817*-830*+823*) allows obtaining the book value of disposals.

For the computation of the disposals of year Y, all accounts closing in September, October, November, and December Y, but also those closing in January, February and March of Y+ 1, are considered. This is done in order to extend the population covered for this aggregate: for the units where VAT is used for acquisition (in particular for those that have a book year that does not coincide with the calendar year), their own individual annual account will be used to estimate disposals, since there is no information on disposals in the VAT returns.

Note that withdrawals of assets must be excluded from GFCF because there is no counterpart transaction involved. The rubrics of annual accounts used do cover these withdrawals. However, this is not a problem in practice because the accounting value of such an operation is zero (or is set to zero at the moment of withdrawal by writing off an exceptional amount or by accounting a revaluation loss). Therefore, withdrawals are taken into account, but with a zero-book value.

5.10.2.2. The VAT returns

Every business, the activity of which is liable to VAT, is legally obliged to submit a VAT return (collected by Federal Public Service Finances). This implies that the VAT returns have a very wide coverage.

In the VAT return, one variable is dedicated for recording investments (code 83). Only a global amount is mentioned, that is not further specified in any way. The amounts that are indicated for this variable in the VAT return must normally be coherent with the data reported in the annual accounts.

If the wide scope of the VAT statistics is a great advantage, the lack of detail is however a significant disadvantage. The VAT data are not enough to make estimates relating to investments according to ESA 2010 methodology.

5.10.2.3. The Structural Business Survey (SBS)

In Belgium, Statbel is entrusted with the practical organisation of the SBS. The information that is requested in this survey is largely in accordance with the regulations and requirements of ESA 2010, and in theory fully consistent with the totals shown in annual accounts. The following table shows which data from the SBS relating to investments are used in the calculation of investments along ESA.

Table 5.10.2.3.1: Data on investments in the SBS

Rubric	Heading	P26BNBVOL (full annual account) & P26GDTRA (new enterprises)	P26BNBVKT & P26BNBMICRO (abbreviated annual account)	P26011 (NPI's)	ESA compo- nent	Used to compute admini- strative aggregate	Used to compute adjust- ments
INVTER	Purchase of land included in rubric 8161 of annual accounts	X	X	X	P.51111		x
PURSOFT	Purchase of software included in rubric 61 ²	X	X	X	P.51112	x	
INVSOFT	Purchase of software included in acquisition of intangible assets	X	X	X	P.51112	x	
INV	Total acquisitions (excluding leasing) of tangible assets	(X)	(X)	(X)	P.51111		x
REVMFIA	Capital gain on sales of tangible assets registered as operating income	X	X	X	P.51131		x
COSTMFIA	Capital loss on sales of tangible assets registered as operating charges	X	X	X	P.51131		x
EXCREVMFIA	Capital gain on sales of tangible assets registered as extraordinary income	X		X	P.51131		x
EXCCOMFIA	Capital loss on sales of tangible assets registered as extraordinary charges	X		X	P.51131		x

(x) means that this variable is not directly available in SBS but that it can be computed by summing up other variables

¹ Rubric 61 of annual accounts relates to "Operating charges – services and other good", and is used to compute intermediate consumption (P.2, see section 3.4.1.1)

Note that for all surveys, the data relating to tangible fixed assets is recorded excluding investments in leasing.

On the basis of the three large sources mentioned above, administrative aggregates and some adjustments towards ESA compliant figures can be estimated. A more detailed description of these estimates by type of asset is given in the following sections.

5.10.3. ESTIMATE OF GFCF BY SECTOR AND BY TYPE OF ASSETS

This section further discusses the specific estimates of gross capital formation in tangible assets. It covers the following headings of the AN asset classification (which is harmonized into a 5-digits classification in the Belgian national accounts):

- AN.1121 (AN.11210) Non-residential buildings
- AN.1122 (AN.11220) Other structures
- AN.1131 (AN.11310) Transport equipment
- AN.11321 Computer & hardware
- AN.11322 Telecoms
- AN.1139 (AN.11390) Other machinery and equipment
- AN.114 (AN.11400) Weapons systems
- AN.115 (AN.11500) Cultivated biological resources (animal & vegetal)

For each sector, it describes which sources are used for the estimate, and how they are processed. The specific methods used to estimate AN.11100 Dwellings will be addressed when describing S.14 (see section 5.10.3.4 below).

While tangible assets relating to dwellings (AN.111) and weapons systems (AN.114) are estimated according to a specific method (see section 5.10.3.4 and 5.10.3.3), assets related to non-residential buildings and other structures (AN.112), machinery and equipment (AN.113) and cultivated biological resources (AN.115) are initially estimated together. In a further step, they are allocated by asset based on the details available in the five-yearly structural business surveys (SBS). The latter allows a sample of firms to be used to break down business investment (estimated from administrative sources) by asset. The balancing exercise of the Supply and Use Table finally allows us to refine the results during which large investments of the year in question are considered. The intermediate years are first estimated by extrapolation based on price indices specific to each SUT product making up the asset in question. The results then allow to establish an adjusted key that will be used to break down the estimated GFCF by SUT activity/product. The results are also refined as part of the SUT balancing exercise.

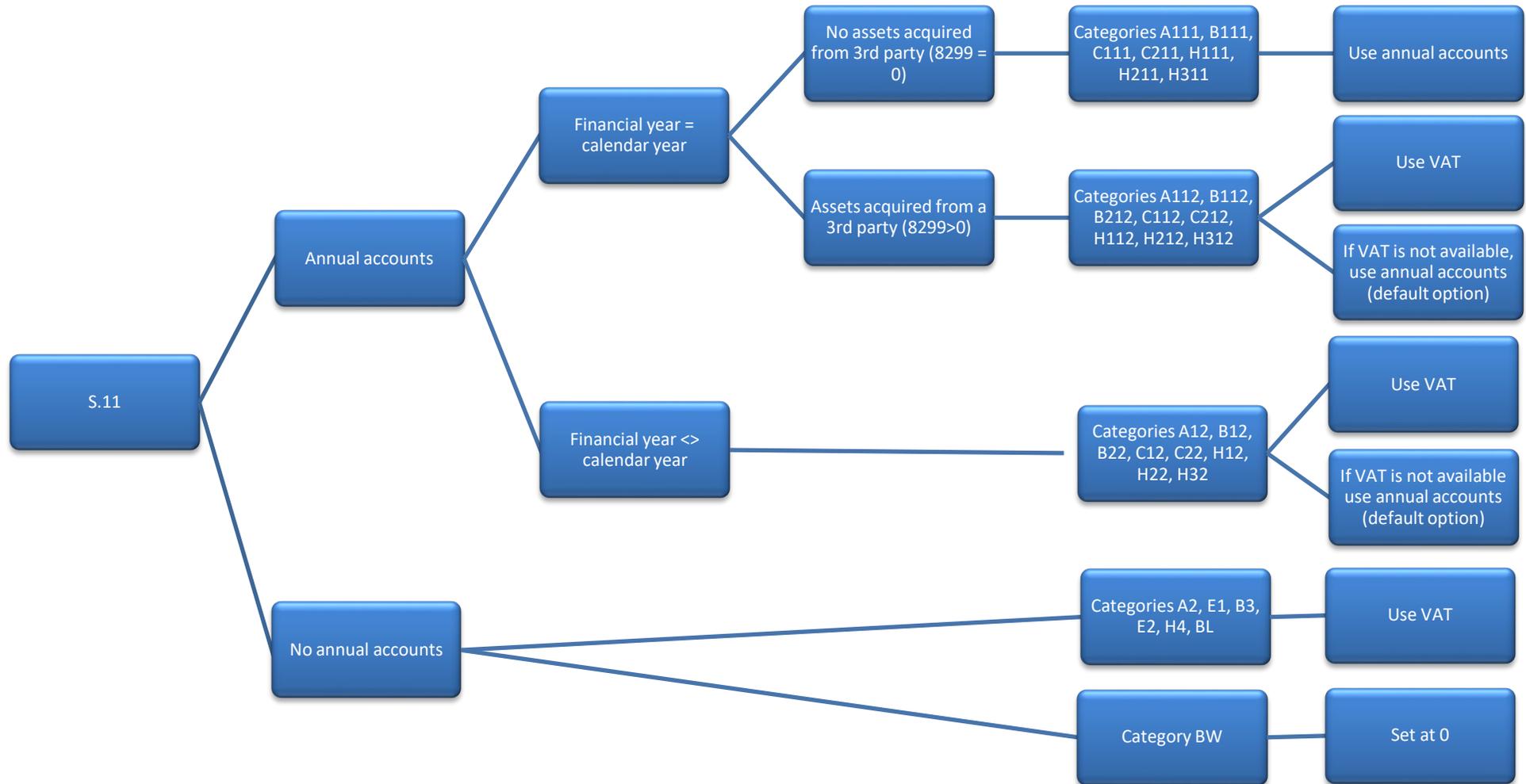
5.10.3.1. S.11 - GFCF in tangible assets by non-financial corporations

The general procedure to discriminate the different methods to be used to compute investments in S.11 is described in diagram 5.10.3.1. This method is also applied to sectors S.125, S.126, S.127 and S.15.

We will first describe the computation of basic data for NA figures for acquisitions (P.51111) and disposals (P.51131) of tangible assets.

We will then review the various conceptual adjustments.

Procedure to discriminate the different methods to be used to compute investments



5.10.3.1.1. Administrative aggregates

a. Corporations with full accounting schedules (A1)

When estimating the gross capital formation for category A1, a distinction is made between two subcategories, namely A11* and A12.

The difference between the two categories lies in the timescale of the annual accounts filed by the institutional units in this sector and category. Unlike the national accounts (which are set up per calendar year), a corporation may draw up annual accounts that do not coincide with the calendar year¹⁵⁵.

- When the financial year coincides with the calendar year there is no problem. The value of the investments can be read from the annual accounts relatively easily. These units form subcategory A11*.
- When the financial year does not coincide with the calendar year, it is not so easy to deduce the investments for the calendar year from the annual accounts. Unlike some variables such as output (P.1) or intermediate consumption (P.2), it is not desirable to use a pro rata value to estimate investments. After all, it can be stated a priori that investments are not necessarily made at the same steady rate as can be expected for example for P.1 and P.2. A corporation whose financial year runs from 1 July Y to 30 June Y+1 may for example make a single large investment in machinery in October Y. If pro rata data are then used to estimate the investments in Y, half of the investment amount would be allocated to Y and the other half to Y+1 whereas the whole amount should be allocated to Y. Corporations whose financial year does not coincide with the calendar year are therefore included in a specific category A12.

A11*: financial year = calendar year

According to the accounting law, corporations that have taken over other corporations (or parts of them) must record the value of the tangible fixed assets taken over as acquisitions/investments. According to ESA 2010, these amounts are however not considered as GFCF but only reflect a transfer of existing assets induced by legal restructuring operations¹⁵⁶. Therefore, the 'real' investments must be distinguished from the amounts of take-overs.

In practice the annual accounts offer no absolute certainty whether a corporation has taken over other corporations. However, if an amount is indicated in heading 829* of the annual accounts (i.e., the depreciation and amounts written off on assets acquired from third parties recorded during the financial year), it can be assumed that a take-over has occurred. That enables subcategory A11* to be further broken down into:

- A111: corporation that has not carried out any take-overs
and
- A112: corporation that has carried out take-overs

A111: The corporation has not carried out any take-overs

Acquisition and disposals of tangible fixed assets of corporations in category A111 are estimated using the data from the annual accounts filed with the CBSO along the formula set out in table 5.10.2.1.2.¹⁵⁷

Acquisition less disposals of tangible assets for sector S.11 and category A111		
€ million, 2016		
P.51111 Acquisition of tangible asset from the annual accounts		21 251
P.51131 Disposal of tangible asset from the annual accounts	-	3 102
Acquisition less disposals of tangible assets	=	18 149

¹⁵⁵ The financial year may for example run from 1 July Y to 30 June Y+1.

¹⁵⁶ If company A buys the stock of company B, company A acquires a participation (financial asset) in B and the tangible assets of A are not influenced by this operation. What is considered here are absorptions, scissions and the like which give rise to the incorporation of tangible fixed assets in the balance sheet of the overtaking/absorbing company.

¹⁵⁷ Note that all the amounts for basic data presented in the text are amounts after data validation.

A112: The corporation has carried out take-overs

If it is suspected that a corporation has carried out take-overs (i.e., if amounts are indicated in heading 829 of the annual accounts), the annual accounts are not used to estimate the gross fixed capital formation. For units in category A112, the VAT returns are used as the main data source. Because of the difference in legislation for annual accounts and VAT returns, heading 83 of the VAT returns does not contain the amounts of any take-overs made by the corporation. Acquisition of tangible assets is therefore estimated through the values of heading 83. Disposals of the unit carrying out the takeover are however not affected by this operation and are thus estimated using annual accounts. If there are no VAT data available, annual accounts are also used to estimate acquisitions, but correction for rubric 829 are carried out.

Acquisition less disposals of tangible assets for sector S.11 and category A112		
€ million, 2016		
P.51111 Acquisition of tangible asset from VAT returns		4 019
P.51131 Disposal of tangible asset from the annual accounts	-	649
Acquisition less disposals of tangible assets	=	3 370

A12: financial year <> calendar year

Category A12 consists of units for which the financial year does not coincide with the calendar year. In this case the VAT returns are used as the main data source because they always relate to the calendar year. For disposals however, there is no alternative source, and annual accounts are used along the standard method. If there is no VAT data, the annual accounts will be used as default method.

Acquisition less disposals of tangible assets for sector S.11 and category A12		
€ million, 2016		
P.51111 Acquisition of tangible asset from VAT returns		6 275
P.51131 Disposal of tangible asset from the annual accounts	-	350
Acquisition less disposals of tangible assets	=	5 925

b. Large corporations with no annual accounts (A2)

This category includes (large) institutional units that do not have annual accounts. To estimate acquisition less disposals of tangible assets, heading 83 of the VAT returns is used (no information is available for disposals which are assumed to be 0).

Acquisition less disposals of tangible assets for sector S.11 and category A2	
€ million, 2016	
P.51111 – P51131 Acquisition less disposals of tangible assets from VAT return	156

c. Large corporations without annual accounts but with full SBS (E1)

This category includes large institutional units that do not have annual accounts but have a full SBS; here also, the rubric 83 of VAT returns is used.

Acquisition less disposals of tangible assets for sector S.11 and category E1	
€ million, 2016	
Acquisition less disposals of tangible assets from VAT returns	196

For large corporations, the total of acquisitions less disposals of tangible fixed assets amounts to:

Acquisitions less disposals for large corporations in sector S.11		
€ million, 2016		
A1: with annual accounts		27 444
A11: financial year = calendar year		21 519
A111: no take-overs in financial year		18 149
A112: take-overs in financial year		3 370
A12: financial year <> calendar year		5 925
A2: without annual account and no ESE		156
E1: without annual account but with ESE		196
Total acquisitions less disposals large corporations (categories A* and E1)		27 796

d. SMEs with an abridged accounting schedule (B1, B2, C1 and C2)

A similar distinction of estimation methods is also used for SME's, distinguishing SMEs for which the calendar year is equal (or not) to the financial year and taken into account potential take-overs using rubric 8299. The decision tree shown in 5.10.3.1 shows the different possibilities.

The most significant change is the available detail of data in from the CBSO. Only total acquisitions and disposals are available, simplifying the computation method (see formulas in table 5.10.2.1.2).

In the following parts, the distinction between the different categories is shown.

Financial year = calendar year and 8299 = 0: categories: B111; B211; C111; C211; BC

Acquisition and disposals of tangible fixed assets of corporations where the financial year corresponds with the calendar year and there are no signs of take-overs carried out, are estimated using the data from the annual accounts filed with the CBSO along the formula set out in table 5.10.2.1.2.

Acquisitions less disposals for sector S.11 and categories B111, B211, C111, C211 and BC		
€ million, 2016		
P.51111 Acquisition of tangible asset from the annual accounts B111	+	954
P.51131 Disposal of tangible asset from the annual accounts B111	-	167
Acquisition less disposals of tangible assets B111	=	787
P.51111 Acquisition of tangible asset from the annual accounts B211	+	9 828
P.51131 Disposal of tangible asset from the annual accounts B211	-	1826
Acquisition less disposals of tangible assets B211	=	8 002
P.51111 Acquisition of tangible asset from the annual accounts C111	+	60
P.51131 Disposal of tangible asset from the annual accounts C111	-	13
Acquisition less disposals of tangible assets C111	=	47
P.51111 Acquisition of tangible asset from the annual accounts C211	+	850
P.51131 Disposal of tangible asset from the annual accounts C211	-	222
Acquisition less disposals of tangible assets C211	=	628
P.51111 Acquisition of tangible asset from the annual accounts BC	+	1 141
P.51131 Disposal of tangible asset from the annual accounts BC	-	133
Acquisition less disposals of tangible assets BC	=	1 008
Total SMEs's with annual accounts where financial year = calendar year and where there are no assets acquired from 3rd parties	=	10 472

Financial year = calendar year and 8299 <> 0: categories: B112; B212; C112; C212

If it is suspected that an SME has carried out take-overs (i.e., if amounts are indicated in heading 829 of the annual accounts), the annual accounts are not used to estimate the gross fixed capital formation. In these cases, the VAT returns are used as the main data source. Because of the difference in legislation for annual accounts and VAT returns, heading 83 of the VAT returns does not contain the amounts of any take-overs

made by the corporation. Acquisition of tangible assets is therefore estimated through the values of heading 83.

Disposals of the unit carrying out the takeover are however not affected by this operation and are thus estimated using annual accounts.

If there are no VAT data available, annual accounts are also used to estimate acquisitions, but correction for rubric 8299 are carried out.

Acquisitions less disposals for sector S.11 and categories B112, B212, C112 and C212		
€ million, 2016		
P.51111 Acquisition of tangible asset from the annual accounts B112	+	8
P.51131 Disposal of tangible asset from the annual accounts B112	-	2
Acquisition less disposals of tangible assets B112	=	6
P.51111 Acquisition of tangible asset from the annual accounts B212	+	77
P.51131 Disposal of tangible asset from the annual accounts B212	-	12
Acquisition less disposals of tangible assets B212	=	65
P.51111 Acquisition of tangible asset from the annual accounts C112	+	0
P.51131 Disposal of tangible asset from the annual accounts C112	-	0
Acquisition less disposals of tangible assets C112	=	0
P.51111 Acquisition of tangible asset from the annual accounts C212	+	2
P.51131 Disposal of tangible asset from the annual accounts C212	-	1
Acquisition less disposals of tangible assets C212	=	1
Total SMES's with annual accounts where financial year = calendar year and where there are assets acquired from 3rd parties	=	72

Financial year <> calendar year: categories: B12; B22; C12; C22

When the financial year does not coincide with the calendar year, the VAT returns are used as the main data source because they always relate to the calendar year. For disposals however, there is no alternative source, and annual accounts are used along the standard method. If there are no VAT data available, annual accounts will be used as a default computation method.

Acquisitions less disposals for sector S.11 and categories B12, B22, C12 and C22		
€ million, 2016		
P.51111 Acquisition of tangible asset from the annual accounts B12		220
P.51131 Disposal of tangible asset from the annual accounts B12	-	14
Acquisition less disposals of tangible assets B12	=	206
P.51111 Acquisition of tangible asset from the annual accounts B22	+	3 623
P.51131 Disposal of tangible asset from the annual accounts B22	-	342
Acquisition less disposals of tangible assets B22	=	3 281
P.51111 Acquisition of tangible asset from the annual accounts C12	+	36
P.51131 Disposal of tangible asset from the annual accounts C12	-	2
Acquisition less disposals of tangible assets C12	=	34
P.51111 Acquisition of tangible asset from the annual accounts C22	+	644
P.51131 Disposal of tangible asset from the annual accounts C22	-	89
Acquisition less disposals of tangible assets C22	=	555
Total SMES's with annual accounts where financial year <> calendar year	=	4 076

e. *SMEs with no annual accounts (B3, BL, E2 and BW)*

To estimate the gross capital formation of B3, BL and E2 units (E2 units don't have annual account but do have an SBS), the heading 83 of VAT returns is used.

Acquisition less disposals of tangible assets for sector S.11 and category B3, E2 and BL	
€ million, 2016	
P.51111 – P51131 Acquisition less disposals of tangible assets from VAT return B3	1 474
P.51111 – P51131 Acquisition less disposals of tangible assets from VAT return BL	9
P.51111 – P51131 Acquisition less disposals of tangible assets from VAT return E2	7
Total SMEs' without annual accounts	1 490

Finally, for enterprises classified as a BW enterprise, gross investments are set to zero. This category contains ancillary corporations.

In sum, estimates for SMEs can be represented as follows:

Acquisitions less disposals for SME's in sector S.11	
€ million, 2016	
<i>B1 SME's with revenues and costs mentioned and gross margin > 0</i>	999
B11: B1 SMEs with calendar year = financial year and 8299 = 0	787
B112: B1 SMEs with calendar year = financial year and 8299 <> 0	6
B12: B1 SMEs with calendar year <> financial year	206
<i>B2 SME's without revenues and costs mentioned and gross margin > 0</i>	11 348
B211: B2 SMEs with calendar year = financial year and 8299 = 0	8 002
B212: B2 SMEs with calendar year = financial year and 8299 <> 0	65
B22: B2 SMEs with calendar year <> financial year	3 281
<i>C1 SME's with revenues and costs mentioned and gross margin < 0</i>	81
C111: C1 SMEs with calendar year = financial year and 8299 = 0	47
C112: C1 SMEs with calendar year = financial year and 8299 <> 0	0
C12: C1 SMEs with calendar year <> financial year	34
<i>C2 SME's without revenues and costs mentioned and gross margin < 0</i>	1 184
C211: C2 SMEs with calendar year = financial year and 8299 = 0	628
C212: C2 SMEs with calendar year = financial year and 8299 <> 0	1
C22: C2 SMEs with calendar year <> financial year	555
<i>BC SME's belonging to a VAT unity and following B2/C2 reporting</i>	1 008
<i>BL Members of a VAT unity without annual accounts</i>	9
<i>B3 SME's without annual accounts and without SBS</i>	1 474
<i>E2 SME's without annual accounts but with SBS</i>	7
Total acquisitions less disposals for SME's	16 110

f. *Non-profit associations (H1, H2, H3 and H4)*

Since 2009, non-profit institutions must submit their annual accounts to the Central Balance Sheets Office (CBSO) of the National Bank of Belgium. The large ones must fill in a detailed schedule (category H1) and the small ones, an abridged schedule (categories H2 and H3).

For the non-profit units without annual accounts (category H4), a distinction must be made between units that are or are not VAT-registered. For VAT-registered units that do not file annual account, the VAT returns are used. For non-VAT-registered units, an estimate is made for hospitals only.

Hospitals belong in NACE 861 "Hospital activities" (SUT industry 86A). Unlike commercial enterprises and given their legal status, most of these units should not file conventional annual accounts to the CBSO and are not VAT-registered. But they have the obligation to transmit to the FPS Health statistical and accounting data in a detailed standardized scheme that is inspired by the structure of the annual accounts filed with CBSO. These data are the basis for the estimation of acquisitions less disposals of tangible assets of hospitals.

Two adjustments are made to these data:

- Administrative data on acquisition of tangible fixed assets are adjusted to exclude land purchases by applying a correction factor of 1.6 %¹⁵⁸.
- Since the accounting data do not fully cover all the activities of hospitals¹⁵⁹, an upward adjustment is made to include these activities. This adjustment is proportional to the ratio of total wages estimated from Social security data (D1 NSSO) to wages from hospital activities found in the accounts of hospitals (D1 accounting):
D1 NSSO / D1 accounting = 1.091

Acquisitions less disposals for hospitals		
€ million, 2016		
Acquisitions	+	2 037
Administrative data	+	1 897
Adjustment for purchase of land	-	30
Adjustment for non-hospital activities	+	170
Disposals	-	46
Administrative data	-	42
Adjustment for non-hospital activities	-	4
Acquisitions less disposals	=	1 991

It should be noted that acquisitions and disposals initially estimated for SUT 86A on the basis of partial data from annual accounts and VAT (and the adjustments thereof), must be cancelled out as they are covered by the more complete estimates made on the basis of hospitals' accounting data. The affected units may be found in the category Hx, as well as in other categories.

As is the case for other types of enterprises, the distinction is made between associations for which the financial year corresponds or not with the calendar year and for the possibility of takeovers. The following table summarises acquisition less disposals from the different H categories in sector S.11.

¹⁵⁸ Average percentage observed for the share of land acquisition in S.11 for the years 2002 to 2006 according to SBS.

¹⁵⁹ Some hospitals transmit to the FPS Health that data on hospital activities only, while others report their hospital as well as non-hospital activities. By non-hospital activities it is meant ambulances, nursing homes, rest and care homes, schools of nursing, psychiatric nursing homes, etc.

Acquisitions less disposals for categories H in sector S.11		
€ million, 2016		
<i>H1 Non profit association with full accounting scheme</i>		823
H111 calendar year = financial year and 8299 = 0		698
H112 calendar year = financial year and 8299 <> 0		85
H12 calendar year <> financial year		40
<i>H2 NPA with abreged accounting scheme: revenues and costs mentioned</i>		139
H211 calendar year = financial year and 8299 = 0		137
H212 calendar year = financial year and 8299 <> 0		0
H22 calendar year <> financial year		2
<i>H3 NPA with abreged accounting scheme: revenues and costs not mentioned</i>		180
H311 calendar year = financial year and 8299 = 0		164
H312 calendar year = financial year and 8299 <> 0		0
H32 calendar year <> financial year		16
<i>H4 NPA without accounting scheme</i>		74
<i>Hospitals (86A)</i>		1 991
Total acquisitions less disposals for categories H		3 207

Acquisitions and disposals of tangible fixed assets for all non-profit institutions categorised in S.11 are shown in the table below.

Acquisitions less disposals for sector S.11 and categories H*		
€ million, 2016		
P.51111 Acquisition of tangible asset from the annual accounts Hospitals	+	2 037
P.51131 Disposal of tangible asset from the annual accounts Hospitals	-	46
Acquisition less disposals of tangible assets Hospitals	=	1 991
P.51111 Acquisition of tangible asset from the annual accounts H1 - others	+	899
P.51131 Disposal of tangible asset from the annual accounts H1 - others	-	76
Acquisition less disposals of tangible assets H1 - others	=	823
P.51111 Acquisition of tangible asset from the annual accounts H2 - others	+	170
P.51131 Disposal of tangible asset from the annual accounts H2 - others	-	31
Acquisition less disposals of tangible assets H2- others	=	139
P.51111 Acquisition of tangible asset from the annual accounts H3 - others	+	205
P.51131 Disposal of tangible asset from the annual accounts H3 - others	-	25
Acquisition less disposals of tangible assets H3 - others	=	180
Acquisition less disposals of tangible assets from VAT returns H4 - others	=	74
Total Non-profit institutions H*	=	3 207

The totals of basic data for NA figures regarding acquisitions less disposals of tangible assets for sector S.11 are summarized in the following table.

Acquisitions less disposals of tangible assets for sector S.11 - basic data for NA figures*		
€ million, 2016		
Total A1	+	27 444
Total A2	+	156
Total B1	+	999
Total B2	+	11 348
Total B3	+	1 474
Total BL	+	9
Total BC	+	1 008
Total C1	+	81
Total C2	+	1 184
Total E1	+	196
Total E2	+	7
Total H1 (including hospitals)	+	2 814
Total H2	+	139
Total H3	+	180
Total H4	+	74
Total S.11	=	47 113

*After data validation and balancing

5.10.3.1.2. Investments in dwellings in S.11

Gross fixed capital formation in the form of dwellings is mainly done by S.14 and is therefore addressed below in section 5.10.3.4.2.

Nevertheless, a portion of these investments is allocated to S.11 to take into account the investments made in social housing intended for renting. Investments of social housing companies in dwellings intended for acquisition by households are classified among the investments of sector S.14. It is assumed that the investments in social dwellings are already included in the acquisitions of fixed tangible assets computed based on administrative data, so that no correction is needed. On the contrary, investments of social housing companies in dwellings intended for acquisition by households must be excluded from the investments of S.11.

Moreover, according to ESA2010, if an existing dwelling (owned by a household) is sold to a non-resident, the convention is that the sector S.2 (ROW) acquires a financial asset representing the capital of a fictitious resident unit (in S.11) which has acquired the dwelling. Purchases and sales of real estate is therefore an operation between two resident units. The sales of buildings by resident households to non-residents (which are assumed to cover dwellings only) is based on balance of payments data; it is registered with a positive sign in S.11 and a negative sign in S.14.

Acquisitions of dwellings by sector S.11		
€ million, 2016		
Building of new social dwellings (included in administrative data)	+	655
Building of social dwellings intended for acquisition by households	-	169
Transformations of social dwellings intended for renting	=	497
Acquisitions of dwellings by renting enterprises, excluding social dwellings	+	985
Acquisitions (by fictitious units) of existing dwellings from households (from balance of payments data)	+	1 228
Registration duties	+	559
Total	=	3 755

5.10.3.1.3. Conceptual adjustments

The aggregates computed above using administrative data (further addressed as "P.51111_admin" and "P51131_admin") do not however fully meet the requirements of ESA 2010 in defining gross fixed capital formation.

To comply with ESA 2010, six further adjustments are made.

The following table summarizes the conceptual adjustments made on acquisition and disposals of tangible assets. Those adjustments are operated in S.11, but also in other sectors where units file standard annual accounts in the CBSO (i.e., S.125, S.126, S.127 and S.15).

Conceptual adjustments	Computed at enterprise level	SBS inputs	ESA aggregate	Sectors
Members of VAT units	x		P.51111	S.11 / S.125 / S.126 / S.127 / S15*
Capitalized interest	x		P.51111	S.11 / S.125 / S.126 / S.127 / S15*
Land	x	x	P.51111	S.11 / S.125 / S.126 / S.127 / S15*
			P.51131	S.11 / S.125 / S.126 / S.127 / S15*
Buildings for resale	x		P.51111	S.11 / S.125 / S.126 / S.127 / S15*
Mark-up on output for own final use	x		P.51111	S.11
Valuation of disposals				
<i>Negative results</i>	x		P.51131	S.11 / S.125 / S.126 / S.127 / S15*
<i>Take-overs</i>	x		P.51131	S.11 / S.125 / S.126 / S.127 / S15*
<i>Market price</i>	x	x	P.51131	S.11 / S.125 / S.126 / S.127

* For S.15, for the years 2009 and after, in line with availability of annual accounts for non-profit institutions

a. P.51111 of VAT-units and its members

For the members of a VAT-unit (grouping of companies under a common VAT declaration), the VAT source is not usable¹⁶⁰. This has an impact for the members not filing an annual account, or with unusable annual accounts (categories A112 and A12). A correction must therefore be computed at enterprise level.

This correction relies on an alternative method combining the following data:

- VAT returns for the VAT-unit itself (category = BE) and for the members of the unit (category = BL if no annual accounts, A1, B1, B2, C1, C2 otherwise)
- annual accounts possibly filed by the members of the unit
- a key computed on salary data (D1 NSSO) to breakdown the rest.

Members of a VAT-unit can belong to the various categories and sectors. For members where the method would impose the use of VAT returns, another way to compute the administrative aggregates is used, relying on annual accounts data available for other members on the unit:

1st step: for each VAT unit active in a given year, the list of its members for that year must be defined

2nd step: for each VAT unit, the total investments from the VAT returns must be computed: this is the sum of code 83 of VAT unit itself and remaining codes 83 for the members of the unit: $83_{BE}^{glob} = 83_{BE} + \sum 83_{members}$

3rd step: Estimate of P.51111 for each unit member depending on its category:

¹⁶⁰ A member of a VAT unit does not file VAT returns anymore (that is the very purpose of a VAT unit), but if it has become a member during the year, it may have filed VAT returns for some months.

Computation of adjustment for VAT units		
Category	<i>P.51111_admin of the member</i> ¹	Correction
A111	8161 + 8162 + 8163 + 8164 + 8165 + 8166	correction = 0
A112	if (rub8299 * 2) > 8169 then P.51111_admin_new = 0 else P.51111_admin_new = 8169 - (rub8299 * 2 ²)	correction = P.51111_admin_new - P.51111_admin
A12	P.51111_admin_new = 8169 _p ³	correction = P.51111_admin_new - P.51111_admin
B1, B2, C1, C2, H1, H2, H3	8169	correction = 0
A2, E1, E2, B3, H4, BL	if $\sum_{A1,B1,B2,C1,C2,H1,H2,H3} P.51111_admin_new \geq 83_{BE}^{glob}$ then P.51111_admin_new = 0 else $P.51111_admin_new = (83_{BE}^{glob} - \sum_{A1,B1,B2,C1,C2,H1,H2,H3} P.51111_adm_new) * D1 / \sum_{A2,E1,E2,B3,H4,BL} D1$ ⁴	correction = P.51111_admin_new - P.51111_admin

¹ In the shaded cell, same calculation as in the standard method described before.

² It is assumed that 50 % of the assets taken over are written down.

³ 8169_p = determined pro rata to match calendar year

⁴ D1 = wages from NSSO

This correction is operated on an individual basis in sectors S11, S124, S125, S126, S127 and S15.

Adjustment for VAT units	
€ million, 2016	
S.11	308
S.125	-3
S.126	22
S.127	0
S.15	1
Total adjustment for VAT units	328

b. P.51111 Capitalized interest

A second adjustment concerns capitalized interest (heading 6503¹⁶¹). According to Belgian accounting legislation, interest payable on loans incurred with the purpose of constructing assets for own use must be capitalized, i.e. included in the acquisition value of the capital asset. According to ESA 2010, these amounts must be transferred back to the interest paid (D.41) and are therefore removed from the total of heading 8169.

This correction is done in a similar manner for sectors S.11, S.15, S.126, S.127 and S.15 (for the latest, for years 2009 and after).

Computation of adjustment for capitalized interest	
Large enterprises with annual accounts (A1)	P.51111_admin - 6503
SME's with annual accounts (B1, B2, C1, C2)	P.51111_admin - 6503
Large enterprises without annual accounts (A2, E1)	/
SME's without annual accounts (B3, E2)	/

¹⁶¹ Heading 6502 in the new accounting schedules (since 2019; KB 29 April 2019)

Since no annual accounts are available for A2, E1, B3 and E2 corporations and in view of their relatively low importance, no adjustment is made for capitalised interest for those units.

Adjustment for capitalized interest	
€ million, 2016	
S.11	-81
S.125	0
S.126	0
S.127	0
S.15	0
Total adjustment for capitalized interest	-81

c. Acquisitions (P.51111) and disposals (P51131) of land

The third adjustment relates to the content of heading 8161¹⁶² of the annual accounts, which includes acquisitions of both buildings and land. According to ESA 2010, acquisition of land is not an investment, as land is not a produced asset. An adjustment must therefore be made. Since there is no direct information in the annual accounts relating to the acquisition of land, other source data are used to make this adjustment. The heading INVTER of the SBS is deducted from administrative data on an individual basis for large corporations filing an SBS (A1, A2, E1 and H1).

Since an SBS is not available for every SME, adjustments cannot be made on an individual basis. For these types of corporations, the acquisitions of land found in the available SBS (INVTER) are summed by industry; these amounts are then related to the corresponding total investments (INV) from SBS. The proportions obtained can be applied to the total investments per industry calculated beforehand (P51111_admin).

For disposals, a similar approach could be followed until 2007, when a dedicated rubric (INVSLO2 or 04) was available in the SBS. However, due to administrative simplifications this rubric is not available in recent SBS. Since then, the latest correction ratio available is used to adjust P51131_admin.

Computation of adjustment for acquisitions and disposals of land	
Acquisitions	
Large companies & non-profit institutions (A1, A2, E1, H1)	If INVTER > P.51111_admin Then correction = P.51111_admin * -1 Else correction = INVTER * -1
SME's (B1, B2, C1, C2, B3, H2, H3, H4, and A2 in S.14)	correction = P.51111_admin * %land * -1 with %land = INVTER/INV computed by industry
Disposals	
All categories	correction = P.51131_admin * % disp. land * -1 with % disp. land = INVSLO2 or 04/INV computed by industry (in 2007)

The total adjustments to exclude acquisitions and disposals of land are as follows:

¹⁶² 8161 for detailed accounting schedules, 8169 for abridged schedules.

Adjustment for acquisition and disposals of land	
€ million, 2016	
Exclusion of acquisitions of land	-864
S.11	-824
S.125	0
S.126	-19
S.127	0
S.14	-19
S.15	-2
Exclusion of disposals of land	-214
S.11	-211
S.125	0
S.126	-1
S.127	0
S.15	-2
Total adjustment for acquisition of land	-650

d. P.51111 Buildings for resale

Changes in stocks of buildings purchased or constructed for resale must be recorded as investments (P.51111 of acquisitions tangible assets) and not as changes in inventories (as is the case in the administrative data), because the acquired or constructed buildings that are held for resale will be ultimately sold and considered investment by buyers.

Detailed accounting schedules

In the balance sheet of the detailed schedules, the rubric 3 "stocks" is broken down in the different types of inventories, of which rubric 35 of "Stocks - Immovable property intended for sale". The acquisitions will be computed on an individual basis as the annual change in rubric 35.

Abridged schedules

For companies with an abridged schedule, information on changes of inventories in immovable property intended for sale does not exist; it must be estimated from the structure observed in the detailed schedules of the corresponding sector-SUT combination.

The correction is as follows:

Computation of adjustment for buildings for resale	
Detailed schedules	For each unit with rub 35 >0 Correction in year Y = rub 35 _Y - rub 35 _{Y-1}
Abridged schedules	For each combination sector / SUT Correction = [rub 3 _{abridged} * (rub35 _{detailed} / rub 3 _{detailed})] _Y - [rub 3 _{abridged} * (rub35 _{detailed} / rub 3 _{detailed})] _{Y-1}

As a result, the corrections in the various sectors are shown in the next table:

Adjustment for buildings for resale			
€ million, 2016			
	Detailed schedules	Abridged schedules	Total
S.11	-880	1325	445
S.125	-1	0	-1
S.126	-14	0	-14
S.127	0	0	0
S.15	5	-1	4
Total adjustment for buildings for resale	-890	1324	434

e. P.51111 Mark-up on output for own final use

Output for own final use of tangible fixed assets is, in line with business accounting practices, valued at cost. This implies that a mark-up must be estimated for this type of investment goods produced on own account. This is done by combining data from annual accounts and SBS, in sector S.11 only.

The population of enterprises with positive own-account production of fixed assets (heading 72 > 0 in their annual account) can be broken down into two groups: those with an SBS and those without any SBS.

The SBS provides information on the split-up of the output for own final use between research and development (PRODRND), software (PRODSOFT), other intangible assets (PRODIFIA), buildings & construction (PRODBUCO), and other tangible assets (PRODMFIA). Consequently, detailed data is available for the first group which will enable to calculate the mark-up of tangible assets produced on own account precisely. For the second group (enterprises without a SBS, representing less than 10 % of the total amount of heading 72 in 2016), an estimate of the split-up of heading 72 is made using annual accounts information (total acquisitions per type of tangible and intangible asset) and the results of the enterprises with a SBS.

The results of the distribution of own-account production for enterprises are the following.

Distribution of own-account production - heading 72 of annual accounts in S.11							
€ million, 2016							
	R&D	Software	Other intangible assets	Tangible assets			Total
				Total	buildings & other structures	other tangible assets	
with SBS	4 533	285	305	1 257	469	788	6 380
without SBS	204	44	31	449	117	332	728
Total	4 737	329	336	1 706	586	1 120	7 108

In order to define the mark-up added to the tangible production and investments of « buildings & construction » and « other tangible assets », we use the gross margin on sales (further referred to as "bm") calculated by the CBSO, for the construction industry (PU300) and other investment goods industry (PU250).

The estimated mark-up (*mu*) of tangible assets produced on own account is calculated as: $mu = \frac{1}{1 - bm}$

Gross margin and mark-up for tangible assets		
2016, in %		
	PU300, used for asset « buildings & other structures »	PU250, used for « other tangible assets »
Gross margin	7,1	11,3
Mark-up	7,6	12,8

The total correction on output for own final use concerning tangible fixed assets¹⁶³ amounted to € 165 million in 2016:

buildings and other structures: € 295 million * 0.076 = € 22 million

other tangible assets: € 1.119 million * 0.128 = € 143 million

Adjustment for mark-up on tangible assets for own final use in S.11	
€ million, 2016	
Correction « buildings & other structures »	22
Correction « other tangible assets »	143
Total adjustment for mark-up on tangible assets for own final use	165

f. P.51131 Valuation of disposals

The book value of disposals ($817^* - 830^* + 823^*$) always must be greater than or equal to zero. If this is not the case (because of errors in the annexes to the annual accounts), adjustments have to be made (book value is set to 0).

Annual accounts allow to value disposals of tangible assets at book value (see above, section 5.10.2.1.1.). In national accounts they must however be valued at market prices (more specifically at basic prices - ESA 2010 §3.137), so that adjustments are needed, that will rely on information from the SBS.

Adjustments must also be made to correctly assess disposals in case of restructuring operations between resident units or sales abroad.

f1. Adjustment to avoid negative values

It happens that the administrative aggregate computed by company for P51131 is negative. This is however not correct so the individual data must be rectified; the adjustment is as follows, depending on the category.

Computation of adjustment for negative values		
Sectors	Category	
S11+S124+S125+S126+S127	A1	If $\sum_{x=1}^6 830x > \sum_{x=1}^6 817x + \sum_{x=1}^6 823x$, then adjustment = $\sum_{x=1}^6 830x - (\sum_{x=1}^6 817x + \sum_{x=1}^6 823x)$
S11+S124+S125+S126+S127+S15	H1	
S11+S124+S125+S126+S127	B1 + B2 + C1 + C2 + H2 + H3	if $8309 > 8179 + 8239$ then adjustment = $8309 - (8179 + 8239)$

f2. Companies restructuring and sales of assets abroad

Asset disposals carried out as part of corporate restructuring operations between two resident units cannot be included in the disposals of fixed assets (accordingly, acquisitions of assets occurring in the same context cannot be recorded as acquisitions of fixed assets - cf. 5.10.3.1.1.). The most common forms of restructuring are absorptions and scissions.

A sale of assets abroad is recorded as disposals of fixed assets (P.51: -) and as exports (P.61: +). But, if a group of fixed assets (e.g., a production unit) is sold abroad, the transaction is normally recorded as a direct investment transaction from the rest of the world in Belgium in the financial accounts; to avoid double counting, this operation must not be recorded as a disposal of fixed assets in the real accounts.

i. Absorption

¹⁶³ See correction (o4) in the transition table.

When a take-over occurs, the absorbing company takes the assets of the absorbed company in its balance sheet: if there is a transfer of assets, the acquiring company will record an acquisition of assets and depreciation acquired from third parties in its financial statements, in accordance with the requirements of business accounting. Since this “acquisition” of assets cannot be recorded in gross fixed capital formation in the national accounts, VAT will be preferred to annual accounts as a source (cf. 5.10.3.1.1.).

The absorbed company, meanwhile, legally disappears and doesn't file any financial statements anymore; the disposal of asset therefore appears nowhere so that no adjustment is needed.

ii. Scission

When a company is split, part of its assets is brought into a new or existing company, whereas the original company continues to exist and to file annual accounts. So, the split company will record significant amounts of disposals, while the absorbing company will record corresponding large acquisitions, coupled with depreciation acquired from third parties. According to the National Accounts, these movements are not to be recorded as gross fixed capital formation. As far as acquisitions of the absorbing company are concerned, VAT will be the source (cf. 5.10.3.1.1.). But for disposals of assets by the split company, it is necessary to analyse case by case to detect and exclude them.

iii. Assets sold abroad

The sale of a Belgian establishment (in its entirety or in part) commonly takes the form of a stock transaction. In this case, no transaction appears in the disposal of assets in the annual accounts and estimation of gross fixed capital formation is therefore not affected. In other cases, only an analysis on an individual basis can reveal the sale of assets to a non-resident unit in order to exclude it from the estimate of disposals of fixed assets.

iv. Adjusting the administrative aggregates

- Detailed schedules

It is necessary to analyse the largest operations of asset disposals on an individual basis in order to detect transactions related to a corporate restructuring or a sale of assets abroad and to exclude them from the administrative aggregates.

Relying on that analysis, an adjustment coefficient is computed, which is then applied to the disposals of other corporations (that have not been analysed):

- specific coefficients are applied to disposals in industries 68 and 77 in S.11, as well as in sectors S.125, S.126 and S.127¹⁶⁴;
- a global coefficient is applied to the other industries.

Computation of adjustment for restructuring			
Category	Sector	industry	
			Adjustment coefficient %restr
A1 + H1	S11	68	$\%restr_{detailed} = \frac{\sum_{analysed\ units} P. 5113_{adm} \text{ after analysis}}{\sum_{analysed\ units} P. 5113_{adm} \text{ before analysis}} - 1$
	S11	77	
	S11 + S15	All others	
	S125	all	

¹⁶⁴ Industries and sectors where corporation structurally show high amounts of disposals:

68: Real estate activities

77: Rental and leasing activities

S.125: Other financial intermediaries, except insurance corporations and pension funds

S.126: Financial auxiliaries

S.127: Captive financial institutions and money lenders

	S126	all	
	S127	all	
B1 + B2 + C1 + C2 + H2 + H3	S11	68 & 77	Idem A1 & H1
	S11 + S15	All others	$\%restr_{abridged} = \frac{\sum rub\ 8299}{\sum P.5113_{adm}} * -1$
			Adjustment for restructuring
A1 + H1	all	all	Adjustment = P51131* x %restr _{detailed}
B1 + B2 + C1 + C2 + H2 + H3	S11	68 & 77	Adjustment = P51131* x %restr _{detailed}
	S11 + S15	All others	Adjustment = P51131* x %restr _{abridged}

* P51131 corrected for all previously described adjustments

- Abridged schedules

- For industries 68 and 77, the above-mentioned adjustment is applied to disposals in abridged schedules
- For other industries in S.11 and S.15, the portion of disposals related to the restructuring is estimated indirectly based on depreciation acquired from third parties (rubric 8299). Indeed, given that about half of the capital stock is amortized for companies filing abridged schedules, the value of the transferred assets related to a restructuring operation can be assumed to represent twice the depreciation shown in rubric 8299. Therefore, we can further assume that the book value (= disposal at purchasing price - depreciation) of disposals related to restructuring is equal to the amount recognized as depreciation acquired from third parties. It is therefore possible to set a correction coefficient for restructuring as the ratio between rubric 8299 and the total amount of disposals.

f3. From book value to market prices

For most companies, the sale of an asset is an extraordinary transaction. Therefore, gains or losses in this context will give rise to the booking of extraordinary income or charges. In the detailed SBS, the extraordinary gains/ losses realized on the sale of fixed assets (rubrics 663 and 763 in detailed schedules) are broken down over tangible¹⁶⁵, intangible¹⁶⁶ and financial¹⁶⁷ assets. By combining this information with the booking value of disposals, it is possible to define a correction factor for the market value of disposals.

For industries where the sale of an asset is a current transaction (for example 77 “Rental and leasing activities”), any gains or losses will instead be recognized as operating income or charges. Again, the structural survey allows knowing the gains/losses related to operating transactions in tangible assets¹⁶⁸.

By combining these data, it is possible to compute an adjustment coefficient to transform book value into market value of disposals. Such coefficient is defined for industries 68 and 77 in S.11 and in sectors S.125, S.126 and S.127.

¹⁶⁵ EXCREVMFIA for capital gains registered in exceptional income and EXCCOMFIA for capital losses registered in exceptional charges.

¹⁶⁶ EXCREVIFIA for capital gains registered in exceptional income and EXCCOIFIA for capital losses registered in exceptional charges.

¹⁶⁷ EXCREVFFIA for capital gains registered in exceptional income and EXCCOFFIA for capital losses registered in exceptional charges.

¹⁶⁸ REVMFIA for capital gains registered in operating income and COSTMFIA for capital losses registered in operating charges.

Computation of adjustment for market prices			
Category	Sector	Industry	
			adjustment coefficient %market
A1 + H1	S11	68	$\%market = \frac{\sum (REVMFIA - COSTMFIA + EXCREVMFIA - EXCCOMFIA)}{\sum P.51131 *}$
	S11	77	
	S125	64	
	S126	66	
	S127	64	
			adjustment for market prices
all	S11	68 & 77	correction = %market x P.51131*
all	S125, S.126 & S.127	64 & 66	correction = %market x P.51131*

*: P.51131 corrected for all previously described adjustments to disposals

The corrections made to adjust the valuation of disposal for negative values, restructuring and market prices can be summarized as follows:

Adjustment for valuation of disposals (impact on P.51131)				
€ million, 2016				
	<i>negative value</i>	<i>restructuring</i>	<i>market prices</i>	<i>Total</i>
S.11	42	-365	359	36
S.125	0	0	11	11
S.126	0	0	13	13
S.127	0	0	1	1
S.15	0	-3	0	-3
Total adjustment for valuation of disposals	42	-368	384	58

The following table sums up the conceptual adjustments made on acquisitions and disposals of tangible assets in S.11.

Net impact (P.51111- P. 51131) of conceptual adjustments for tangible assets in S.11	
€ million, 2016	
	S.11
Members of VAT units	308
Capitalized interest	-81
Land	-1035
Buildings for resale	445
Mark-up on output for own final use	165
Valuation of disposals	36
Total	-162

All in all, the investments in tangible assets by non-financial corporations is equal to € 48 835 million in 2016, as shown in the table below.

Acquisitions less disposals of tangible fixed assets for sector S.11		
€ million, 2016		
Acquisitions	+	55 792
Disposals	-	6 957
Acquisitions less disposals	=	48 835

5.10.3.2. S.12 - GFCF in tangible fixed assets by financial corporations

The central bank (S.121)

The investments of sector S.121 are estimated from the annual business accounts of the National Bank of Belgium. Rubrics regarding purchases and sales of tangible assets are supplied by the Controlling Department of the Bank; any sale of land is excluded.

Acquisitions less disposals of tangible assets for S.121		
€ million, 2016		
Acquisitions of tangible fixed assets		15,5
Disposal of tangible assets	-	1,1
Acquisitions less disposals*	=	14,4

*Excluding land

Deposit-taking corporations except the central bank (S.122)

For sector S.122, all acquisitions and disposals of tangible assets are estimated based on the results from the exhaustive Structural Business Survey among banks.

Acquisitions less disposals of tangible assets for S.122		
€ million, 2016		
Acquisitions of tangible fixed assets*		273
Disposal of tangible assets	-	263
Acquisitions less disposals	=	10

*Excluding land

Other financial intermediaries, except insurance corporations and pension funds S.125, Financial auxiliaries S.126 and Captive financial institutions and money lenders S.127

The administrative aggregates acquisitions and disposals of tangible assets for sectors S.125, S.126 and S.127 are estimated using the annual accounts and VAT. The approach is fully comparable with that in S.11 (see section 5.10.3.1.1). The results are shown in the table below.

Acquisitions less disposals of tangible assets for S.125, S.126 and S.127 - basic data for NA figures					
€ million, 2016					
		S.125	S.126	S.127	Total
Acquisitions		2 642	514	40	3 196
<i>Total A111, H111, B111, B211, C111 and C211 (annual accounts)</i>	+	2 111	392	31	2 534
<i>Other categories (VAT)</i>	+	532	122	8	662
Disposals (all categories, annual accounts)	-	492	88	6	585
Acquisitions less disposals	=	2 151	426	34	2 611

The following conceptual adjustments are made on acquisitions and disposals of tangible assets for those sectors, using the method described in section 5.10.3.1.3:

- Exclusion of interests
- VAT-units
- Exclusion of land
- Buildings for resale (from P.52)
- Valuation of disposals.

Net impact (P.51111- P. 51131) of conceptual adjustments for tangible assets in S.125, S.126 & S.127				
€ million, 2016				
	S.125	S.126	S.127	S.12
Members of VAT units	-3	2	0	-1
Capitalized interest	0	0	0	0
Land	0	-18	0	-18
Buildings for resale	-2	-15	0	-16
Valuation of disposals	-11	-13	-1	-25
Total	-16	-44	-1	-60

Insurance corporations (S.128)

To estimate the investments in sector S.128, the exhaustive structure survey for insurance corporations is used as a source.

Note that a marginal amount of housing investment is done by insurance enterprises under a European Directive requiring them to invest a minimum amount in dwellings.

Acquisitions less disposals of tangible assets for S.128		
€ million, 2016		
Purchase of new assets	+	42
Purchase of existing assets*	+	122
Acquisitions of tangible fixed assets (P.51111)		164
<i>pm of which dwellings</i>		<i>19</i>
Disposal of tangible assets* (P.5113)	-	273
Acquisitions less disposals	=	-109

*Excluding land

The next table shows a summary of investments in tangible assets for sector S.12.

Acquisitions less disposals of tangible fixed assets for sector S.12							
€ million, 2016							
	Acquisitions P.51111			Disposals P.51131			Total
	Sources*	adjustments	Total	Sources*	adjustments	Total	
S.121	15,5	0	16	1	0	1	14
S.122	273	0	273	263	0	263	10
S.125	2 642	-5	2 638	492	11	503	2 135
S.126	514	-31	483	88	13	100	382
S.127	40	0	39	6	0	6	33
S.128	164	0	164	273	0	273	-109
S.12	3 649	-36	3 613	1 122	24	1 147	2 466

*After data validation

5.10.3.3. S.13 - GFCF in tangible and intangible fixed assets by general government

To estimate the gross fixed capital formation of the general government sector, detailed government accounts are used as the main source. The following description covers investments in tangible fixed assets and intangible fixed assets. The detailed analysis for public-private partnerships often indicated that the investment is to be considered as government investment. These investments are generally not directly included in basic information. Therefore, the NAI has developed a specific questionnaire to identify the investments made within the context of each individual PPP. This data is added to the government investment.

5.10.3.3.1. Federal Government (S.1311) and Communities and Regions (S.1312)

In the economic regrouping, investments appear under economic Main Group 7 - Investments and disinvestments.

This main group includes operations relating to gross capital formation by general government. Ancillary costs (e.g., registration fees associated with the purchase of fixed assets and intangible assets, architect's fees, etc.) and the cost of modernising fixed assets that increases their value are also treated as investments.

Purchases and sales by general government of real estate abroad, and construction outside of territorial enclaves, are not classified to main group 7, but groups 84 and 88, "acquisition and disposal of holdings outside Belgium". Conversely, construction in these territorial enclaves (e.g., construction of embassies) is regarded as investment.

The following borderline cases are regarded as investments:

- animals used for production purposes for several years: breeding stock, dairy cattle, sheep raised for wool and draught animals
- permanent production plantations : fruit trees, vines, palm trees, etc.
- improvements to existing fixed assets which are significantly beyond the scope of current maintenance and repair
- fixed assets acquired by financial leasing
- literary and artistic original works
- purchases of or user licences for software must be recorded as investments if used repetitively or continuously in the production process u for more than one year. Development of customised software must also meet this condition, whether developed by an external firm or on own account. If produced on own account, it is valued at cost price.

The following are not regarded as investments and are classified as intermediate consumption:

- purchases of inexpensive small tools for simple tasks or operations: hand tools, such as saws, hammers and screwdrivers, and small accessories such as pocket calculators (recorded in group 12)
- current maintenance and repair work.

(i) Group 71 – Purchase of land and buildings in Belgium

Group 71 concern purchases of land and existing buildings and structures by general government in Belgium.

- Code 71.1 covers purchases of land¹⁶⁹
- Code 71.2 covers purchases of existing civil engineering work roads and hydraulic works
- Code 71.3 covers purchases of existing buildings

(ii) Group 72 - Construction of buildings

This mainly comprises buildings intended for civilian administrative services and schools. It also includes other civilian buildings constructed by government, such as laboratories, museums and staff living accommodation. Any demolition work prior to construction is also included. All integral parts of buildings, central heating, sanitary facilities, lifts, air-conditioning, etc. are included in "construction of buildings".

Major work on existing buildings which results in an increase in their value, as well as major maintenance works, are also considered as investments.

¹⁶⁹ Land is a non-produced non-financial asset which implies that purchases (and sales) of land are registered as NP (and not P51g).

The repair of damage resulting from war or natural disasters is regarded as construction.
Group 72 covers work done in-house or by third parties (other administrations or other sectors).

(iii) Group 73 - Civil engineering

This item covers the construction of roads, streets, ports, canals, dikes, sanitation facilities, sewage treatment plants, other hydraulic engineering works, site modification works and all associated technical structures and installations, such as bridges, tunnels, viaducts, dams, road signage, road lighting and landscaping. Demolition work and the repair of damage resulting from war or natural disasters also fall within group 73.

Group 73 covers work done in-house or by third parties (other administrations or other sectors).

Code 73.1 Roads

This comprises highways (from motorways to cycle tracks), civil engineering works, viaducts, tunnels, bridges, drains and various mechanical and electro technical equipment, and landscaping. Parking areas also come under 73.1, unless operated by enterprises.

Code 73.2 Hydraulic engineering

This comprises construction of ports, canals, bodies of water, ferry crossings, dikes and other hydraulic works and the construction of sewage treatment plants, sanitation systems and the modification of natural waterways (e.g., by canalisation).

Ancillary amenities, e.g., landscaping, and mechanical and electro technical equipment, are also classified as "hydraulic engineering" unless operated by enterprises (e.g., cranes).

Code 73.3 Pipelines

Code 73.4 Other works

These include site preparation and levelling before construction, and ground modification work (consolidation, sanitation, etc.) and creation of sports grounds. Demolition work prior to works in 73.1 to 73.4 is also classified under this code.

Code 73.9 Infrastructure works for own account

These include civil engineering work produced by a public unit for its own use (estimated by summing-up costs of production).

(iv) Group 74 - Acquisition of other investment goods, including intangible assets

Purchases of capital goods other than construction assets are recorded here.

Code 74.1 Purchase of means of transport

These include purchases of equipment to transport goods or persons, except military equipment (see 74.7)

Code 74.2 Acquisition of other equipment

This code includes purchases of all other tangible equipment: machines, computers, office equipment, electrical appliances...

It also covers purchases of some intangible assets such as software & databases

Code 74.3 Expenses associated with purchases and sales of land and buildings

These include expenses relating to transfers of ownership, such as notarial fees, taxes, other dues, and surveyors' fees.

Code 74.4 Acquisition of licences, patents, and other intangible assets

Code 74.5 Acquisition of valuables

Code 74.6 Acquisition of cultivated assets (plants and animals)

Code 74.7 Purchase of military equipment (from 2015 on)

Code 74.8 Purchase of R&D (from 2015 on)

Code 74.9 Operations carried out in-house (from 2015 on)

(v) Group Code 76 - Sales of land and buildings in Belgium

Code 76 covers sales of land and buildings by general government in Belgium (cf. code 71).

(vi) Group Code 77 - Sales of other investment goods, including intangible assets

Sales of investment goods under code 77 correspond to purchases of them under code 74.

Since the implementation of the ESA 2010: the codes 13 and 17 are also considered as investment and no longer as intermediate consumption.

5.10.3.3.2. Local authorities (S.1313)

Investments by local authorities (S.1313) are calculated on the basis the economic groupings available in the individual accounts.

5.10.3.3.3. Social security administrations (S.1314)

Investments by social security administrations are estimated based data from the FPS Social Security.

Acquisitions less disposals of tangible and intangible fixed assets (P.51g) by sub-sectors of S.13 are shown below:

Data for 2016 (millions of euros)		
Federal Government (S1311)		
Code 71, exclusief code 71.1	+	26
Code 72	+	180
Code 73	+	5
Code 74, excluding contracts, leases and licences and valuables	+	273
Code 76, excluding land (76.1)	-	72
Code 77, excluding contracts, leases and licences and valuables	-	5
Differences in definitions of "Federal government" (principally railways infrastructure)	+	927
R&D	+	220
Other intangible fixed assets (production for own account)	+	366
<i>Subtotal</i>		<i>1 919</i>
Communities and Regions (S1312)		
<i>Subtotal</i>		<i>5 727</i>
Local authorities (S1313)		
<i>Subtotal</i>		<i>2 650</i>
Compulsory social security (S1314)		
<i>Subtotal</i>		<i>70</i>
Grand total (S13)		10 366

The capital grants to investments in private education recorded in the economic regrouping cover only 60 to 70 % of the investments of these schools, so that an extrapolation is made.

The GFCF by asset is shown below. The Government is the only sector authorised to invest in military equipment.

Data for 2016 (millions of euros)		
AN.111 Dwellings		0
AN.112 Other buildings and structures		5 704
AN.113 Machinery and equipment		1 587
AN.114 Weapons systems		26
AN.115 Biological resources		0
AN.117 Intellectual property products		3 049
<i>of which R&D</i>		2 483
<i>of which software</i>		557
<i>of which originals</i>		8
Total		10 366

More detailed information on the compilation for intangible assets are given in section 5.10.4.

5.10.3.4. S.14 - GFCF in tangible fixed assets by households

For the households, most GFCF in fixed assets are investments in dwellings. A small proportion of total investment includes investment by the self-employed.

5.10.3.4.1. The specific estimates for investments in dwellings (AN.111)

Estimate of GFCF in residential property: working framework and subdivisions

Gross fixed capital formation in residential property (housing) includes dwellings in residential buildings, the construction of social housing, corresponding transformations, dwellings in non-residential buildings and registration fees.

The purpose of the method used is to comply as much as possible with the recommendations of the Construction Task Force of the GNP Committee (differentiating between types of structure, cost of each type and average construction length per type). It also recommends using statistics on used building permits that would include type of structure, start and completion dates.

New dwellings in residential buildings

Investments in new dwellings in residential buildings are estimated according to a "price x quantity" approach, i.e., a method which combines an estimate of the number of new dwellings (statistics on actual housing starts) with corresponding prices (combination of the survey of general building contractors¹⁷⁰ and an index of construction input prices).

Eurostat's Construction Task Force indeed recommended:

- establishing a relationship between building permits granted and those used, hence the usefulness of statistics on housing starts (cf. 10.1.15)
- estimating an average construction period, hence the survey of general building contractors (cf. 10.1.16).

Statistics on dwellings in residential and non-residential buildings and related renovation works published by Statbel cover both building permits and housing starts.

¹⁷⁰ The sample is supplemented by any large contractor that has not signed the charter but does answer to NBB's construction business survey.

Until 2015, this statistic was compiled by means of forms that must be filled in by the client (either to apply for a building permit¹⁷¹ or to indicate when the work began¹⁷²) and by the local authority or the urban planning department. The answers to the questionnaires were then forwarded to Statbel by the local authority or the urban planning department.

As a result of a decreasing response rate over the years, Statbel finally stopped producing the monthly statistics on the number of started dwellings as well as on the number of started renovations works (requiring a permit) from 2016 onwards.

Given the importance of this statistic for estimating investments in dwellings, an alternative method was developed by the NBB and Statbel (in the framework of the NAI) to estimate the number of dwellings/transformations started from the year 2016 onwards.

The alternative method is the following:

1) Non missing data

- When the construction start date is available, i.e. when the Model III of declaration form is filled in, it is directly considered to calculate the number of housing starts.
- In the case where only the estimated date is available (Model I), a difference function is applied. The latter is based on the comparison between estimated construction/renovation start dates and actual construction/renovation start dates. It also includes the share of authorized building permits that are not used.

2) Missing data (approximately 33% missing data)

- If the estimated date is indicated as "as soon as authorized" and "as soon as possible", a period of 3 months¹⁷³ is considered between the application for a permit and the start of the work¹⁷⁴. The difference function can then be applied.
- For the other estimated missing/unused dates, a fixed average delay of 4 months is applied on the corresponding authorized building permits. In this average delay, the percentage of authorized building permits that are not used is taken into account.

The transition from statistics on starts to statistics on completions is done by spreading payments over an average construction period. The average construction period and the spread of payments of new dwellings are estimated via the specific survey of general building contractors. The survey is carried out every two years since 1996.

On the one hand, the contractors provide data on construction times broken down by single-unit and multi-unit structures. We use a weighted average based on the number of dwellings of each type built.

The spread of payments, on the other hand, gives an indication of the proportion of the total building price paid in each month of construction. It means that, for any given month, the number of dwellings includes only some of those started in that month plus some of those started in previous months. Given a certain estimated average construction time, the number of previous months whose production is partly included in the total for the given month will not exceed the rounded average construction time.

Since information on total and living area by type of dwelling related to housing starts is no more available after 2015, these latest are estimated from 2016 onwards based on of total and living area by type of dwelling related to authorized building permits.

¹⁷¹ Model I of declaration form for building permits. The form also contains a question on the expected date of starting works (estimated date).

¹⁷² Model III of declaration form related to buildings for which construction or renovation work has begun (Model III)

¹⁷³ Duration estimated on basis of the information coming from the Royal Federation of Belgian Notaries

¹⁷⁴ According to the website of the notaries (www.notaire.be), the decision of the college is notified to the applicants within 75 days of the submission of the file. The planning permission will become "enforceable", and therefore final, within a further period of 20 days following its notification.

Since 1996, the year of the first survey, new data on prices have also been used. This price index of new dwellings is obtained from the average overall price of shell works for each type of dwelling, weighted by the number of dwellings of each type. In line with Eurostat recommendations, the survey provides results broken down by type of dwelling.

Based on information from ABEX¹⁷⁵, it is then possible, from the price per m² for the shell, to estimate a price for the various other components of the construction cost, i.e., finishing works and charges (architect's fees, fees covering the security and VAT). This gives a total price that can be decomposed into price per m² for shell work, for finishing works and for charges.

The value of new housing is then obtained by combining the price for the shell with the average total area and the price for finishing with the actual living area, by type of dwelling.

Furthermore, the index of construction input prices (ABEX cost index) is used to split the biennial output index obtained from the survey into single years, to estimate the price of new dwellings for the years for which the survey is not relevant due to low response rate as well as to estimate the years after the last survey. The input index includes a labour cost index and price index of industrial products used in the construction process.

Transformations (including social housing)

Volume of transformation works on non-social dwellings was estimated via the related housing start statistics until 2015. From 2016 onwards, it is estimated according to the alternative method presented above. Given the lack of information, it is assumed that transformation works begin and end in the same year. Volume of transformation works on social housing is computed with data from the annual reports of social housing enterprises.

Prices are derived as a proportion of the average total price of new dwellings in residential buildings.

Construction of new social housing

In terms of volume, construction of social housing is estimated directly from information contained in the annual business reports of the Brussels, Walloon, and Flemish regional housing associations. For the households' sector, it only concerns dwellings meant to be bought (while the ones to be rented are registered in S.11, see 5.10.3.1.2). In terms of price, it is estimated using the same index as that for ordinary new dwellings.

Dwellings in non-residential buildings

The volume of dwellings in non-residential buildings was estimated from Statbel statistics on non-residential housing starts until 2015. After 2015, the number of new dwellings in non-residential buildings is estimated by extrapolation based on building permits statistics related to non-residential buildings¹⁷⁶. It is assumed that a construction started in the year ends in the course of that year, and that the construction cost of housing in non-residential building amounts to one third of the average building cost of a dwelling in a residential building.

Dwelling sold to a non-resident

In accordance with ESA 2010, an existing dwelling sold by a household to a non-resident is treated as a sale of a produced non-financial asset in S14 (P.51: -) and an acquisition in S11 (P.51: +) followed by an acquisition by the ROW of a financial asset representing the capital of a fictitious resident unit which has acquired the dwelling. The sales of buildings by resident households to non-residents (assumed to cover dwellings only) is based on balance of payments/ financial accounts data, i.e., the transaction for dwelling purpose in instrument AF.5 (see 5.10.3.1).

Registration duties

¹⁷⁵ ABEX = Association of Belgian Experts

¹⁷⁶ Results derived from the alternative method are not usable for new dwellings in non-residential buildings.

In Belgium, registration duties are payable on acquisition of land, as well as on transactions in buildings on the secondary market. The costs of ownership transfer on non-produced assets land (AN.116) are included in the GFCF estimates as requested by ESA2010 §3.127(6). The amount recorded in S.14 also covers costs related to deeds.

For the year 2016, gross fixed capital formation in residential property thus breaks down as shown in the following table:

Gross capital formation in dwellings in S.14 (AN.111)		
€ million, 2016		
Construction of residential buildings	+	12 485
Transformation of residential buildings	+	5 853
Construction of social residential buildings	+	169
Construction of dwellings in non-residential buildings	+	186
Sales of dwelling to a non-resident	-	1 228
Subtotal	=	17 465
Registration duties	+	3 432
Total	=	20 897

Investments in dwellings by non-financial corporations (S.11) mainly cover those by social housing enterprises in dwellings meant to be rented (cf. 5.10.3.1). A marginal amount of housing investment is done by insurance enterprises (S.128) under a European Directive requiring them to invest a minimum amount in dwellings (cf. 5.10.3.2). The following tables gives an overview of the total investment in dwellings (category AN.111) by sector.

Investments in dwellings (AN.111) by sector		
€ million, 2016		
S.14	+	20 897
S.11 (see section 5.10.3.1)	+	3 719
S.128 (see section 5.10.3.2)	+	19
Total	=	24 635

5.10.3.4.2. Investments of self-employed workers – administrative aggregates

As regards investments of self-employed persons, for VAT-registered units, the same methodology is followed as that used in categories A2, B3 and BL within sector S.11 (see section 5.10.3.1.1.), i.e., estimating investments via VAT returns. Categories A2 and B3 only are included in S.14.

Acquisition of tangible assets for sector S.14 (excl. dwellings), basis for NA figures*		
€ million, 2016		
Total A2	+	2
Total B3	+	1 967
Total BL	+	0
Total administrative data	=	1 969

*After data validation

5.10.3.4.3. Extrapolation & models

For the liberal professions who are mainly non-VAT-registered entities, investments are estimated based on SBS results. The proportion of investments to production in SBS is calculated for all declarants in category B3 within some specific NACE activities. This ratio is then applied to the production of the whole NACE in order to estimate its investments.

Ratio = Investments / production from SBS
 = (INV-INVTER) / (REVFREPRO + TURN – TURNTRADE + STOCKFINI + PROD + PROFIT¹⁷⁷)

P.51111-P.51131 = P.1 x ratio

Extrapolation for liberal professions in S.14	
€ million, 2016	
69A Legal and accounting activities (NACE 691+692)	57
71A Architectural and engineering activities; technical testing and analysis (NACE 711+712)	49
75A Veterinary activities (NACE 750)	11
86B Medical practice activities (NACE 8621)	56
86C Dental practice activities (NACE 8623)	16
86D Other human health activities (NACE 86901+86903)	52
Total	241

5.10.3.4.4. Conceptual adjustments

There is insufficient basic information for sector S.14 to make an accurate estimate of the disposals of existing fixed assets. To avoid overestimating the gross fixed capital formation, it is assumed that the economic units dispose each year of an amount of existing fixed assets equal to 3 % the value of their acquisitions of fixed assets (already corrected for purchases of land).

Due to scarcer availability of data, only one other conceptual adjustment is made in S.14, namely an estimate for acquisitions of lands, using data from SBS as explained before (see section 5.9.3.1.3.c).

Net impact (P.51111- P. 51131) of conceptual adjustments for sector S.14 (excl. dwellings)	
€ million, 2016	
Disposals (P.51131)	-60
Exclusion of acquisition of land (P.51111)	-19
Total adjustments	-79

5.10.3.4.5. Summary of investments in fixed tangible assets in S.14

Acquisitions less disposals of tangible fixed assets sector S.14 thus break down as follows:

Acquisitions less disposals of tangible fixed assets for sector S.14		
€ million, 2016		
Acquisitions of other tangible assets, administrative data	+	1 969
Investments in dwellings	+	20 897
Acquisitions less disposals of other tangible assets, extrapolation	+	241
Conceptual adjustments	-	79
Acquisitions less disposals	=	23 028

¹⁷⁷ REVFREPRO = income from liberal professions; TURN = turnover; TURNTRADE= turnover from commercial activities; STOCKFINI = increase (+) or decrease (-) of stocks and work and contracts in progress; PROD = production for own final use; PROFIT = operating profit

5.10.3.5. S.15 - GFCF in tangible fixed assets by NPIs serving households**5.10.3.5.1 Administrative aggregates**

The administrative aggregates of acquisitions and disposals of tangible assets for sector S.15 are estimated using the annual business accounts and VAT returns. The approach is fully comparable with that followed for sector S.11 (see section 5.10.3.1.1).

Acquisitions less disposals of tangible assets for sector S.15 – administrative data*		
€ million, 2016		
Acquisitions H1	+	92
Disposals H1	-	7
Total H1	=	85
Acquisitions H2	+	51
Disposals H2	-	8
Total H2	=	42
Acquisitions H3	+	92
Disposals H3	-	22
Total H3	=	70
Total S.15	=	198

5.10.3.5.2 Extrapolation & models

Moreover, extrapolation is made for small non-profit units which are not VAT registered (category H4). For those units, the most exhaustive source is wage data. Therefore, a ratio of investments (rubric 8169 of annual accounts) to wages (D1 according from the Department of Social Security – DSS) is computed for categories H2 and H3 (SMEs with abridged schedules) in each of the industry of S.15. The average ratio of the last 3 years is then applied to the wage data of H4 units to estimate their investments. In 2016, this extrapolation amounts to € 105 million.

5.10.3.5.3 Conceptual adjustments

The following conceptual adjustments are made for S.15 using the method described in section 5.9.3.1.3:

- Exclusion of interests
- VAT-units
- Exclusion of land
- Valuation of disposals
- Buildings for resale (from P.52)

Net impact (P.51111- P. 51131) of conceptual adjustments in S.15	
€ million, 2016	
Members of VAT units	1
Capitalized interest	0
Land	-1
Buildings for resale	4
Valuation of disposals	3
Total	6

5.10.3.5.4 Summary of investments on tangible assets in sector S.15

Acquisitions less disposals of tangible fixed assets for sector S.15 break down as follows:

Acquisitions less disposals of tangible fixed assets for sector S.15		
€ million, 2016		
Acquisitions less disposals of tangible assets, administrative data	+	198
Acquisitions less disposals of tangible assets, extrapolation	+	105
Conceptual adjustments	+	6
Acquisitions less disposals	=	310

5.10.4. ESTIMATE OF GROSS FIXED CAPITAL FORMATION IN INTANGIBLE ASSETS

In Belgium the relevant intangible fixed assets are (i) R&D, (ii) computer software and (iii) original works. The methods for estimating investments in those three categories are described below.

The following table breaks down by sector the total acquisitions less disposals of intangible fixed assets.

2016 (in € million)	
S.11	13 549
S.12	1 455
S.13	3 049
S.14	96
S.15	31
P.51112	18 180

5.10.4.1 Research and development (AN.1171)

Data sources

Three sources of data are used for calculating the output and GFCF in R&D:

1. Surveys by the Belgian Science Policy Office (Belspo)
2. Balance of payments (BoP)
3. Annual business accounts of corporations

1. Belgian Science Policy Office (Belspo)

Upon request of international authorities such as Eurostat and the OECD, each of the Belgian federated entities has been told to collect information on R&D within the bodies under its competence. The data are gathered in even-number years with the help of a biennial voluntary survey on units' expenditure on R&D.

The federal State, and more specifically the federal science policy department, has the task of producing statistics at national level. This obviously requires close collaboration between the different levels of power, as set out in a cooperation agreement between all parties involved. Its application is ensured by the *Commission de coopération CFS/Stat*.

The biennial survey is backward-looking and targeted at units that have carried out R&D activities in Belgium. To get the best possible measure of firms' R&D activities, a combination of the two following methods is used:

- an inventory method covering units that are known to or assumed to carry out R&D activities on a permanent or occasional basis, either internally or through sub-contracting
- a survey method to obtain data on R&D activities carried out by units that are not included in the inventory method.

In practice, the target population does not include firms employing less than 10 workers or companies operating in certain sectors that have a very low R&D intensity rate.

In the event of partial or complete non-response, an estimate of the firm's figures is made.

More details on this data source can be found in section 10.3.1.

Belspo is the main data source for compiling the R&D product aggregates in Belgium. Micro-level R&D data are available since 2000, while macroeconomic data are available for the period 1981-1999. The R&D expenditures covered by the R&D survey are consistent with the Frascati Manual definition, which is the reference manual for measuring R&D activities.

2. Balance of payments (BoP)

Belgium's balance of payments corresponds to statistics that systematically sum up all economic and financial transactions between residents of Belgium and non-residents over a given period.

The balance of payments is used in order to estimate imports and exports of R&D. The system consists of a mixture of techniques with limited coverage and sampling for the non-financial sector. It is composed of two main sub-systems:

- a full survey amongst the biggest companies (monthly)
- a set of specific surveys amongst other companies (monthly and/or quarterly).

Information on R&D transactions with foreign countries is available monthly at the microeconomic level via the item H3000 "Research and Development Services" of the FO1DGS survey on service activities with foreign countries. From 2008 onwards, the latter has also provided information on imports and exports of patents via the item G8500 "Acquisition or assignment of property rights for patents, copyrights and industrial processes and designs".

BoP data also cover R&D imports and exports with the European institutions at the macroeconomic level.

3. Annual business accounts

Belgian companies are required to file their annual accounts with the National Bank of Belgium's Central Balance Sheet Office each year. These accounts must, in principle, be drawn up according to one of the following two standardized models¹⁷⁸:

- the abbreviated model for small enterprises
- the full model for large enterprises

Until 2015, item 8021 of the annual business accounts (full model), namely "R&D acquisition, including capitalised R&D production", gave information on capitalised R&D expenses. After 2015, this item only refers to activated development costs. Research costs, and more specifically the cumulative research costs from January 1, 2016 onwards, are included in item 8056 of the balance sheet. The activation of R&D expenses is optional in Belgian accounting law, which implies that annual accounts cannot be used as such in this domain of the national accounts. Unlike the full model, the abbreviated model does not give any specific information on research and development expenses (only the total acquisitions of intangible fixed assets are known). It should also be noted that the concept of R&D covered by the annual accounts does not fully correspond to the concept of R&D as defined in the Frascati Manual.

For these various reasons, the annual business accounts cannot be used as the main data source for estimating R&D activities. However, this information is used to refine the measurement of R&D activities and to integrate R&D results obtained from the R&D survey into the national accounts.

Treatment of R&D

Belspo data is the main data source for compiling the R&D satellite accounts in Belgium, except for the imports and exports of R&D for which the Balance of payments data are used.

The treatment of Belspo data is based on the propositions formulated by the two Task Forces set up by Eurostat and the "Manual on measuring Research and Development in ESA 2010".

In Belgium, national accounts use the enterprise/legal unit as the basic unit. Indeed, most of the reference data (annual accounts, VAT-declarations, SS-declarations, SBS) are only available at this level. The activity classification is therefore determined by the core business/dominant activity of the legal unit. No separate (local) KAU's are set up for R&D activities.

¹⁷⁸ New models (full, abbreviated, and micro models) will be used for the submission of annual accounts by companies with financial years ending after 31.12.2019, for companies created after 30.04.2019 and for companies which have opted in and whose new statutes have been published before the closing date of their financial year.

i) R&D satellite accounts

R&D output is estimated as follows:

R&D output =	Intramural expenditure on R&D
	- Payments for licences to use IPPs
	- Expenditure on own-account production of software
	+ Payments to postgraduate students
	- Capital expenditure
	+ Other taxes less subsidies on production
	+ Extramural purchases of R&D that should be recorded as intermediate consumption
	+ Consumption of fixed capital
	+ Net operating surplus
	+ Adjustment for exhaustiveness
	+ Other adjustments

Intramural expenditure on R&D

The Belspo survey supplies data on intramural expenditure on R&D by units active in the field of research.

As will be explained later, data from Balance of payments are used instead of Belspo data for imports and exports of R&D. Given the considerable lack of comparability between the two data sources and the necessity to reconcile them, an adjustment is made on the intramural expenditure on R&D provided by the Belspo. By using a supply and use table approach, an unbalance occurs when integrating the Balance of payments data.

Intramural expenditure on R&D in 2016 (€ million, current prices)

2016 (in € million)	S.11	S.12	S.13	S.14	S.15	Total
Initial intramural expenditure	7 706	263	2 858	0	2	10 829
Adjustment	2 167	-4	75	0	0	2 238
Adjusted intramural expenditure	9 873	259	2 933	0	2	13 067

Payments for licences to use intellectual property products

Belspo's experts point out that payment for licences to use IPPs are not included in other current costs.

Expenditure on own-account production of software

In order to estimate the expenditure on own-account production of software to be subtracted, the following assumptions are made:

- expenditure on software R&D is zero for universities
- expenditure on software R&D is negligible for general government, households and NPISHs

These assumptions mean that the deduction is only made for corporations.

Belspo supplies data on intramural R&D expenditure by type of costs, including compensation of employees. If one looks at the wage bill in the information technology industry, namely the "computer programming, consultancy and related activities" (NACE 62), it is possible to get an estimate of the R&D expenditure needed for developing software. In order to include the time spent by the IT staff to develop software, a coefficient of 50 % is applied on the salary costs of the NACE 62, in line with the Eurostat's recommendation (indeed, IT staff also spends time on trainings, existing software maintenance, operating systems, etc).

Given that own-account production of software is valued at production costs, intermediate consumption is also taken into account along with the gross operating surplus related to own-account production of software. It is assumed that intermediate consumption accounts for 33 % of compensation of employees in Belgium. This assumption is based on the general government cost structure characterised by a labour-

intensive activity, just like the development of software. As far as the gross operating surplus is concerned, a mark-up of 12 % is chosen, based on the cost structure of the computer programming activities branch.

Once the amount of R&D expenditure for the development of own-account software has been obtained, it is distributed among all the branches of activity according to their respective weighting in terms of own-account software production.

In 2016, expenditure on R&D for developing software produced for the own account of non-financial corporations comes to € 337 million.

Payments to postgraduate students

Given the lack of relevant data, the value for this heading is put at zero.

Capital expenditure

Belspo provides intramural expenditure on R&D by type of cost, thus including capital expenditure by sector.

Capital expenditure on R&D in 2016 (€ million, current prices)

2016 (in € million)	S.11	S.12	S.13	S.14	S.15	Total
Capital expenditure on R&D	832	15	218	0	0	1 065

Other taxes less subsidies on production

Taxes on production are already included in the data on intramural expenditure supplied by Belspo. As regards subsidies on production, these are estimated from the breakdown of intramural R&D expenditure by source of financing and, more concretely, by considering "government" as the source of financing.

Subsidies on production (D.39) in 2016 (€ million, current prices)

2016 (in € million)	S.11	S.12	S.13	S.14	S.15	Total
Other subsidies on production	1 347	18	0	0	1	1 366

The financing that takes place within the general government sector (S.13) - for various purposes (environment, health care, national defence, etc.) - is treated as current transfers in the national accounts and not as subsidies on production.

Extramural purchases of R&D that should be recorded as intermediate consumption

By taking into account extramural expenditure of the R&D industry (NACE 72), information can be obtained on the R&D work that is sub-contracted (intermediate consumption in the R&D industry) by the non-financial corporations' sector. The same approach as for NACE 72 is followed for two companies operating in the pharmaceutical industry (NACE21).

In 2016, the extramural purchases of R&D that should be recorded as intermediate consumption come to € 1 250 million.

Consumption of Fixed Capital (CFC, P.51c) and Net Operating Surplus (NOS, B.2n)

Eurostat proposes two different methods for estimating the CFC and NOS related to the production of R&D services:

- **Option 1:** CFC and NOS are calculated as a percentage of current expenditure on R&D or as percentage of compensation of employees
- **Option 2:** CFC and NOS are estimated as cost of capital services measured by the Perpetual Inventory Method (PIM)

Turning to the Perpetual Inventory Method (PIM), Eurostat had stressed at the R&D Task Force meeting on 31 March 2011 that, while the valuation of CFC requires prior calculation of stocks of R&D-related fixed assets, using the PIM implies estimating all fixed assets, including existing R&D assets used to produce R&D.

However, details on capital expenditures via the Frascati surveys are not available for Belgium over a sufficient period. Therefore, option 1 is chosen for Belgium for the estimation of the consumption of assets used to produce R&D services.

In order to estimate the CFC and NOS related to the production of R&D services, the method envisaged in Belgium relies on the use of a single coefficient for all industries. To this end, there has been a ranking of the market-oriented industries by level of R&D intensity. Branches with a level of intensity above 10 % were selected for working out the coefficients. An average coefficient is then calculated based on these R&D-intensive industries for each year.

For the market sectors (S.11 and S.12), CFC and NOS have been calculated as follows:

$$CFC_{i,R\&D} + NOS_{i,R\&D} = \left(\frac{B2g}{D1 + P2} \right)_{NA} \times \text{current expenditure on } R\&D_i$$

with:

- $CFC_{i,R\&D}$ = consumption of fixed capital used in the production of R&D in industry i
- $NOS_{i,R\&D}$ = net R&D operating surplus of industry i
- $\{B2g/(D1+P2)\}_{NA}$ = average weighted B2g/(D1+P2) ratios for the different industries with an R&D intensity higher than 10%

For the non-market sectors (S.13 and S.15), the NOS is by definition zero. As for CFC, this is estimated as follows:

$$CFC_{i,R\&D} = \left(\frac{P51c}{D1 + P2} \right)_{NA} \times \text{current expenditure on } R\&D_i$$

with:

- $\{P.51c/(D1+P2)\}_{NA}$ = average weighted P.51c/(D1+P2) ratios for the different industries with an R&D intensity higher than 10 %

Using a moving average of order 10, we obtain, in 2012, a coefficient of 11% for the market sectors and a coefficient of 9% for the non-market sectors.

It should be noted that the ratios are estimated from NA data (P.51c, B.2g, D.1 and P.2) in ESA95. The ratios estimated from NA data in ESA2010 are significantly higher (i.e., 23% instead of the 11% estimated from ESA95 data) since they include R&D activities and therefore have not been used.

Therefore, for the years after 2011, the ratios estimated for the year 2011 in ESA95 (11% for market sectors and 9% for non-market sectors) are considered.

Once the ratios have been calculated, they are applied on the R&D current expenditures (line 9 of the Eurostat Table 2), which include unsuccessful R&D.

In 2016, the net R&D operating surplus and consumption of fixed capital come together to € 952 and € 25 million for S.11 and S.12 respectively, while consumption of fixed capital is put at € 251 and € 1 million for S.13 and S.15 respectively.

Adjustment for exhaustiveness

The adjustment for exhaustiveness is intended to take into account R&D activities carried out by companies with fewer than 10 employees active in industries characterized by low R&D intensity. In Belgium's case, these adjustments are charged directly by the Belspo experts to the intramural R&D expenditures of individual companies (greater weighting imputed on intramural R&D expenditures of firms operating in branches of activity with poorer R&D data coverage). For information, this adjustment amounts to €89 million in 2016.

However, as regards BoP data, some units report exports of R&D even though they are not included in the Belspo sample. Since the counterpart of R&D exports is market production (P.11), this extra output of R&D must be added to the total R&D output.

In the same way, some units for which no information is available in the Belspo or BoP samples record expenditure on R&D on the assets side of their annual accounts (items 8021 and 8056). Based on the Structural Business Survey data, it is possible to know which part of this capitalised R&D corresponds to own account production of R&D. This extra production must also be added to the total production of R&D¹⁷⁹. The balance thus corresponds to purchases of R&D from Belgian units (not operating in the R&D industry) and those are considered in the correction related to the net purchases of R&D between domestic sectors in the Eurostat table 3.

Adjustment of R&D for exhaustiveness by institutional sector in 2016 (€ million)

2016 (in € million)	S.11	S.12	S.13	S.14	S.15	Total
Adjustment for exhaustiveness	344	1	2	0	0	347

Other adjustments

For Belgium's accounts, this heading is used to take into account market production of R&D of commercial research companies and institutes which is not covered by the R&D survey or for which the difference between administrative data and R&D sales derived from the R&D survey is significant. The adjustment is made by considering the difference between the market output of R&D estimated via the R&D satellite accounts and item 70 of the annual accounts (turnover) for the units active in the branch 72. The R&D sales of a unit in the R&D survey are estimated by summing its financing by companies, higher education and NPIs. Part of their own funding is also taken into consideration here since sales of R&D are the main activity of firms operating in the R&D industry.

The counterpart of this extra market output is registered as GFCF (or as intermediate consumption if the purchasing unit is classified in NACE 72)¹⁸⁰.

This heading also includes, to a much lesser extent, some one-off corrections made to the output of specific companies.

Other adjustments of R&D by institutional sector in 2016 (€ million)

2016 (in € million)	S.11	S.12	S.13	S.14	S.15	Total
Other adjustments	598	1	0	0	0	599

R&D output in 2016 (€ million, current prices)

Eurostat table 2

¹⁷⁹ Since full models are considered here, the risk of double counting with the imputations for exhaustiveness made by the Belspo experts is limited. As a reminder, the imputations made by these experts are primarily aimed at small companies.

¹⁸⁰ This extra market output of R&D could also be exported but it is assumed that it is entirely purchased by Belgian companies given the underestimating of extramural expenditure of R&D in the R&D survey, as will be explained in the heading related to "Net purchases of R&D between domestic sectors".

2016 (in € million)	S.11	S.12	S.13	S.14	S.15	Total
Adjusted Frascati Manual Intramural expenditures on R&D	9 873	259	2 933	0	2	13 067
(-) Payments for licenses to use intellectual products (principally R&D assets, such as patents) that should be recorded as GFCF	0	0	0	0	0	0
(+) Payments to postgraduate students not included in FM data	0	0	0	0	0	0
(-) Expenditure on own-account production of software	337	0	0	0	0	337
(-) Capital expenditures	832	15	218	0	0	1 065
(+) Other taxes less subsidies on production	-1 347	-18	0	0	-1	-1 366
(+) Extramural purchases of R&D that should be recorded as intermediate consumption.	1 250	0	0	0	0	1 250
Sub-Total : current expenditures[1]	8 647	226	2 715	0	1	11 589
(+) Add estimate of consumption of fixed capital plus a return to capital (for non-market producers only consumption of fixed capital):	952	25	251	0	1	1 229
Option 1: As percentage of current expenditures						
(+) Adjustment for exhaustiveness	344	1	2	0	0	347
(+) Other adjustments	598	1	0	0	0	599
Balance: Output of R&D	10 541	253	2 968	0	2	13 764

The estimation process for output (and GFCF) of R&D for most units (whatever the institutional sector to which they belong) is based on the R&D satellite accounts. De facto, R&D by government units and non-profit research institutes is valued as the sum of costs of production.

Since production of R&D cannot be valued based on the estimated basic prices that would be paid if the research were subcontracted commercially, it is valued based on the total production costs¹⁸¹.

After having determined the value of R&D output for the different institutional sectors, table 3 enables the value of R&D output that must be capitalised to be obtained. This table is taking a supply/use approach for the R&D product.

R&D GFCF = + R&D output
+ R&D imports
- R&D exports
+ Trade margins
+ Taxes less subsidies on products
- Extramural purchases of R&D that should be recorded as intermediate consumption
- Acquisitions of R&D not expected to provide a benefit
- Changes in inventories of finished R&D
+ Net purchases of R&D between domestic sectors

Imports and exports of R&D

Balance of Payments (BoP) data are used (items H3000 and G8500 as well as R&D imports and exports with the European institutions).

Imports and exports of R&D by institutional sector in 2016 (€ million)

2016 (in € million)	S.11	S.12	S.13	S.14	S.15	Total
Imports of R&D	4 309	2	142	0	0	4 453
Exports of R&D	3 596	9	334	0	1	3 940

Belspo provides data on extramural expenditure on R&D by type of performer. By considering the "Rest of the world" as performing unit, imports of R&D can also be estimated. In order to estimate exports of R&D, statistics for intramural expenditure on R&D by source of funding, with "foreign units" as the source of finance, could be used. This information is supplied by Belspo and available for each institutional sector.

The main reason for using BoP data instead of Belspo data is to reduce the differences between the national accounts and the external statistics. For the external statistics, it is not possible to use Belspo data for R&D transactions with foreign countries as the data are available annually with a certain delay.

For the sake of consistency, the inclusion of BoP data implies adjusting the intramural and extramural R&D expenditure delivered by Belspo, as presented above.

Trade margins

This heading is included in the table mainly for consistency with the theoretical calculation of GFCF in R&D. As R&D can hardly be considered as a “product destined for resale” trade margins are set to 0.

Taxes less subsidies on products

Since no information is available for Belgium, the amount of taxes less subsidies on products is set to zero.

Extramural purchases of R&D that should be recorded as intermediate consumption

Extramural acquisitions of R&D that have been recorded as intermediate consumption for calculating R&D output must be subtracted for estimating R&D-related GFCF.

However, extra intermediate consumption of R&D is registered here.

A part of the extra intermediate consumption of R&D corresponds to purchases of the extra market output of R&D registered under the heading “other adjustments” in the Eurostat table 2 by firms operating in the R&D industry.

In order to reconcile Belspo data, annual accounts data, and BoP data for two large companies operating in the pharmaceutical industry¹⁸², their purchases of R&D are registered as intermediate consumption. By doing so, it is possible to estimate a production of R&D and GFCF of R&D which correspond to Belspo and annual account data source, while including BoP data.

In 2016, the total amount of sub-contracted R&D comes to € 3 212 million.

Acquisition of R&D not expected to provide a benefit

All freely available R&D which is intended for use in the production for more than one year is capitalised in Belgium, which is in line with Eurostat's final recommendation.

In Belgium's case, the amount filled in for this heading is thus fixed at 0.

Changes in inventories of finished R&D

It is not possible to make a distinction between finished R&D and research work in progress. The value for this heading is set to 0.

Net purchases of R&D between domestic sectors

R&D produced by a unit active in a specific branch of activity can be acquired and capitalized by a unit active in another branch of activity. Consequently, the branch of activity in which R&D is produced and the branch in which the same R&D is capitalized are not necessarily related. Purchases less sales of R&D between the different domestic branches of activity must then be taken into account when estimating the Gross Fixed Capital Formation (GFCF).

¹⁸² Belspo and annual accounts data source are consistent for these two companies, which is not the case when considering BoP data.

Belspo publishes data on intramural expenditure of R&D by source of funding and data on extramural expenditure on R&D by type of performer at the microeconomic level.

The R&D sales of a unit in Belgium are estimated by summing its financing by companies in Belgium, higher education in Belgium and NPIs in Belgium. For the specific case of units active in the R&D industry (72), part of their own funding is also taken into consideration since sales of R&D are their main activity.

Purchases of R&D in Belgium by a unit are estimated by considering its purchases (extramural R&D expenditure) from the enterprises in Belgium, the higher education in Belgium and the research centres in Belgium. However, it is advisable to suppose that funding of R&D by the general government sector (S.13) does not correspond to purchases of R&D from other institutional sectors but rather to R&D subsidies granted to these other sectors.

Net R&D purchases (R&D purchases - R&D sales) can therefore be estimated at the microeconomic level. One would expect total intramural R&D expenditure financed by Belgian units to be equal to total R&D purchases by Belgian units. In practice, net purchases of R&D between domestic sectors are unsurprisingly not equal to 0 at the level of the Belgian economy when applying the methodology explained above. The reasons are the following:

- The R&D survey targets units that carry out intramural R&D expenditure. The units surveyed are then asked to fill in their extramural R&D expenditure too, if any. Units that only purchase R&D are not surveyed. The extramural R&D expenditure is therefore underestimated in the R&D survey.
- There may be different interpretations of what constitutes R&D (the amount of an R&D sale reported by the person completing the R&D survey may not correspond to the amount of the corresponding R&D purchase reported by the other person completing the R&D survey for the purchasing unit).
- There may be sampling errors.

In general, R&D sales are therefore higher than R&D purchases (at the level of the Belgian economy). This is even truer since the R&D sales of some companies active in the R&D industry have been adjusted upwards. Upward adjustments are then made to the units' R&D purchases so that net R&D purchases are zero at the level of the Belgian economy.

Net purchases of R&D between domestic sectors in 2016 (€ million, current prices)

2016 (in € million)	S.11	S.12	S.13	S.14	S.15	Total
Net purchases of R&D	145	147	-293	0	1	0

Gross Fixed Capital Formation of R&D in 2016 (€ million, current prices)

Eurostat table 3

2016 (in € million)	S.11	S.12	S.13	S.14	S.15	Total
R&D output (P.1)	10 541	253	2 968	0	2	13 764
(+) Imports of R&D	4 309	2	142	0	0	4 453
(-) Exports of R&D	3 596	9	334	0	1	3 940
(+) Trade margins	0	0	0	0	0	0
(+) Taxes less subsidies on products	0	0	0	0	0	0
(-) Extramural purchases of R&D that should be recorded as intermediate consumption	3 212	0	0	0	0	3 212
(-) Acquisitions of R&D not expected to provide a benefit	0	0	0	0	0	0
(-) Changes in inventories of finished R&D	0	0	0	0	0	0
(+) Net purchases of R&D between domestic	145	147	-293	0	1	0
GFCF of R&D (P.51)	8 187	393	2 483	0	2	11 065

Once GFCF of R&D is estimated, it is then possible to obtain the breakdown of the output, i.e., market R&D output (P.11_R&D), own-account R&D output (P.12_R&D) and non-market R&D output (P.13_R&D).

The market output of R&D (P.11) can be estimated by summing R&D sales in Belgium and R&D sales abroad (exports of R&D). As a reminder, the way R&D sales in Belgium are estimated is explained in the heading related to net purchases of R&D between domestic sectors. The extra market output of R&D of NACE 72 obtained from administrative data (see heading "other adjustments") must be added too. Sales of R&D by non-market producers are also estimated following this methodology and are recorded as secondary market output.

R&D output for own final use (P.12) can be estimated by deducting capitalized R&D purchases (in Belgium and abroad) from R&D investments. The way R&D purchases in Belgium are estimated is explained in the heading related to net purchases of R&D between domestic sectors.

Finally, the consumption of the R&D asset (P.51c) must be added to the non-market production (P.13) (and the final consumption) of the government and NPISH sectors. Details on the estimation of gross (net) stock of R&D and consumption of R&D asset can be found in Chapter 4.12.

ii) Final R&D results

The table below presents the different aggregates related to the R&D product (72A01).

Supply and Use Table of R&D product (72A01) in 2016 (€ million, current prices)

2016 (in € million)	S.11	S.12	S.13	S.14	S.15	Total
Output of R&D (P.1)	10 541	253	4 881	0	4	15 679
Imports of R&D (P.7)	4 309	2	142	0	0	4 453
SUPPLY	14 850	255	5 023	0	4	20 132
Intermediate consumption of R&D (P.2)	3 212	0	0	0	0	3 212
Final consumption (P.3)	0	0	1 913	0	2	1 915
GFCF (P.51)	8 187	393	2 483	0	2	11 065
Exports of R&D (P.6)	3 596	9	334	0	1	3 940
USE	14 995	402	4 730	0	5	20 132

5.10.4.2 Computer software and databases (AN.1173)

The gross fixed capital formation in software covers both purchased and self-produced software. In this context, the GNIG's recommendations on software are taken on board.

5.10.4.2.1 Purchased software

For most sectors, purchased software is estimated based on SBS data on software acquisitions recorded as intermediate consumption on the one hand (= conceptual adjustment for misreporting of software as intermediate consumption), and those correctly recorded as fixed assets on the other hand.

- The SBS data on software acquisitions recorded as intermediate consumption (rubric PURSOFT) are first collected on an individual basis. They are then extrapolated to the whole population, based on the ratio observed in the SBS sample between purchased software and turnover (cf. adjustment (i1) partim - purchased software accounted for as current purchases of goods and services reclassified from intermediate consumption to GFCF, in section 3.4). This method is computed for each SUT-industry in sectors S.11, S.125, S.126, S.127 and S.15. Largest individual amounts are scrutinized, and removed from the extrapolation ratio if needed, as to ensure that extrapolation is appropriate.
- The SBS data on software acquisitions (rubric INVSOFT) recorded as fixed assets on an individual basis are taken as such in acquisition of intangible assets (P.51112).

Gross fixed capital formation in purchased software from SBS	
€ million, 2016	
<i>Purchased software recorded as intermediate consumption (PURSOFT+ extrapolation)</i>	1 310
S.11	1 282
S.12 (S.125+S.126+S.127)	24
S.15	4
<i>of which: extrapolation (exhaustiveness item N4)</i>	512
<i>Purchased software recorded as acquisition of fixed assets (INVSOFT)</i>	541
S.11	497
S.12 (S.125+S.126+S.127)	43
S.15	1
Total purchased software from SBS	1 850

For the central bank (S.121), deposit taking corporations (S.122) and insurance corporations (S.128), specific rubrics from the annual accounts or dedicated surveys provide information on purchases of software.

Gross fixed capital formation in purchased software, other sources	
€ million, 2016	
S.121	0
S.122	147
S.128	202
Total purchased software from other sources	349

5.10.4.2.2 Software produced for own account

Administrative data for estimating software produced for own account are lacking.

In line with Eurostat's recommendations, it is assumed that this type of investment is equal to the sum of the costs pertaining to this activity, covering computer staff remuneration, intermediate consumption, fixed capital consumption and operating surplus (by applying a mark-up).

Two kinds of information are used for calculating computer staff wages:

- the number of such staff in each activity (NACE 2-digits) coming from the Labour Force Survey (LFS) of the DGS, by summing up activity-codes 251 "Software and applications developers and analysts", 252 "Database and network professionals" and 50 % of code 133 "ICT managers"
- the average wage per person in NACE 6201 "Computer programming activities" coming from NSSO returns.

Total computer staff wage bill is obtained by multiplying the number of computer staff in each branch by the corresponding average wage per person. A 50 % coefficient is then applied to the resulting amount to correct for the time such staff spends on software development.

As regards inputs not related to employment, intermediate consumption for self-produced output of software is assumed to represent 33 % of wages, based on the cost structure of general government whose activities are, as software development, very labour intensive.

A mark-up is then applied to the results to take into account the gross operating surplus (which combines fixed capital consumption and net operating surplus).

The latter is defined as the gross margin on sales (further referred to as "*bm*") calculated by the CBSO for grouping "DE722 - Production of computer programmes and systems ready for use", that covers the NACE 582 "Software publishing" and 6201 "Computer programming activities".

The estimated mark-up (*mu*) is calculated as $mu = 1/(1-bm)$

For the IT industry (branch 62), the coefficient used for estimating the time spent by computer staff on software development cannot be used as such, since some of the software developed in this way is intended for sale. It is therefore necessary to take only the time spent on developing software originals (copies of which are subsequently sold) and the time spent on developing software that will only be used by the same enterprise.

Based on VAT turnover and SBS annex data on turnover (table OC) for this branch, it is assumed that 12 % of computer staff in branch 62 are actively involved in the development of originals:

- it is supposed that only computer staff in the "Computer programming activities" (NACE 6201) are likely to be actively engaged in the development of originals; this NACE represents 48 % of the whole IT industry's turnover according to VAT data
- moreover, about 25 % of turnover in this branch is from software development (product 6201).

This estimation method gives the following result by sector:

Gross fixed capital formation in software produced for own account	
€ million, 2016	
S.11	2 988
S.12	646
S.13	557
S.15	25
Total	4 216

Total investments in software are as follows:

Gross fixed capital formation in software (AN.1173)	
€ millions, 2016	
Software produced for own account	4 216
Purchased software recorded as intermediate consumption	1 310
Purchased software recorded as fixed assets	890
Total	6 416

5.10.4.3 Entertainment, Literary and Artistic Originals (AN.1174)

The recommendations from the GNI Committee on Entertainment, Literary and Artistic Originals are followed. The estimation of the gross fixed capital formation in the form of originals covers literary and musical work, production of films and those TV and radio programmes that can be assimilated to stocks. Film production comprises both cinema and television. Radio and TV programmes may be rebroadcast over time and therefore have a longer life¹⁸³. The four criteria set by the recommendations (1: covered by copyright; 2: has a primary artistic intent; 3: satisfies the capitalisation criteria; 4: not covered elsewhere in NA) are considered to define the items estimated.

Following the recommendations, two different methods of estimation are applied according to the existence or otherwise of royalties associated with such originals and managed by copyright management societies.

- Where copyright and related rights generated by a work are collected mainly via management societies, the output of original works is estimated based on the royalties paid by all the Belgian management societies to Belgian recipients. Information is gathered from copyright management societies by the Federal Public Service Economy that supervises them and from The Belgian Society of Authors, Composers and Editors (SABAM). This applies to publishing of newspaper (NACE 58.13), publishing of journals and periodicals (NACE 58.14), sound recording and music publishing activities (NACE 59.2) and performing arts (NACE 90.01).
- Where copyright and related rights are managed only partially or not at all by a management society, the production of original works is estimated based on creation costs plus a net operating surplus. Creation costs comprise compensation of employees, intermediate consumption, and fixed capital consumption. The branches of activity where a cost method is used include book publishing (NACE 58.11), motion picture, video, and television programme production activities (NACE 59.111 and 59.112) and artistic creation (NACE 90.03). The cost method is based on the administrative aggregates available. Ratios are used to determine the part of the missing production activities. These ratios are based on business surveys, VAT declarations and expert judgement. A markup for these activities is added, based on the estimated markup of the other activities in the respective branch.

Moreover, administrative data (annual accounts of the main radio and television companies) is used to estimate the production of original works for programming and broadcasting activities (NACE 60).

Gross fixed capital formation in original works (AN.1174)		
€ million, 2016		
S.11 58A	+	48
S.11 59A	+	539
S.11 60A	+	10
S.13 60A	+	8
S.14 90A	+	96
Total	=	700

¹⁸³ This is for example documentaries, plays or some musical programme. Average service life for originals is 7 years (in accordance with recommendation of TF Originals of service life between 5 and 10 years), applying a linear depreciation function in the PIM.

5.11 CHANGES IN INVENTORIES (P.52)

5.11.1 OVERVIEW

The classification of assets in ESA2010 can be summarised as follows:

AN	Non-financial assets
AN.1	Produced non-financial assets
AN.11	Fixed assets
AN.12	Inventories
AN.13	Valuables
AN.2	Non-produced non-financial assets
AN.21	Natural resources
AN.22	Contracts, leases, and licences
AN.23	Purchases less sales of goodwill and marketing assets
AF	Financial assets

The classification of inventories in ESA2010 is as follows:

AN.12	Inventories
AN.121	Materials and supplies
AN.122	Work-in-progress
AN.1221	<i>Work-in-progress on cultivated biological assets</i>
AN.1222	<i>Other work-in-progress</i>
AN.123	Finished goods
AN.124	Military inventories
AN.125	Goods for resale

An excerpt from the Process table showing the values derived from individual categories of sources and values of conceptual, exhaustiveness and balancing adjustments is available below:

Table 5.11.1: Process table data (€ millions, 2016)

	Basis for NA Figures					Adjustments				FINAL ESTIMATE
	Surveys & Censuses	Administrative Records	Combined Data	Extrapolation & models	Other	Data validation	Conceptual	Exhaustive ness	Balancing	
Changes in inventories	0	18 651	0	34	0	-14 436	-60	0	-11	4 177
materials and supplies	0	14 560	0	347	0	-13 832	-18	0	-2	1 056
work-in-progress	0	653	0	-61	0	-11	-8	0	-2	572
finished goods	0	994	0	-33	0	-331	-6	0	-1	622
goods for resale	0	2 444	0	-220	0	-263	-28	0	-6	1 927

In this section of the inventory, we will focus on the estimate of the outstanding amounts (AN.12) and the changes in inventories (P.52). These are estimated by institutional sector, by type of inventory and by industry (NACE 2). Stocks and flows are estimated in an integrated way (also including holding gains and other changes in volume).

From the description below, it can be said that the sources and methods described cover the categories of inventories listed in ESA2010. In addition, adjustments are made to ensure an adequate transition from the business accounts data sources to ESA definitions.

The borderline case of the growth of standing timber is covered (see section 5.11.2.3).

5.11.2 ESTIMATE OF OUTSTANDING AMOUNTS BY INSTITUTIONAL SECTOR AND BY INDUSTRY

5.11.2.1 Non-financial corporations (S.11)

The source used to estimate inventories for the non-financial corporations are the balance sheet data deposited at the CBSO by corporations (which predominantly are sectorised in S.11) and NPI's (part of them are categorized in S.11).

Table 5.11.2 below illustrates the amounts by accounting model (i.e., full, or abridged) and by balance sheet account with respect to the stocks at the end of 2016.

Table 5.11.2: stocks and orders in progress by accounting model (€ millions, 2016)

	account	Business accounting aggregates			ESA corrections	Adjusted TOTAL	ESA aggregate mapping
		Full	Abridged	TOTAL			
Stocks and orders in progress	3	81 345	27 548	108 893	-18 429	90 463	AN.12
Inventories	30/36	74 415	25 556	99 971	-14 063	85 907	
materials and supplies	30/31	11 082	<i>2 558</i> *	13 640		13 640	AN.121
work in progress	32	6 015	<i>1 016</i> *	7 031		7 031	AN.122
finished goods	33	8 130	<i>1 124</i> *	9 254		9 254	AN.123
goods for resale	34	29 433	<i>12 459</i> *	41 892		41 892	AN.125
immovable property intended for sale	35	5 195	<i>8 205</i> *	13 400	-13 400	0	
advance payments	36	470	<i>193</i> *	663	-663	0	
Orders in progress	37	6 930	1 992	8 922	-4 366	4 556	AN.122

Heading 3 consists of the inventories (account code 30/36) and orders in progress (account code 37). The total book value of these inventories held amounts to 108,8 billion of € in 2016.

Large firms (full model accounts) are required to report their inventories by type. There is distinction between materials and supplies (code 30/31), work in progress (code 32), finished goods (code 33), goods for resale (code 34), immovable property intended for sale (code 35) and advance payments on stocks (code 36).

This level of granularity is not available in the abridged accounts reported by smaller firms. This type of accounts only provides information on the total of inventories (code 30/36) and the orders in progress (code 37). Nevertheless, it can be assumed that the composition of the inventories depends on the type of activity pursued (industry) and not on the size of the firm (full-format or abridged accounts) within a given activity. Therefore, for each industry (NACE 2 digits level), it is assumed that the composition of the inventories of SMEs (abridged model) is the same as that of large firms (full model). The result of this calculation with respect to 2016 is shown in Table 5.11.2 in italic blue.

It should be noted that the large firms – obliged to submit a full model accounting scheme - logically hold the lion share of the total inventories in the economy. A margin of error in the breakdown by type of inventories consequently has a limited impact on the total inventory taxonomy.

It is possible to link the business accounting classification of inventories to the ESA2010 classification as is shown in the table above. Some corrections on the business accounting aggregates are applied, to ensure consistency with ESA2010 classifications and transactions.

Table 5.11.2 provides some insight on the relative importance of each correction and how the stocks from a (ESA) national account perspective differ from the business accounting perspective. The rationale of the corrections is explained in detail in the sections below. The adjustments mainly concern the correction of inventory headings to be considered as fixed assets.

Adjustment a) Immovable property intended for sale (code 35 correction)

Commercial property intended for resale (code 35) are reclassified as fixed assets (and changes in this type of asset consequently are consequently considered as gross fixed capital formation).

Treatment in business accounts

In the Belgian Minimum Standard Chart of Account, immovable property acquired or constructed for resale is treated as a stock/inventory (balance sheet account 35) and not as fixed assets (balance sheet account 22 or 27).

Immovable property for resale is either purchased from other companies or build. Purchases of immovable property for resale are recorded in account 605. Changes in stocks of immovable property purchased for resale are recorded in account 6095.

The construction of immovable property for resale is accounted for in account 715 (change in stock of immovable property constructed for resale) and valued at their cost of acquisition.

The sale of commercial property is registered in turnover (account 705). If the corresponding acquisition was made in the previous accounting period, this sale gives rise to a decrease in stock of immovable property purchased (6095) or constructed for resale (715).

Treatment in national accounts

Commercial real estate is treated as part of fixed assets (AN.11) and not as part of inventories/goods for resale (AN.12). Changes in stocks in real estate (dwellings, other buildings) are consequently reclassified as gross fixed capital formation (acquisitions less disposals of tangible fixed assets).

Analysis of some specific cases

Case 1: One real estate company buys a building from a construction company with the purpose of reselling it

<i>profit and loss account of real estate company</i>			
705	<i>sale of immovable property acquired for resale</i>	0	
605	<i>purchase of immovable property for resale</i>	1000	
6095	<i>change in stocks of immovable property for resale</i>	-1000	<i>(increase)</i>
60	<i>cost of immovable property sold</i>	0	

Production and intermediate consumption derived from the profit and loss account of the real estate company are zero (account 70 and 60 = 0).

In the balance sheet cash (-) is substituted for stocks (+).

These changes in stocks are reclassified as gross fixed capital formation in the national accounts.

The construction company realizes the production and the real estate company the investment:

	<i>P.1 NACE 41-43</i>	<i>P.51 NACE 68</i>
<i>building</i>	1000	1000

Case 2: One real estate company sells the building to an end user (e.g., in NACE 84)

We suppose that the building is sold with a margin of 50 (selling price = 1050)

705	<i>sale of immovable property acquired for resale</i>	1050	
605	<i>purchase of immovable property for resale</i>	0	
6095	<i>change in stocks of immovable property for resale</i>	1000	<i>(decrease)</i>
60	<i>cost of immovable property sold</i>	1000	
70-60	<i>margin on immovable property sold</i>	50	

Business accounting information is transformed into national accounts information: the cost of commercial property sold is deducted from the total cost of goods sold and from total turnover. In doing so a margin is left as production (P.1) and intermediate consumption (P.2) becomes 0 (in this example: because purchases of services- account 61- is supposed to be 0). A specific correction exists in this respect (cor(s))¹⁸⁴.

			cor(s)		
705	turnover	1050	-1000	50	P1 (= margin)
605	purchases of commercial property	0	0	0	
6095	changes in stocks of commercial property	1000	-1000	0	
60	cost of commercial property sold	1000	-1000	0	P2
	value added	50	0	50	

In the national accounts the decrease in stocks is treated as a disinvestment (negative P.51) in NACE 68. The end user registers the purchase of the building as an investment.

	P.1 N_68	margin	P.51 N_68	P.51 N_84
building		50	-1000	1050
margin (on commercial property)	50	-50		

Case 3: One real estate company constructs a building for resale

profit and loss account of real estate company			
715	change in stocks of immovable property constructed for resale		1000 (increase)
60	purchases of raw materials		600
62	compensation of employees		400

Account 71 is treated as part of production and the changes in stocks are reclassified as P.51

	P.1 N_68	P.51 N_68
building	1000	1000

Case 4: One real estate company sells a building constructed for resale

We suppose that the building is sold with a margin of 50 (selling price = 1050)

705	sale of immovable property acquired for resale	1050	
715	change in stocks of immovable property constructed for resale	-1000	(decrease)
605	purchase of immovable property for resale	0	
6095	change in stocks of immovable property for resale	0	
60	cost of immovable property sold	0	
P1=	margin on immovable property sold	50	

¹⁸⁴ See section 3.4.2.1

	<i>P.1</i>	<i>P.51</i>	<i>P.51</i>
	<i>N_68</i>	<i>margin</i>	<i>N_68</i>
			<i>N_84</i>
<i>building</i>		50	-1000
<i>margin (on commercial property)</i>	50	-50	1050

Adjustment b) Orders in progress (code 37) in the construction and real estate industries

Orders in progress in the construction and real estate industry are removed from the inventories/changes in inventories. Otherwise, a double counting occurs in the expenditure approach of the national accounts (production in the construction industry is recorded in the change in inventories of the construction sector itself and as gross fixed capital formation by the client). We illustrate this with an example.

A construction firm executes a project for a client. The project is funded by advance payments made by the client. The investor records these advance payments as an investment in his annual accounts (acquisitions of assets under construction and advance payments: account 271). The construction firm records the advance payments received under the debts (account 46: advances received on orders) and the counterpart of the production that has been realised (but not yet finalised/sold) as work in progress (account 37).

In the example we assume advance payments amounting to 1000 used to purchase building materials (600) and to pay construction workers (400). At the end of the financial year, the construction firm has carried out work worth 1000 which is recorded both in the profit and loss account (account 71) and in the balance sheet (increase in heading 37). As the project is totally (pre)financed by the investor, the construction firm has no borrowing requirement (B.9 = 0)

Construction firm (NACE 41-43)					
Annual business accounts	ESA2010		Annual business accounts	ESA2010	
60	P.2	600	71	P.1	1000
62	D.1	400			
$\Delta 37$	P.52	1000	$\Delta 46$	F.8	1000
Investor					
$\Delta 27$	P.51	1000			
$\Delta 55$	F.2	1000			

It is clear from the example that the production realised by the construction firm appears twice on the expenditure side, namely as a change in inventories/orders in progress of the construction industry itself and as gross fixed capital formation by the client. The construction firm's output should therefore be treated as a sale (71- and 70+), the order in progress should be deleted from the change in inventories ($\Delta 37=0$ and $P.52=0$) and the investment by the client is recorded correctly ($P.51=1000$)

Adjustment c) Advance payments (heading 36)

It was decided to disregard advance payments taking into consideration the (immaterial) amounts involved.

To conclude, table 5.11.3 provides an overview of the non-financial corporations (S.11) inventories by A21 industry branch.

Table 5.11.3: Inventories by A21 NACE category for sector S.11 (€ millions, 2016)

Industry (A21)	Materials and supplies	Work-in- progress	Finished goods	Goods for resale	TOTAL
	(AN.121)	(AN.122)	(AN.123)	(AN.125)	(AN.12)
A	217	314	63	242	836
B	34	1	34	1	70
C	8 985	7368	7 797	3 697	27 848
D	417	82	8	203	710
E	170	202	43	135	551
F	839	489	155	592	2 075
G	14 618	1052	1 259	35 253	52 182
H	676	137	6	197	1 017
I	104	15	2	152	273
J	151	183	67	411	812
K	0	0	0	0	0
L	55	59	4	51	170
M	190	1533	104	644	2 470
N	496	111	6	309	923
O	0	0	0	0	0
P	0	2	0	11	13
Q	198	9	9	29	246
R	10	9	1	110	130
S	32	21	8	76	137
T	0	0	0	0	0
U	0	0	0	0	0
TOTAL	27 195	11 587	9 568	42 114	90 463

5.11.2.2 Financial corporations (S.12)

In the financial sector, according to the Dutch practice, only stocks for financial leasing companies (NACE 64.910, part of the A21 category 'K') are estimated, based on the information in the annual business accounts of the companies. They amount to € 138 million in 2016

5.11.2.3 General government (S.13)

According to ESA2010, inventories in S.13 cover both military inventories (AN.124) and other types of inventories. However, for practical reasons, it was decided that all military purchases (not treated as gross fixed capital formation) are directly recorded as intermediate consumption whether directly used or not.

A limited number of S.13-units deposit business annual accounts (de Lijn/SRWT, STIB/MIVB, RTBF/VRT, Apetra etc.). However, the number of units has increased over the last years due to a revision of the market/non-market boundary. For S.13-units with business annual accounts, inventories and changes in inventories can be estimated in the same way as for S.11-units.

The large inventories in section H are explained by APETRA, the S13-unit which manages the strategic oil reserves in Belgium.

Within the 2019 benchmark revision, a specific item was added to better include the growth of standing and the sale of timber in the government account. In Belgium, local governments own a large portion of the forests. Production of standing timber is treated as an increase in stocks during the production process (while the trees are growing), generating a net operating surplus. The sale of trees is recorded as a stock decrease.

5.11.2.4 Households (S.14)

Since there are no specific survey in Belgium which can be used to estimate the inventory positions of self-employed entrepreneurs, the inventories in S.14 are derived indirectly.

For each activity (NACE 2), a turnover/inventories ratio is calculated for SMEs (enterprise categories B1 and B2) in S.11. The sales by industry of self-employed entrepreneurs are known from the VAT records, the inventories are based on the annual account estimates (see above).

By taking the VAT sales figure and dividing it by the ratio sales/inventory it is possible to derive the inventory position in S.14 by industry. The underlying assumption is that the stock turnover is a specific characteristic for each activity and is the same for unincorporated businesses and small and medium sized companies within the same industry.

For NACE industries with sales of less than € 10 million, no inventories are estimated in practice because they are not significant.

In NACE 66, a sales/inventories ratio is estimated via the statistics published by the Central Balance Sheet Office for NACE 662 (insurance auxiliary activities: abridged models).

In NACE 68 (real estate) the sales/inventories ratio is very low because here, in the case of corporations, very large amounts of commercial property are included in the inventories. Self-employed persons active in this industry are real estate agents who arrange the sale of property without being the owner. The ratio derived from information on corporations is therefore meaningless for estimating the inventories of self-employed persons; it is replaced by the ratio for NACE 77.

Total inventories for unincorporated businesses thus derived amount to € 2 737 million in 2016 or 3.6 % of inventories held in S11. The composition of these inventories (work in progress, finished goods, and goods for resale) is supposed to be the same as for corporations in similar industries.

5.11.2.5 Non-profit institutions serving households (S.15)

Direct information is available via their annual accounts. The estimating method is the same as for sector S.11.

Given the small size of the sector, the small size of the units, and the kind of activities covered, the total amounts obtained are small.

Table 5.11.4: Inventories by A21 NACE category for all sectors (€ millions, 2016)

A21	AN.12 (S11)	AN.12 (S12)	AN.12 (S13)	AN.12 (S14)	AN.12 (S15)	AN.12 (S1)
A	836	0	0	515	0	1 351
B	70	0	0	0	0	70
C	27 848	0	0	141	0	27 988
D	710	0	0	0	0	710
E	551	0	24	3	0	578
F	2 075	0	0	437	0	2 512
G	52 182	0	0	1 192	0	53 374
H	1 017	0	1 280	75	0	2 371
I	273	0	0	70	0	344
J	812	0	77	6	0	895
K	0	138	0	7	0	145
L	170	0	0	8	0	178
M	2 470	0	0	131	1	2 602
N	923	0	4	63	0	990
O	0	0	11	0	0	11
P	13	0	9	1	1	24
Q	246	0	0	0	5	252
R	130	0	1	21	2	154
S	137	0	0	67	6	211
T	0	0	0	0	0	0
U	0	0	0	0	0	0
TOTAL	90 463	138	1 406	2 737	16	94 760

5.11.3 ESTIMATE OF THE CHANGES IN INVENTORIES (P.52)

Consistent with the estimate of the outstanding amounts, the change in inventories is estimated as the difference between the outstanding amounts of stocks in consecutive balance sheets positions (Δ heading 3).

To ensure that the changes in inventories derived from business accounts conform as closely as possible to the valuation principles of the national accounts, several adjustments are made to the balance sheet data.

First, adjustments concerning commercial real estate, orders in progress (in certain industries) and advance payments are done on the amounts outstanding to move from a business accounting perspective to a national accounts perspective. These adjustments (and estimation for S.14) are extensively covered in section 5.11.2 above. By taking the first difference of these 'ESA' adjusted amounts of outstanding stocks, the change in inventories (P.52) is also aligned with the adjustments¹⁸⁵.

Second, valuation differences are estimated to capture holding gains and losses of inventories. In practice they are estimated for purchased and produced inventories for firms which value their inventories according to the FIFO system. The calculation of this adjustment is described in Section 5.11.4 below.

5.11.4 VALUATION DIFFERENCE: HOLDING GAINS/LOSSES ON STOCKS

As already explained, the (semi) definitive estimates heavily rely on the use of annual accounts and other administrative sources. In a second step, these "administrative" aggregates are translated into ESA2010 aggregates. One of the conceptual adjustments is the estimate and elimination of holding gains in the changes in stocks derived from the annual accounts.

¹⁸⁵ Borderline cases are consequently covered to the extent that they are included in the annual account estimates.

The Belgian accounting law allows different kinds of stock valuation systems:

- FIFO: first in first out
- LIFO: last in first out
- Average prices
- Individual prices (in the case of non-standardized products)

The method chosen has an impact on the value of the stock at closing date and consequently also the changes in stocks (final stock minus initial stock), the gross margin (value added) and the reported profit/loss.

We illustrate this using a fictitious example. At 31/12/N-1 a company holds a stock of purchased goods (raw materials or commercial goods) of 500 units valued at 1 €/unit. During years N and N+1 the enterprise realizes monthly purchases of 500 units which are transformed to finished products (in the case of raw materials) or resold as such (commercial goods). There are no (changes in) stocks of finished products. This implies that physical changes in stocks are zero for the year N and N+1. Prices of purchased goods increase by 12 % in N (Dec N compared to Dec N-1) and decrease by 2 % in N+1.

period	Price-index
December N-1	100,0
December N	112,0
December N+1	109,8

The value of the final stock in case of FIFO and LIFO valuation (the most common used stock valuation systems) is as follows:

Stock (in €) at	FIFO	LIFO
31/12/N-1	500	500
31/12/N	560	500
31/12/N+1	549	500

In the case of **FIFO valuation**, the opening inventory (oldest products) is first taken into account to establish the cost price of the goods being sold and afterwards the purchases of January to November. The 500 units purchased in December N appear as final inventory on the balance sheet of 31/12/N valued at € 560 (500 units * € 1.12 /unit). In the year N+1 this stock (€ 560) is deemed to be first consumed and afterwards the purchases of January till November. The purchases of December N+1 appear as final inventory on the balance sheet of 31/12/N+1 valued at € 549 (500 units * € 1.098/unit).

In the case of **LIFO valuation**, the goods last purchased (those of December) are first taken into account to establish the cost price of the goods being sold and afterwards those of November till February. This implies that the 500 units in stock keep the same valuation (€ 1/unit or € 500) which is the value at 31/12/N-1 year after year.

The effects of FIFO and LIFO on the balance sheet and profit and loss account can be seen in the next table¹⁸⁶:

BALANCE SHEET AT 31/12						
		N-1	N		N+1	
			FIFO	LIFO	FIFO	LIFO
Assets	Inventory	500	560	500	549	500
	Bank	200	1800	1800	3500	3500
Liabilities	Capital	700	700	700	700	700
	Reserves	0	1660	1600	3349	3300
Balance Sheet Total		700	2 360	2 300	4 049	4 000

PROFIT AND LOSS ACCOUNT					
		N		N+1	
		FIFO	LIFO	FIFO	LIFO
Turnover (1)		8000	8000	8300	8300
Purchases (2)		6400	6400	6600	6600
Changes in stocks (3) (increase -, decrease +)		-60	0	+11	0
Cost of goods sold (4) = (2) + (3)		6340	6400	6611	6600
Gross margin/operating profit (1) - (4)		1660	1600	1689	1700

Only in the case of LIFO, changes in stocks are 0. This corresponds to the physical reality of our example.

FIFO valuation results in a stock increase (in value) in N and a decrease in N+1. These changes are only induced by valuation differences of the final stocks at the end of the successive years (the inventory position end N-1 has been revalued at prices prevailing at the end of the years N and N+1). The gross margin (value added) according to the annual accounts is influenced by the changes in stocks: for N (increase in prices) value added resulting from FIFO valuation is higher than value added resulting from LIFO valuation, for N+1 (decrease in prices) the opposite is true.

This illustrates the fact that the level and growth of value added depends on the system of stock valuation:

VALUE ADDED IN CASE OF FIFO AND LIFO VALUATION				
	N	N+1	ΔN	ΔN
FIFO	1660	1689	+29	+1.75 %
LIFO	1600	1700	+100	+6.25 %

The adjustment for holding gains/losses on stocks is intended to adjust changes in stocks and value added derived from business accounts if the valuation in business accounts (FIFO) **is not appropriate** for national accounts purposes (ESA2010).

In national accounts, it is important to make a distinction between holding gains/losses on assets (e.g., inventories) and transactions influencing asset positions (e.g., P.52 changes in inventories which excludes holding gains/losses). In the example developed before, LIFO stock valuation resulted in a situation which is compatible with national accounts and FIFO stock valuation resulted in changes in stocks (in business accounts) to be qualified as holding gains/losses. If no correction for holding gains (in the FIFO situation) is made, the production approach (value added) as well as expenditure approach (P.52) will be biased as is shown in the next table¹⁸⁷.

Production/exports and imports are the same because turnover and purchases reflect invoice flows and are not influenced by stock valuation policies. Intermediate consumption however is underestimated in FIFO valuation because raw materials consumed are lower than raw materials purchased/imported (counterpart of increase in stocks of 60). This increase in stocks however must be reclassified as a holding gain which results in flows according to LIFO.

¹⁸⁶ We suppose that all purchases and sales have been paid for, profit has been reserved and accounts 71, 72, 74, 61 62 and 64-640 are 0.

¹⁸⁷ The underlying assumptions are that the total of turnover/production concerns finished products sold abroad (exported) and that the total of purchases of raw materials are imported.

Year N		P.1	P.71	P.2	P.52	P.61
FIFO (without correction)	Raw materials		6400	6340	60	
	Finished goods	8000				8000
	GDP Production Expenditure	$P.1 - P.2 = 8000 - 6340 = 1660$ $P.52 + P.61 - P.71 = 60 + 8000 - 6400 = 1660$				
LIFO	Raw materials		6400	6400	0	
	Finished goods	8000				8000
	GDP Production Expenditure	$P.1 - P.2 = 8000 - 6400 = 1600$ $P.52 + P.61 - P.71 = 0 + 8000 - 6400 = 1600$				

The corresponding adjustment is treated as adjustment (w) in the transition table (see section 3.4.2 for more details).

<u>Before adjustment</u>			<u>(w)</u>	<u>After adjustment</u>	
70	turnover	8000		8000	P.1
600/8+61	purchases	6400		6400	
609	changes in stocks	-60	+60	0	P.52
60	cost of goods sold	6340	+60	6400	P.2
70-60	gross margin/value added	1660	-60	1600	B.1g

In 2016, the correction for holding gains/losses on inventories added up to € 60 million (by accident, the same amount as in the example).

To calculate that amount, several data are needed:

- the level of inventories of raw materials and goods for resale (both purchased and produced)
- the inventory valuation methods used
- the price evolution (January 2016 – Dec 2016).

The above-mentioned information is collected for all industries. The most common inventory valuation methods used are LIFO and FIFO; enterprises using average prices and individual prices are very rare.

The calculations are done for each industry based on data from enterprises (non-financial corporations (S11)) with annual accounts (categories A1, B1, B2, C1, C2). The inventories of the enterprises that value their inventory according to the FIFO method are isolated. The value of these ends of year inventories is determined by the value of the goods bought (and not consumed/resold) at the most recent price. The difference between the actual and the deflated inventory position are the holding gains/losses. The table below illustrates the calculation at a NACE2 level.

Table 5.11.5: Estimation of holding gains/losses on inventories for the year, 2016 (€ million)

5.11.5 CONCLUSION: INTEGRATION OF FLOWS AND STOCKS

Table 5.11.6 below illustrates the change in inventories estimate for each institutional sector of the economy. This estimate can be summarized with this relationship:

$$P.52 \text{ (published)} = \Delta \text{heading 3 (adjusted)} - \text{holding gains/losses correction}$$

The estimation also contains a 'data validation' element. The 2016 estimate contains a punctual and unprecedented correction (more than 14 € bil.) related to the in-depth analysis of the annual business account data of some large pharmaceutical companies to improve the reflection of their actual economic activity.¹⁸⁸ These pharmaceutical companies were part of a distinct analysis within the future context of a Large Case Unit, highlighting the importance of these kind of analysis and necessity of continuous monitoring of their business operation model.

In practice, the published amount of P.52 also contains an element of balancing for some years (to bridge the difference between the production approach estimate and the expenditure estimate of GDP). Consequently,

$$P.52 \text{ (published)} = \Delta \text{heading 3 (adjusted)} + \text{data validation} - \text{holding gains/losses correction} + \text{balancing}$$

Table 5.11.6: change in inventories by institutional sector (€ million)

	(1)	(2)	(3)=(1)-(2)	(4)	(5)	(6)	(7)=(3)+(4)-(5)+(6)	(8)=(1)+(6)
	spontaneous (*)	spontaneous (*)		data validation	holding gains/losses	balancing	publication	publication
	stock (AN.12)	stock (AN.12)					P.52	AN.12
	2015	2016	Δ2016	2016	2016	2016	2016	2016
S11	71 884	90 463	18 579	-14 436	60	-11	4 071	75 956
S12	107	138	31	0	0	0	31	138
S13	1 364	1 406	42	0	0	0	42	1 406
S14	2 703	2 737	34	0	0	0	34	2 737
S15	17	16	-1	0	0	0	-1	16
S1	76 075	94 760	18 685	-14 436	60	-11	4 177	80 252

The (*) denotes the 'spontaneous' stock estimates, which are the heading 3 balance sheet positions -after corrections to move from a business accounting perspective to a national account perspective.

Note that no holding/losses are estimated for sectors S.12, S.13, S.14 and S.15 considering the very low value of inventories in these sectors.

Table 5.11.7 provides a breakdown of the estimation by type of inventory.

Table 5.11.7: change in inventories by product (€ million)

		(1)	(2)	(3)=(1)-(2)	(4)	(5)	(6)	(7)=(3)+(4)-(5)+(6)	(8)=(1)+(6)
		spontaneous (*)	spontaneous (*)		data validation	holding gains/losses	balancing	publication	publication
		stock (AN.12)	stock (AN.12)					P.52	AN.12
		2015	2016	Δ2016	2016	2016	2016	2016	2016
AN.121	AN.121: Materials and supplies	13 300	28 207	14 907	-13 832	18	-2	1 056	23 889
AN.122	AN.122: Work-in-progress	11 404	11 996	592	-11	8	-2	572	10 160
AN.123	AN.123: Finished goods	8 904	9 865	961	-331	6	-1	622	8 355
AN.125	AN.125: Goods for resale	42 467	44 692	2 224	-263	28	-6	1 927	37 849
AN.12	AN.12: TOTAL	76 075	94 760	18 685	-14 436	60	-11	4 177	80 252

¹⁸⁸ The previous annual accounts of these firms did not contain any indication of stock assets, while a very sizeable amount of stock assets (see size of the 'data validation correction') was declared in heading 3 from 2016 onwards.

5.12 ACQUISITION LESS DISPOSALS OF VALUABLES (P.53)

Under the transmission programme Regulation, Belgium obtained derogation until 2017 for the transmission of data on acquisitions less disposals of valuables (P.53). A first estimate of this operation was introduced in the accounts published in September 2017.

The acquisitions less disposals of valuables are estimated as a global item. The different categories are not distinguished.

In this domain, the data sources are very poor: neither the business accounts nor the structural surveys on non-financial corporations record specific data on valuables as defined in ESA. The household budget survey is also very restrictive on this topic.

Therefore, an estimation method which combines the available information was developed, acknowledging that the results must be considered merely as indicative. The proposed method is based on the **(simplified) commodity flow principle**, plus some assumptions, given the lack of usable data.

The idea is to build supply and demand data for a selection of products which best conform to the SNA/ESA definition of valuables. Supply consists of imports; demand consists of exports and domestic demand.

5.12.1 ESTIMATION OF SUPPLY

Imports of valuables

The data on imports of valuables can be extracted from the foreign trade statistics, available per product (very detailed CN8 nomenclature). The product selection adopted is as follows: the whole of chapter 97 relating to works of art, collectors' pieces and antiques, and a selection of products from chapter 71.

Products used for the estimation of P.53

Code CN8	
7101	Pearls, natural or cultured , whether or not worked or graded but not strung, mounted or set; ungraded pearls, natural or cultured, temporarily strung for convenience of transport
7103 91 00	Precious stones (other than diamonds) and semi-precious stones , whether or not worked or graded but not strung, mounted or set; ungraded precious stones (other than diamonds) and semi-precious stones, temporarily strung for convenience of transport: rubies, sapphires, and emeralds
7103 99 00	Idem: other
7113	Articles of jewellery and parts thereof, of precious metal or of metal clad with precious metal
7114	Articles of goldsmiths' or silversmiths' wares and parts thereof, of precious metal or of metal clad with precious metal
7116 10 00	Articles of natural or cultured pearls
7118 10 00	Coin (other than gold coin), not being legal tender
97	WORKS OF ART, COLLECTORS' PIECES AND ANTIQUES
	9701 Paintings, drawings and pastels, executed entirely by hand, other than drawings of heading No 4906 and other than hand-painted or hand-decorated manufactured articles ; collages and similar decorative plaques
	9701 10 00 – Paintings, drawings, and pastels
	9701 90 00 – other
	9702 00 00 Original engravings, prints and lithographs
	9703 00 00 Original sculptures and statuary, in any material
	9704 00 00 Postage or revenue stamps, stamp postmarks, first-day covers, postal stationery (stamped paper), and the like, used, or if unused not of current or new issue in the country to which they are destined
	9705 00 00 Collections and collectors' pieces of zoological, botanical, mineralogical, anatomical, historical, archaeological, palaeontological, ethnographic, or numismatic interest
	9706 00 00 Antiques of an age exceeding 100 years

Code 7102 relating to diamonds was excluded. It can be considered to concern a product which is essentially the subject of trading on the Antwerp diamond market. While diamonds can be imported and held by economic agents as valuables, the available data do not allow to identify those minor cases.

The valuable commodities in unwrought or semi-manufactured form were excluded, considering that the products concerned are used in production and processing. Therefore, they do not conform to the definition of valuables.

The foreign trade data on this selection of products were also limited to conform to the concepts of ESA2010 and BPM6: imports of goods for processing (code 4), imports relating to repairs or maintenance (code 61, 62, 63 and 64) and other movements of goods not involving any transfer of ownership (code 9) were excluded. The results are set out in the table below:

Table 5.12.1: Imports of valuables according to trade statistics

2016 (in € million)	
Products 71x	177
Products 97	79
Total imports of valuables	256

Domestic production of valuables

The very nature of valuables makes it reasonable to assume that production is zero or marginal: Belgium does not produce antiques or extract precious metals. Conversely, it is true that there could be national production of art, but the high value or artistic significance of the goods would have to be recognised¹⁸⁹. It will not distort the commodity flow too much if we assume that is not the case.

The research conducted on the most famous Belgian items showed that it is impossible to identify within the turnover of any companies the part relating to sales of works of art. The turnover figure in fact includes the proceeds from other activities such as income derived from exhibitions, and not directly relating to the sale of works of art.

5.12.2 ESTIMATION OF DEMAND

Exports of valuables

The exports aspect was developed in the same way as that relating to imports (see above).

Table 5.12.2: Imports of valuables according to trade statistics

2016 (in € million)	
Products 71x	124
Products 97	118
Total exports of valuables	242

Net acquisitions of valuables by corporations and by the government

The business accounts and the structural survey for non-financial corporations do not contain specific data on the subject. No data source is available. It was suggested that a specific question on net acquisitions of valuables might be included in the structural survey, but it will be several years before the data collected can be used.

It is reasonable to suppose that companies (for instance, large firms and multinationals buying works of art for their collection) record acquisitions of valuables under their investment, in accounts heading 8165 ("other tangible fixed assets"). If that is correct, it means that firms' acquisitions of valuables will be recorded under P.51 (and not P.53 as the ESA intends).

In the absence of information, it is not possible to estimate net acquisitions of valuables by sector S11. If an amount is attributed to sector S.11, it can lead **to double counting with the figures already included as investments under P.51**.

On the basis of the available information, net acquisitions of valuables are already recorded in the national accounts for sector S.121 (central bank) and S.122 (deposit-taking corporations except the central bank). For deposit-taking corporations, the data on purchases of valuables come from the exhaustive structural survey. The survey only mentions purchases excluding leasing; there are no data on lease purchases or on sales.

For insurance corporations (S.128), data are available in the structural survey of enterprises under Belgian law (supervised by the Bank), both for purchases excluding leasing and for lease purchases and sales. Since the data are available, they can therefore be included in the commodity flow.

¹⁸⁹ The SNA states (§12.16): For valuables, such as precious stones, antiques and other art objects, when the high value or artistic significance of an object not already recorded in the balance sheet is first **recognised**, it is classified as an economic appearance. Hitherto, the object may have been of little value and not considered an asset. For example, the item might have been considered an ordinary good whose purchase had been included in household final consumption expenditure or been regarded as a consumer durable. Recognition of its worth as a store of value leads to its entrance into the balance sheet as a valuable. The recognition of the value of a previously unvalued item is often associated with a sale (at auction, for instance). The sale is recorded in the capital account as the sale and purchase of a valuable, if having been entered first into the balance sheet of the seller.

Purchases and sales of valuables by general government are identifiable in the government budgets. These figures are included in the commodity flow.

Table 5.12.3: Net acquisitions of valuables by the corporate sector and the government

2016 (in € million)	
P.53_S.11	n.a.
P.53_S.121+S.122	0,4
P.53_S.128	0,0
P.53_S.13	1,0

Net acquisitions of valuables by households

The data that we have on the purchase of valuables by households are also fairly poor. Purchases of “genuine” jewels and precious stones are recorded in COICOP 12.3.1.1 (output SUT 32A02). They are estimated based on the household budget survey (HBS) for the reference years and via the movement in the VAT turnover of specialist shops for intermediate years. These purchases are currently recorded under final consumption expenditure of households (P.31_S14).

The other types of goods cannot be separately isolated, and it is reasonable to assume that they are not even taken into account at all in the estimation of household final consumption. In fact, “works of art” as a type of product do not exist in COICOP.

Purchases of genuine jewels and precious stones currently included in household final consumption (€ million)

Household budget survey heading	1996	2000	2005	2010
12311 A	109.7	101.0	160.0	70.6

It seems that the estimate of “genuine” jewels and precious stones included in household final consumption stands at around €85 million in 2016. Ideally, this estimate which is compatible with COICOP should exclude metals, precious stones and jewels made from them if they are acquired as an investment. It is obviously very difficult to make that distinction, especially as the data are obtained from a survey which is subject to interpretation by the respondents.

All in all, apart from the fact that some purchases of “genuine” jewels and precious stones have to be redirected to P53, the final balancing of supply and demand is attributed to the household account (P53_S14). This involves strong assumptions. But there is no reliable way to define the portion of the balance that could be attributed to non-financial corporations (without causing double counting; see above) or to NPISHs.

5.12.3 COMMODITY FLOW AFTER BALANCING

Based on the above considerations, the commodity flow after balancing (in the household sector) is as follows:

Table 5.12.4: Balanced commodity flow

2016 (in € million)	
Production (P.1)	0
Imports (P.7)	256
TOTAL SUPPLY	256
P.53_S.11	0
P.53_S.12	0,4
P.53_S.13	1
P.53_S.14	12
P.53_S.15	0
Exports (P.6)	242
TOTAL USE	256

5.13 EXPORTS AND IMPORTS OF GOODS (P.61 AND P.71)

The following table gives the total amount of imports and exports of goods in the Belgian annual national accounts for the year 2016, broken down into intra-EU and extra-EU imports and exports.

Table 5.13.1: exports and imports of goods

2016 (in € million)			
	Intra-EU	Extra-EU	Total
Import of goods (P71)	172 303	69 074	241 377
Export of goods (P61)	168 882	74 272	243 154

To estimate the imports and exports of goods in the Belgian annual national accounts, the annual Belgian balance of payments data, compiled by the National Bank of Belgium, are used. This statistic includes the economic and financial transactions between Belgian residents and non-residents over the period of one year.

The following table (extract from the process table) shows that Extrastat and Intrastat (+ extrapolation) are the main data sources for the estimation of the exports and imports of goods.

2016 (in € million)			
		Exports	Imports
Survey and censuses	Intrastat + credit cards data	165 485	155 745
Administrative Records	Extrastat	75 244	75 159
Other E&M	Extrapolation and estimation for non-respons	3 458	13 294
Data validation		-1 761	-3 095
Exhaustiveness	Drugs and tobacco smuggling	728	275
Balancing	Rounding	-1	0
Final estimate		243 154	241 377

5.13.1 DESCRIPTION OF THE SOURCES

5.13.1.1 General information

For the compilation of the balance of payments data on intra and extra-EU trade in goods, the Belgian foreign trade data are used. This statistic captures the cross-border movements in Belgium. A distinction is made between trade flows of goods between EU Member States (Intrastat) and goods movements with countries that do not belong to the European Union (Extrastat).

Extrastat data are collected via the Belgian customs. They are exhaustive. A customs form or *Extrastat declaration* must be completed by the customs office when a good is sent to a non-EU member country or coming from a non-EU member country. There is no need to extrapolate these data.

Intra-EU trade is collected via the Intrastat declarations. In Belgium, all enterprises subject to VAT must fill in this Intrastat declaration themselves concerning their trade with EU member states, unless the total traded amount does not exceed a threshold value on an annual basis. This declaration includes all data regarding imports and exports of goods from and to other EU Member States (weight, value, flow, VAT-number, country of destination/origin, etc.).

As earlier mentioned, the Intrastat data are not exhaustive since a threshold value is used. Since 1 January 2015, this threshold has been €1 500 000 for imports and €1 000 000 for exports. In 2020, Intrastat had almost 12900 declarants, of which approximately 9200 were import declarants and 8500 were export declarants. In

this system, a company may be obliged to declare none, one or two trade flows¹⁹⁰. If a company exceeds the threshold, they are obliged to declare their imports and exports immediately and they must continue this process until the end of the following year, then the whole process starts again. During the year, it is checked if all companies that exceed the threshold have declared their exports and imports. The enterprises obliged to declare are selected based on their VAT returns for the previous and the current year. Companies are contacted when they forgot to declare their flows.

Quality checks are also performed on the data for example, correcting transaction codes, product codes, correcting false import and export figures by contacting the reporting companies.

5.13.2.2 **Extrapolations and non-response**

Since companies only must declare their flows when they exceed a certain value, some adjustments are made to the Intrastat-data to complement the collected data. There is a computation to capture the flows below the threshold value. Some adjustments are also made for the non-responses.

The estimation of trade below the Intrastat threshold is based on VAT-declaration information and is calculated as follows for respectively imports and exports, knowing that 46, 48, 84 and 86 are categories in VAT declarations:

$$\text{Trade below Intrastat threshold export}^{mx} = \sum 46^{m;q/3} - \sum (\text{gas}^m + \text{diamonds}^m) - \sum (46 \text{servicetraders}^{m;q/3}) - \sum (46 \text{triangulartraders}^{m;q/3}) - \sum 48^m$$

$$\text{Trade below Intrastat threshold import}^{mi} = (\sum 86^{m;q/3}) - \sum (\text{gas}^m + \text{diamonds}^m) - \sum (86 \text{servicetraders}^{m;q/3}) - \sum (86 \text{triangulartraders}^{m;q/3})$$

Where:

m = month

q = quarter

x = exports

i = imports

46 = monthly/quarterly totals of intra-EU dispatches of goods

86 = monthly/quarterly totals of intra-EU arrivals of goods

48 = credit-notes related to box 46 (credit-notes related to box 86 are in box 84 but those totals are already deducted from box 86 by the VAT declarants).

An estimate for trade below the Intrastat threshold is obtained by summing up all intra-EU trade in goods mentioned in the VAT declarations for a given month for all traders not recorded as Intrastat declarants. For (small) companies filing a quarterly VAT-declaration, the above-mentioned boxes are divided by 3 and added to the monthly declarants.

Gas and diamonds are not subject to the Intrastat threshold. Consequently, the trade flows concerning these goods are eliminated from the boxes 46 and 86 for the extrapolation.

As a few identified declarants declare services trade in their boxes 46 and 86, a correction is made through deducting these VAT-declarations from the calculations.

A correction is also made for triangular trade since this should not be included in the foreign trade data but is registered in the boxes 46 and 86. The total for these operations is estimated based on the VIES-declaration which contains these operations separately. This amount is afterwards deducted from the total amount of the boxes 46 and 86.

For enterprises engaged in a VAT-unit and where some units are not subject to the Intrastat obligation, the missing value is estimated by summing up the Intrastat declarations of the members. This sum is then deducted from the totals of boxes 46 and 86 of these units. This gives an estimate of the missing value.

¹⁹⁰ In the case of a VAT-unit, all the separate companies are obliged to declare their flows themselves and not collectively if they exceed the threshold

Besides the estimation made to capture the flows below the threshold value, an adjustment is also made for the late or non-response. This concerns companies which exceed the threshold value, but do not have reported the Intrastat declaration on time.

If a VAT declaration is available, the missing value is estimated based on this VAT-declaration, considering the specific corrections made above. If no VAT-declaration is available, data for the same calendar month of the year t-1 are used and corrected for the trade cycle (i.e., multiplied by a growth factor calculated based on a constant sample of traders that have declared in both the reference month and the same month for the year-1).

5.13.3.3 Corrections for exhaustiveness

A correction incorporating the import and export of illegal drugs and smuggling is added to the foreign trade figures. These amounts are estimated separately (for more details, see chapter 7).

5.13.4.4 Valuation

To comply with the ESA 2010 definitions, imports of goods broken down by product in the supply and use table must be assessed according to their “cost-insurance-freight” (CIF) value, while exports of goods have to be assessed according to their “free on board” (FOB) value. However, total goods imports must be assessed at their FOB value, entailing the introduction of a CIF/FOB adjustment. In other words, the imports and exports of goods should be valued on FOB-basis, which means that the imports and exports should be valued at the border of the country of export. The value of the services to transport and insure the goods from the border of the export country to the importer should be part of the imports and exports of services. However, for the supply and use tables, the imports of goods by SUT-product need to be valued on a CIF-basis.

The foreign trade data for the national concept, which are the basis of imports and exports in the balance of payments and the national accounts, are collected in a different way for Intrastat on the one hand and for Extrastat on the other hand.

In Extrastat, the import and exports are valued respectively on a CIF- and FOB-basis, so imports and exports from and to non-EU countries are already in the right format for the Supply and Use Tables (SUT).

In Intrastat the basis for the valuation is the value of the invoice. Depending on the agreements between the buyer and seller concerning the transportation and insurance of the goods (i.e., the incoterms), the valuation of the import and export will be different (CIF, FOB, EXW, FAS, ...). In a first step, the imports of goods at invoice value are transformed to a CIF-basis (because that is necessary for the supply and use tables) and the exports of goods at invoice value are transformed to FOB-basis. The foreign trade data for the community concept are being used to do this transformation. To convert imports and exports of goods from and to EU countries into the required CIF or FOB valuation using the national concept, the ratio between the statistical value and the invoice value from the community concept should be used, by SUT product and by partner country.

To convert total imports of goods from CIF into FOB values, i.e., the CIF/FOB-adjustment itself, there is no data available in the existing information sources (customs papers, Intrastat declarations, balance of payments surveys, structural business statistics, etc.). Therefore, benchmark information is used from comparable small, open economies to determine the CIF/FOB percentage. When estimating this percentage, figures are corrected for the share held by neighbouring countries in total imports, since no CIF/FOB adjustment needs to be made for these countries (knowing that the neighbouring countries account for a major share of total imports of goods into Belgium: 47 % in 2016).

The CIF/FOB adjustment itself has no impact on the balance of total imports and exports of goods and services. It merely implies a transfer of the net balance from goods to services, as transport and insurance costs are now eliminated from trade in goods (positive impact on the net balance of goods) and added to trade in services (negative impact on the net balance of services).

Changing imports and exports of goods from invoice value to FOB valuation does have a negative impact on the balance of around € -514 million for the year 2016.

5.13.2 FROM SOURCE DATA TO NATIONAL ACCOUNTS FIGURES

The source-data collected in the foreign trade statistics includes all the transactions that cross the border (community concept) irrespective of the fact that there is a change of economic ownership between a resident and a non-resident. Since in the balance of payments/national accounts, an import and export of goods only takes place when there is a change of economic ownership between a resident and a non-resident, the foreign trade figures need to be adjusted before they are integrated in the balance of payments and the national accounts. This means that transactions between non-residents (quasi-transit) and transactions without a change in economic ownership are included in the foreign trade data and need to be removed for balance of payments/national accounts purposes. Another problem is that transactions without goods crossing the borders but with a change of ownership between a resident and a non-resident are not captured by the foreign trade data. Therefore, the foreign trade data in community concept need to be adjusted before implementation in the balance of payments/national accounts.

5.13.2.1. Elimination of transit flows

To eliminate the transactions between non-residents, the data in community concept from foreign trade are converted to the national concept (transactions between residents and non-residents that cross the border). To establish figures in national concept, a distinction is made between:

- (a) non-residents that conduct trade which may be described solely as "quasi-transit" in Belgium: imports followed by re-exports,
- (b) non-residents that also undertake transactions with residents (and, for example, export goods they first purchase from residents, or import goods which they then sell to residents).

To do so, the population of declaring companies is broken down into 3 categories, with a specific method being used for each category in order to derive the figures in national concept.

Category 3: non-resident enterprise/ tax representative without significant staff
 Category 4: individually investigated units (key entities)
 41 resident enterprise
 42 non-resident enterprise
 43 mixed enterprise
 Category 6: resident enterprise

Enterprises in category 3 are recognised as non-resident enterprises by using mainly information from the VAT-administration. In Belgium, the Foreign Centre of the VAT-administration is competent for non-resident VAT-traders and for non-resident companies with an establishment in Belgium. Based on the information on the place of residence in the VAT-database, the enterprises with a Belgian VAT number but not established in Belgium can be spotted. Consequently, the competent VAT office in combination with information on the place of residence forms the main source for making a distinction between resident and non-resident enterprises.

Apart from the special VAT status of a non-resident, it is important that no economic activity should be undertaken on Belgian territory. Therefore, to be really recognised as a non-resident, a company must have the Foreign Centre as competent VAT-office combined with a non-Belgian address in the VAT-database and there may be no evidence of an economic activity in Belgium. We assume that there is no economic activity if the following conditions are met:

- Having the legal form codes 030, 230 or 235 concerning foreign companies
- Not filing Belgian annual accounts
- Not subject to Prodcum survey
- Not subject to the structural business survey
- Not employing more than 4 people
- Not having an establishment unit (i.e., business location)
- No publications in the Belgian Official Gazette, if publications are available: having a declaration of liquidation of the enterprise
- Not filing foreign annual accounts
- Not undertaking any or barely any transactions with Belgian residents (in case of doubt)

Enterprises can also be recognised as non-resident enterprises after micro-economic research. By using this algorithm to determine the residence status, the total population of non-residents is known. This population is determined by the national accounts department and communicated to the foreign trade department. Therefore, the population of non-residents between the foreign trade department, BOP and NA is the same.

The category 4 units are non-resident enterprises which have been individually investigated. These companies have declarations with very large export and/or import amounts and deserve an in-depth individual analysis where all the available sources for the non-residents (Intrastat declaration, customs declaration, VAT declarations, VAT supplier file) and the linked resident units (Intrastat declaration, customs declaration, Balance of payments survey (imports and exports of services), VAT declarations, VAT supplier file, social security declarations (wages and employment), annual accounts and annual reports, Prodcom declarations (industrial production), structural business surveys (turnover by product/activity, purchases by product) are compared and reconciled.

Resident companies are all the companies that are not classified as non-resident and not integrated in category 4. The total population under the category 6 forms the total populations of residents and is also consistent between the foreign trade department, BOP and NA.

For each category a specific method is used to derive the figures in national concept:

Category 3: the figures in national concept are derived based on the VAT supplier database

Category 4: figures in national concept are established after an in-depth analysis of all available sources

Category 6: the firm is resident; the figures in national concept are equal to the figures in community concept (after the elimination of return deliveries).

The treatment of resident enterprises (cat. 6) is straightforward. The import and export flows of declarants are fully retained in national concept.

Category 3 units are regarded as pure tax representatives, i.e., enterprises that have a Belgian VAT number in order to complete the administrative formalities. They have no other production activity than fulfilling these administrative obligations. Two cases may arise with this group of enterprises.

The first one includes enterprises that undertake transactions only as part of quasi-transit trade. These are enterprises importing products into Belgium where they are declared for free circulation before being exported abroad. Consequently, no Belgian counterparty is involved. The tax representative's declarations should therefore be completely removed from the national concept.

The second case concerns tax representatives that, apart from quasi-transit trade, also undertake transactions with Belgian resident units, as in the case of an enterprise importing goods to be subsequently delivered in part to a Belgian counterparty, with the rest being exported. In this case only a part of the imports must be eliminated (and the remaining part considered as imports in national concept). To take account of these two situations, use is made of a source covering both cases.

The estimate according to the national concept for category 3 relies on the VAT supplier database, which comprises all sales of VAT taxpayers to other Belgian VAT taxpayers, thus also including tax representatives. The database can therefore serve as a basis for identifying the purchases and sales of tax representatives with Belgian counterparties, so a check can be made of how many of the tax representatives' imports and exports involve actual transactions with Belgian parties and consequently must be reflected in the national concept and how many involve quasi-transit trade.

More specifically, this means that the value in national concept for imports is equal to the sum of the sales to Belgian residents in the VAT supplier database. The value in national concept for exports is equal to the sum of purchases from Belgian residents classified in NACE rev. 2 sections 01 till 32 and 45 till 47 in the VAT supplier databases in order to remove the services component in the VAT supplier database. Where the indicated Intrastat or Extrastat value is lower than the value in the VAT supplier database the minimum of the 2 is used for reasons of caution.

Tax representatives are pure administrative units that do not produce or use goods themselves. A sale may therefore only originate from imports while purchases are the only possible source of exports in national

concept. This implies that imports and exports in national concept of tax representatives solely relate to the activity (purchase/sale of commercial goods, intermediate consumption, investment, production) of the resident companies the tax representative is linked to and for which amounts are reported in its declaration.

The category 4 units have declarations with very large export and/or import amounts and deserve an in-depth individual analysis where all the available sources for the fiscal representatives (Intrastat declaration, customs declaration, VAT declarations, VAT supplier file) and the linked resident units (Intrastat declaration, customs declaration, Balance of payments survey (imports and exports of services), VAT declarations, VAT supplier file, social security declarations (wages and employment), annual accounts and annual reports, Prodcop declarations (industrial production), structural business surveys (turnover by product/activity, purchases by product) are compared and reconciled.

If the analysis reveals that the enterprise has the characteristics of a resident enterprise, it is ranked in category 41 and the imports and exports in national concept are equal to those in Community concept. Enterprises that apparently engage only in quasi-transit trade are assigned to category 42 where imports and exports in national concept are equal to 0. In the case of an enterprise both undertaking transactions with Belgian residents and involved in quasi-transit trade, an annual analysis of the available sources provides a basis for inferring a percentage of how much has to be taken into account according to the national concept.

For the year 2016, the correction made for the elimination of the transit flows equals € 92.5 billion on the import side and € 114.8 billion on the export side (difference community and national concept foreign trade).

5.13.2.2. Elimination of flows without a change of ownership

A second issue is the fact that goods that pass borders but do not change ownership are included in the foreign trade figures. According to ESA 2010, only transactions with a change of ownership are included in the imports and exports of goods. ESA 2010 states explicitly that goods sent abroad for processing and repair/maintenance without a change of ownership need to be excluded from the foreign trade figures. The amounts for these adjustments are mentioned in the summary table at the end of this chapter.

All the transactions concerning goods for processing are identified based on the transaction codes. This means that all the transactions with TTA-code 4 (import or export before processing Intrastat), 41 (import or export before processing Extrastat), 5 (import or export after processing Intrastat) and 51 (import or export after processing Extrastat) are excluded from the foreign trade figures when establishing the balance of payments and the national accounts.

A reconciliation exercise is ongoing to check the quality of the transaction codes. In this respect, the fee obtained based on the foreign trade data are compared with the information on the fee in the BOP-survey and Prodcop. Companies with contradicting information between sources are individually investigated to reconcile all the data. If necessary, adjustments will be made on the foreign trade data.

In a near future, there are plans to further improve the quality of data concerning processing in foreign trade and balance of payments through the implementation of the Large case unit (LCU).

Published foreign trade figures in Belgium do not include transactions concerning maintenance and repair. They are therefore in compliance with ESA 2010. However, this information is collected in their databases. Therefore, in the compiling process, the transactions with TTA-code 6, 60, 61, 62, 63 and 64 (goods that are sent abroad for maintenance or repair, Intrastat and Extrastat) are excluded from the foreign trade figures when using the databases for the establishment of the balance of payments and national accounts.

Besides goods for processing and repairs, ESA 2010 also states that the following transactions must be excluded from the imports and exports of goods even if they cross the border:

- Goods which leave a country temporarily, being generally returned within a year in their original state and without change of economic ownership

Goods which leave a country temporarily (e.g. hire, loan, operational leasing, call of stock that was not sold within one year from 1 January 2020 onwards) do not have to be declared in Intrastat, when the following conditions are met: no processing is or was planned or carried out, the expected duration of the temporary use was or is not intended to be longer than 24

months and the dispatch/arrival has not to be declared as a supply/acquisition for VAT purposes. Therefore, the above-mentioned goods are not integrated in the figures of the foreign trade, which is consistent with ESA 2010. No adjustments are necessary.

- Transportation equipment and other movable kinds of equipment which leave a country temporarily, without any change of economic ownership, e.g., construction equipment for installation or construction purposes abroad

Since goods which leave a country temporarily do not have to be declared, the foreign trade figures are already consistent with ESA 2010 (see above).

- Goods shipped to or from a country's own embassies, military bases, or other enclaves inside the national frontiers of another country

A correction is made on the foreign trade figures concerning the goods that are delivered to or bought from enclaves, namely in this case the European Union institutions (EUI). If these institutions buy or sell goods in Belgium, there will not be a cross-border movement. So, this information is not integrated in the foreign trade database.

These transactions are therefore calculated based information from the BoP of the EUI. This information contains all the sales to and purchases from Belgian residents.

- Goods on consignment lost or destroyed after crossing a frontier before change of ownership occurs.

No data are available on this item. Since this is an extraordinary situation, we assume that the impact is limited in terms of national accounts.

- Goods which leave a country not with the goal to change economic ownership

Transactions in goods which leave a country temporarily or not with the goal to change economic ownership are declared under a specific transaction code (9, 99). Since these goods do not change economic ownership, they do not fulfil the requirements in order to be regarded as an import or export under ESA 2010. Therefore, these transactions are eliminated from the national concept for resident enterprises. Concerning the non-resident enterprises, the totals from the VAT-supplier listing are used and do therefore not include transactions without a change of economic ownership.

A correction is also made for goods that are dispatched from Belgium to a foreign site and where the value of the goods is included in the total value of the construction project declared to the balance of payments survey. Since these figures are included in the services account, the imports and exports of goods need to be corrected. Otherwise, there would be a double counting problem. An estimation of these transactions is based on information coming from the balance of payments survey. This adjustment amounts € -30 million for imports and € -166 for exports.

5.13.2.3. Inclusion of economic ownership change without cross-border movement

The third problem occurs when goods do not cross the Belgian border but change ownership anyway. These flows are generally not declared as such in the figures of the foreign trade but must be included in the figures according to BPM6/ESA 2010. ESA 2010 defines the following cases:

- Goods produced by resident units operating in international waters are sold directly to non-residents in foreign countries. Examples of such goods are oil, natural gas, fishery products, Maritime's salvage

Data concerning the import and exports of fishery products and gas are already included in the Belgian foreign trade data. To capture the export and import of fishery products, the foreign trade department makes use of the data from the Flemish ministry for agriculture and fishery. This department has information on the fishery products that are delivered by a resident ship in the port of another country. For the imports, the ministry gives information on the fishery products

that are delivered by a foreign ship in the Belgian ports. The registration of fishery products is therefore independent from the fact if the goods are directly sold to non-residents or not.

The estimation of the imports and export of gas is based on a survey from the balance of payments (F01ENE). Based on this survey, only transactions with a change of ownership between a resident and non-resident are questioned and included in the data. The survey is intended for companies which are authorized to deliver energy in Belgium or companies which participate on a market where energy is traded. In the survey, the purchases from and sales to non-residents are asked. These figures are introduced in the balance of payments, while the imports and exports of gas in the foreign trade database are eliminated.

- transportation equipment or other movable equipment not tied to a fixed location

Transportation equipment or other movable equipment not tied to a fixed location is by hypothesis limited to the exports and imports of ships and airplanes in the Belgian national accounts. These data are already integrated in the Belgian foreign trade data. The imports and exports of ships are registered based on the Maritime's register that is owned by the mortgage office in Antwerp. This register contains all the official purchase and delivery certificates of ships. Information concerning the registration date, the VAT-number of the buyer or purchaser is also included. If a private person becomes the owner of a ship, the information is registered via the customs office, which transfers the information to the foreign trade department. In the case of Extra-Community trade in ships, customs declarations are always available and therefore included in the figures of the exports and imports of goods.

Besides the information from the foreign trade database, the balance of payments and national accounts also use alternative sources to detect the imports and exports of ships such as the balance sheet and annexes in the annual accounts of ship companies. The VAT-returns from these companies and the press releases are strictly monitored in order to detect the purchase and sale of ships.

For the estimation of the export and import of airplanes, the foreign trade department makes use of the aviation register. This register is managed by the Belgian FPS Mobility. The register contains the new registrations of airplanes in Belgium.

- Goods after changing ownership, which are lost or destroyed before they have crossed the frontier of the exporting country

No data are available on this item. Since this is an extraordinary situation, we assume that the impact is limited in terms of national accounts.

- Merchanting, i.e., the purchase of a good by a resident from a non-resident and the subsequent resale of the good to another non-resident, without the good entering the merchant's economy

To capture the merchanting transactions in the national accounts, use is made of the data collected by the F01MER-survey of the balance of payments. Enterprises meeting one the following conditions can be subject to the merchanting survey:

- all residents declaring merchanting activities for an amount higher than € 5 million in their VAT-declarations of exempted intra-Community deliveries of goods (VIES-listing)
- all residents declaring merchanting activities for an amount lower than or equal to € 5 million in their VAT-declarations of exempted intra-Community deliveries of goods (VIES-listing)
- all residents not declaring merchanting activities in their VIES-listing and where the total annual amount of the Intrastat declarations is higher than € 10 million.
- all residents that do not meet the previous conditions and where the total amount of the Extrastat declarations is higher than € 1 million.
- all residents that do not meet the previous conditions and are classified in the following NACE rev.2 codes 451, 4531, 454 or 46
- Any other resident enterprise

Companies are obliged to declare their purchases and resales of goods under merchanting. The margin realized by the resale of the goods under merchanting is calculated by subtracting the purchases of the resales. These data are used to estimate the merchanting activity in the balance of payments and are added to the foreign trade data. The data are also extrapolated using the standard extrapolation method described in section 5.14.1.1.4.

- Transactions between a resident and a non-resident on Belgian territory (without crossing the border)

Two subpopulations involved in transactions between a resident and a non-resident without crossing the border are identified:

- Non-residents not declaring to the foreign trade department
For this group, the transactions with a Belgian resident are based on the VAT supplier listing, more specifically:
 - Imports = sum of the sales to Belgian residents in the VAT supplier listing
 - Exports = sum of the purchases from Belgian residents classified in nace rev.2 sections 01 till 32 and 45 till 47 in the VAT supplier listing
- Non-residents declaring to the foreign trade department
For this group, the transactions without crossing the border are based on the following formula:
 - Imports = sum of the sales to Belgian residents in the VAT supplier listing – total imports in community concept (excluding transaction codes 4, 5 and 9), if difference is positive
 - Exports = sum of the purchases from Belgian residents classified in NACE rev. 2 sections 01 till 32 and 45 till 47 in the VAT supplier listing – total exports in community concept, if difference is positive

5.13.2.4. Other special cases in the imports and exports of goods specified by ESA 2010

Following ESA 2010, imports and exports of goods include transactions between residents and non-residents in the following items:

- Non-monetary gold

In the Belgian Balance of payments, transactions in non-monetary gold are estimated based on foreign trade data. The correction equals the sum under the following CN8-codes 2843.30xx (gold compounds), 71081.xxxx (non-monetary gold: powder, other unwrought forms, other semi-manufactured forms) and 7112.9xx (waste and scrap of gold).

These foreign trade data are supplemented with information coming from the BOP-survey addressed to financial institutions concerning non-monetary gold that does not cross the border but changes ownership, including allocated gold accounts.

- Silver bullion, diamonds and other precious metals and stones

Transactions concerning the above-mentioned goods are included in the foreign trade data. The import and export of diamond is largely based on declarations coming from the Antwerp World Diamond Centre. This institution represents and coordinates the Antwerp Diamond Sector. They also streamline the vast import and export flow of diamonds in and out of Belgium. In their

declaration, the import and export of raw and processed diamonds can be found. The value of the diamonds before and after processing is also given.

- Paper money and coins not in circulation and unissued securities (valued as goods, not at face value)

These data are included in the foreign trade statistics as far as they cross the border.

- Electricity, gas, and water

The registration of the export and import of gas is described in the previous section. The import and export of electricity is registered via the transmission system operator Elia. Elia manages all the interconnectors at the Belgian borders. Every month, they send the position of the interconnector points to the foreign trade department. The monthly consumption is multiplied with the average market price for that month to estimate the value of the imports and exports of electricity.

- Parcel post/e-commerce

In the balance of payments, a correction is made to include the purchases and sales via the internet, mail-order, direct marketing, and telemarketing (e-commerce). These transactions are estimated based on information provided by the institutions that issue payment cards or manage a payment card system. More specifically, the total amount of e-commerce household purchases with a non-business payment card from foreign suppliers is given on the side of imports. On the side of the exports, the total amount of e-commerce sales from Belgian suppliers to foreign households with a non-business payment card is given. Since a part of the imports and exports concerning e-commerce is already captured by the trade in goods statistics, only the difference between this total and the values in the foreign trade are added in the balance of payments.

- Government exports including goods financed by grants and loans

These goods are included in foreign trade data as far as they cross the border.

- Goods transferred to or from the ownership of a buffer stock organization

These goods are included in foreign trade data as far as they cross the border.

- Goods delivered by a resident enterprise to its non-resident affiliates, except for goods for processing
- Goods received by a resident enterprise from its non-resident affiliates, except for goods for processing

ESA 2010 foresees a special treatment for the deliveries between affiliated enterprises. More specifically, for deliveries between affiliated enterprises (branch or subsidiary, or foreign affiliate) a change of economic ownership is imputed whenever goods are delivered between affiliated enterprises. This applies only when the establishment receiving the goods assumes responsibility for making the decisions about the levels of supply and prices at which their output is delivered for the market.

In Belgian foreign trade data deliveries between affiliated enterprises are recorded. In order to correctly incorporate these deliveries between affiliated enterprises, an in-depth research for some international groups is done collectively by experts of the national accounts, balance of payments and foreign trade statistics. All the resident units from this international group are identified as also the non-resident/fiscal representatives registered in Belgium. Since mostly annual accounts are available, this source is used to determine if the subsidiary/branch assumes responsibility for making the production and price decisions or not. We assume that the branch has responsibility for making the decisions if the value of the goods is registered in the annual accounts of that branch. If only a fee is registered, we assume that the responsibility for making decisions is located abroad. If the Belgian company does not register the total value of the goods,

the good flows of the company and fiscal representatives are eliminated from the foreign trade figures. In the case of an import, the same reasoning is followed. The registration of these transactions is also indirectly captured by the work of the recently created LCU.

- Smuggled goods or products not reported for taxes like import duties and VAT

Smuggled goods and the imports and exports of illegal drugs are incorporated in the figures of the balance of payments. They are estimated by the national accounts division and added up to the imports and exports of goods stated in the balance of payments. More information on the estimation method can be found in chapter 7.

- Other unrecorded shipments, such as gifts and those of less than a stated minimum value.

The hypothesis is taken that the transactions are integrated in the extrapolations made on the foreign trade figures.

Besides the corrections mentioned above, the foreign trade data are also adjusted for goods procured in ports by carriers. On the export side, the information is partially integrated in the foreign trade data and supplemented with information coming from the balance of payments. This is not the case on the import side where only information from the balance of payments survey is used. More specifically, declarants are asked to declare their purchases and sales of fuel and supplies. This concerns provisioning goods (bunkering). These data are afterwards extrapolated via the standard extrapolation method and added to the imports and exports of goods.

- Factory less goods production

For now, the entities engaged in factory less goods production are not actively detected or analysed. Since the recently created LCU will focus on the largest multinational groups, it can be assumed that the identification of these units (if present in Belgium) will be the result of the LCU-work.

5.13.2.5. Adjustments on imports and exports of goods in national accounts

The basis for the estimation of imports and exports of goods in the national accounts is the balance of payments. The obtained figures are checked as much as possible (in the supply and use framework) and corrections are made to the data if necessary. These corrections are also communicated to the balance of payments and discussed before being integrated in the published balance of payments. Therefore, the data from the balance of payments and national accounts are fully consistent (from 2015 onwards).

In the following table, the different steps in calculating the imports and exports of goods are given, illustrated with the data for the year 2016.

Table 5.13.2: flow table estimation imports and exports of goods in the national accounts

	Imports	Exports
FOREIGN TRADE		
Imports and exports of goods: community concept	342 846	359 973
- transit and quasi-transit flows	92 482	114 830
Imports and exports of goods: national concept (basis for BoP)	250 364	245 143
BALANCE OF PAYMENTS/NATIONAL ACCOUNTS		
Imports and exports of goods: national concept (basis for BoP/NA)	250 364	245 143
Conceptual BOP/NA-adjustments		
- goods sent abroad for and after processing	-5 162	-4 263
- goods sent abroad for and after repair		
- goods dispatched from Belgium to a foreign construction site and included in the total value of construction project	-30	-166
+ goods procured in ports by carriers	813	514
+ net exports of goods under merchanting	0	4 071
+ export to foreign enclaves in Belgium	1	147
+ sales via internet, mailorder, direct marketing and telemarketing	1 586	157
+ sales of goods to foreign enterprises		
+ non-monetary gold: gold held as a store of value	281	224
- goods which leave a country not with the goal to change economic ownership	-2 140	-1 937
+ transactions between a resident and a non-resident on Belgian territory (without crossing t	5 195	2 442
+ CIF-FOB adjustment: conversion to statistical value	128	-386
CIF-FOB adjustment	-4 033	0
- transit of gas	-2 804	-1 756
Exhaustiveness adjustments		
+ smuggling	15	52
+ illegal drugs	261	675
Data validation balance of payments (integrated in BoP)	-428	-1 711
Imports and exports of goods: balance of payments	244 046	243 206
NATIONAL ACCOUNTS		
Imports and exports of goods: balance of payments (basis for NA figures)	244 046	243 206
Data validation national accounts (integrated in BoP)	-2 669	-52
Imports and exports of goods: national accounts	241 377	243 154

5.13.2.6. Special remarks

According to the recommendations from the GNP Committee Task Force on Intrastat (CPNB 203), the quality of foreign trade data is checked in the supply- and use-framework. For products with severe imbalances between supply and use, foreign trade data are amongst others confronted with other information, as to give an indication of the over- or understating of the imports and exports. The figures can be adjusted if they cannot be reconciled with other information if this other information is believed to be of better quality (e.g., production is mostly estimated based on annual business accounts, if the exports are much higher than the turnover value in the annual accounts, the foreign trade data can be adjusted).

The supply- and use-framework is also used in a reconciliation working group consisting of experts from the balance of payments, foreign trade, and national accounts. This working group confronts all the possible data for big international groups in a supply- and use framework. This work was recently taken over by the Large Cases Unit.

As regards comparison of foreign trade data with data from trade partners (mirror data comparison), Belgium participates in the OECD Working party on trading goods and services. Asymmetries on goods, services and travel data are monitored, and information with partner countries is exchanged.

5.14 EXPORTS AND IMPORTS OF SERVICES (P.62 AND P.72)

The following table gives the total amount of imports and exports of services in the Belgian annual national accounts for the year 2016, broken down into intra-EU and extra-EU imports and exports.

2016 (in € million)			
	Intra-EU	Extra-EU	Total
Import of services (P72)	71 889	23 213	95 102
Export of services (P62)	67 799	30 662	98 461

To estimate the imports and exports of services, the annual Belgian balance of payments data, published by the National Bank of Belgium, are used. This statistic includes the economic and financial transactions between Belgian residents and non-residents over one year.

5.14.1 BALANCE OF PAYMENTS: GENERAL INFORMATION

For the compilation of the balance of payments, data on intra and extra-EU trade in services, information is gathered via different **BOP-surveys** complemented with data from other **external sources** (BoP of the European Union institutions on Eurostat website, international trade statistics, etc.) so that exhaustiveness is ensured.

The following table (extract from the process table) shows that the results of the BoP surveys and their extrapolation are the main data sources (more than 90%) for the estimation of the exports and imports of services.

2016 (in € million)			
		Exports	Imports
Survey and censuses	BoP surveys results + payment cards data	82 909	86 155
Administrative Records	Statec, personal income tax, BoP of EUI, etc.	4 724	1 250
FISIM		2 705	739
Insurance		1 071	1 029
Other E&M	Extrapolation in BoP surveys	8 142	7 540
Data validation	Adjustments on specific declarants	-1 135	-1 669
Exhaustiveness	Prostitution	45	59
Balancing	Rounding	-1	0
Final estimate		98 461	95 102

5.14.1.1. BOP-surveys

This section gives an overview of the different surveys organised for BoP purpose or for business statistics for imports/exports of services.

Sampling techniques

To assure the completeness of the imports and exports of services, the population of possible importers and exporters of services is carefully determined. Therefore, the BOP system uses a mixture of cut-off and sampling techniques. A distinction must be made between the financial and non-financial sector.

NON-FINANCIAL SECTOR

For the non-financial sector, the system is made up of two main subsystems, namely an exhaustive survey for the major enterprises relevant for the import and export of services and a non-exhaustive survey for the other companies.

The full survey for the major enterprises (F01DGS) is sent to all the companies that exceed a certain threshold value concerning their imports and exports of services. This threshold value is defined based on VAT-information concerning the imports and exports of services. More specifically, the grids that indicate an export or import of services are considered (grids 44 (export), 47 (export), 56 (import), 87 (import), 88 (import))¹⁹¹. Companies are considered as a 'major enterprise' if the following conditions are met:

- Activity code concerning services and VAT-grid 47 is annually greater than € 5 million
- VAT-grid 56 is annually greater than € 1 million or grid 87 is annually greater than € 5 million
- VAT-grid 44 or VAT-grid 88 is annually greater than € 5 million

The full survey is also used for coordination centres/head offices, audio-visual media companies, companies engaged in construction services or transport services or any other company for which there is an indication of import and export of services if the following condition is met:

- VAT-grid 44 and/ or 47 or 87 and/or 88 is annually greater than € 1 million

This population is checked yearly in an exhaustive way. Companies must declare their imports and exports concerning all the services listed in the balance of payments.

An exhaustive survey is also provided to:

- Insurance brokers (specific survey F02BRO) if the activity code assumes insurance brokerage and if they deliver a full scheme of the Belgian annual accounts or employ more than 10 persons. The insurance brokers are asked to declare the import and export of insurance and reinsurance services. Other relevant services are reported, such as accounting, management services, etc.
- Tour operators (specific survey F02TRA) if the activity code assumes tour operator or travel agency, and if turnover is greater than € 10 million. The tour-operators must declare the import and export of travel services. Besides, other relevant services are added, such as transport of persons. The total value of imports and exports of other services is requested as well.

Companies not considered 'major' in terms of imports and exports of services can be subject to a non-exhaustive survey. A random selection method is used to determine the sample of declarants. Companies must declare their imports and exports concerning all the services listed in the balance of payments. The companies which must fill in the survey are defined based on a stratified selection sampling method.

¹⁹¹ Outgoing transactions:

grid 44: Services for which the foreign VAT is payable by the contractor

grid 47: Other exempt transactions and other acts carried out abroad

Incoming transactions:

grid 87: Other incoming transactions for which VAT is payable by the declarant

grid 88: Intracommunity services with reverse charge grid 56: VAT to the transactions indicated in grid 87, with exemption of import with reverse charge

grid 56: VAT to the transactions indicated in grid 87, with exemption of import with reverse charge

FINANCIAL SECTOR

For the financial sector, different surveys are defined, each covering a specific subsector. In practice, the following subsectors are surveyed:

Credit institutions (F01PKI)

- Questioned about mostly all services on the balance of payments

Insurance and reinsurance companies (F02INS)

- Questioned about insurance and a limited number of other relevant services such as legal, accounting, business and computer services

Institutions for occupational retirement provision (F02OFI)

- Questioned about financial and a limited number of other relevant services

Collective investment undertakings (F02OFI)

- Questioned about financial and a limited number of other relevant services

Stockbroking firms (F02OFI)

- Questioned about financial and a limited number of other relevant services

Asset management companies (F02OFI)

- Questioned about financial and a limited number of other relevant services

Credit card issuers (F02CCI)

- Questioned about the total amount and type of credit card expenditures abroad by Belgian residents and expenditures in Belgium by foreigners

These surveys are addressed to the full population of the sub-sectors. They are therefore exhaustive.

Requested information in BOP-surveys

In the BOP-surveys, information is collected based on survey headings which are more detailed than the headings published in the balance of payments (for an overview of the BOP-survey headings for F01DGS: see annex). The following items are asked:

- value of the imported or exported service
- currency
- country of the counterpart (to obtain the geographical breakdown for example intra- and extra-EU – the geographical breakdown is calculated based on the composing countries in the reference year)

To sum up, there are 7 main different types of questionnaires: F01DGS, F02TRA, F02BRO, F01PKI, F02INS, F02OFI, F02CCI. The general questionnaire for non-financial companies has three versions: F01DGS monthly, F01DGS quarterly and F02CMS for small companies.

For non-financial companies, two subpopulations are designed. One group with “large enterprises” and one group with ‘small enterprises’. The very large enterprises are surveyed exhaustively monthly, the other large enterprises are surveyed exhaustively on a quarterly basis. The group with the small enterprises is questioned non-exhaustively and with a lower frequency. The companies, which declare in box VAT 44 and/or 47 or 87 and/or 88 on an annual basis more than € 5 million during one of the three years preceding the last year before the one for which the data are collected, are required to submit monthly, the others are required to submit quarterly.

The declarations of the sample of small enterprises are only used for the geographical and BOP-heading breakdown of the part that all the small enterprises represent. The amounts reported in VAT-grids 44 and 88 of these small companies are used for the extrapolations.

Valuation principles

The system of the BOP-survey is linked with the annual business accounts (profit and loss account) of the declaring companies. Therefore, the imports and exports of services are taken into account from the moment the figures appear in the accounts of the companies. Since in Belgium, revenues are reported in the accounts when they are earned (accrual basis), the exports and imports are valued at the time they are rendered and are therefore in compliance with ESA 2010 §3.177. This time coincides with the time at which the services are produced. Imports of services are valued at purchasers' price and exports of services at basic prices.

Extrapolations and non-response

Since companies must declare their flows only when, on an annual basis, their trade exceeds a certain value, some adjustments are made to the data to assure completeness. On the one hand, there is a computation to capture the flows of companies below the threshold value. On the other hand, some adjustments are also made for the non-response.

Estimations for the non-response for the exhaustive surveys are done based on a constant sample estimation method. The growth rate between two periods for companies having completed the survey is applied to companies that did not answer.

Extrapolations are made for the companies not included in the sample of the surveys (grossing-up to the population). These adjustments are based on the VAT grids 44, 46, 48 and 84, 86, 88.

Small companies are extrapolated from the exhaustive companies, based on their contribution to VAT grids 44 and 88. These non-exhaustive returns are only used to "calibrate/ventilate" the share of non-exhaustive enterprises by heading and by country.

Corrections for exhaustiveness

Besides the corrections for the non-response and the extrapolations, there is also an adjustment related to the import and export of prostitution services. The estimation of these services is explained in chapter 7.

5.14.1.2. External information

Besides the information in the BOP-surveys, the balance of payments makes use of other sources for certain heading to guarantee exhaustiveness:

- Import and export from and to European Institutions (BoP of the EUI - Eurostat)
- Declarations from some credit and debit card issuers
- Expenses of Belgian cross-border workers employed in Luxemburg (STATEC)
- The number of foreign cross-border workers active in Belgium and Belgian cross-border workers in other neighbour countries (National Social Security Office)
- Health-related expenditures of foreigners in Belgium and expenditures of Belgian residents in foreign countries (National Institute for sickness and disability insurance).
- Import of government services and goods (National Bank of Belgium)
- Purchases of the NATO from the Belgian public sector

Import and export from and to European Institutions

Sales to and purchases from European Institutions with Belgian residents need to be considered as an export or import of services. This information is extracted from the balance of payments of the European institutions (Eurostat website). These data are added to the data from the surveys.

Import and export of travel services

- Business travel

To estimate the expenses and revenues for the business travel, use is made of the declarations of credit/debit card issuers.

The expenditures by cross-border workers with Luxembourg are estimated based on figures of STATEC. The number of foreign cross-border workers active in Belgium and Belgian cross-border workers in other neighbour countries are coming from the National Social Security Office (NSSO). See below for more details.

- Health-related travel

Health-related expenditures of foreigners in Belgium and expenditures of Belgian residents in foreign countries are registered through declarations of the National institute for sickness and disability insurance and the declarations of credit/debit card issuers

- Educational travel

The imports and exports of educational travel are estimated based on information from credit card issuers. All the payments in schools, universities and other educational institutions in Belgium or other countries are regarded as exports and imports of educational travel.

- Other personal travel

To estimate the expenses and revenues for the private travel, use is made of the declarations of credit card issuers and information on tour operators complemented with the annual accounts of tour operators.

Import and export of government services and goods

The import of government services and goods are for a significant part calculated based on data coming from the National Bank of Belgium. The Bank centralizes the revenue and expenditure of the federal State in the account maintained by the Belgian Treasury at the National Bank. Through these accounts, the import of government services and goods can be calculated¹⁹².

Declarations on the purchases (imports) of the NATO from the Belgian public sector and BoP EUI information (imports and exports) are also used.

5.14.2 BALANCE OF PAYMENTS: BREAKDOWN BY CATEGORY

The next table shows the imports and exports of balance of payments' standard components of services. The different categories¹⁹³ are described in more detail in the next section.

¹⁹² From reference years 2019/2020 onwards, the bank of the Post has replaced the NBB for this function of State cashier.

¹⁹³ The figures mentioned for the BOP-headings are extracted from the balance of payments and do not interfere with the results from the balancing process in the national accounts.

Imports 2016 (in € million)				Exports 2016 (in € million)			
Description	S21	S22	S2	Description	S21	S22	S2
Goods for processing abroad	1 136	439	1 575	Goods for processing abroad	.	.	.
Goods for processing in reporting economy	.	.	.	Goods for processing in reporting economy	1 851	2 297	4 148
Description	S21	S22	S2	Description	S21	S22	S2
Maintenance and repair services	590	109	699	Maintenance and repair services	574	153	727
Description	S21	S22	S2	Description	S21	S22	S2
Passenger transport by sea	4	19	22	Passenger transport by sea	21	1	22
Freight transport by sea	2 053	2 924	4 977	Freight transport by sea	2 079	1 554	3 632
Other transport by sea	1 175	668	1 843	Other transport by sea	2 317	1 026	3 344
Passenger transport by air	1 241	474	1 715	Passenger transport by air	641	212	854
Freight transport by air	465	403	868	Freight transport by air	311	229	540
Other transport by air	232	183	415	Other transport by air	519	395	914
Passenger transport by other	142	2	144	Passenger transport by other	142	10	152
Freight transport by other	7 635	698	8 333	Freight transport by other	5 164	541	5 705
Other transport by other	2 536	403	2 939	Other transport by other	3 346	889	4 234
Postal and courier services	300	324	624	Postal and courier services	464	285	749
Total	15 783	6 098	21 880	Total	15 004	5 142	20 146
Description	S21	S22	S2	Description	S21	S22	S2
Business travel	1 425	131	1 556	Business travel	603	124	727
Health-related expenditure	312	21	332	Health-related expenditure	321	11	332
Education-related expenditure	21	16	37	Education-related expenditure	9	5	14
Other personal travel	9 352	1 752	11 104	Other personal travel	5 080	756	5 836
Total	11 110	1 920	13 029	Total	6 013	896	6 909
Description	S21	S22	S2	Description	S21	S22	S2
Telecommunications services	1 369	1 093	2 461	Telecommunications services	1 766	1 357	3 123
Computer services	3 690	1 057	4 747	Computer services	4 878	1 368	6 247
Information services	468	29	497	Information services	485	115	600
Total	5 527	2 179	7 705	Total	7 129	2 840	9 970
Description	S21	S22	S2	Description	S21	S22	S2
Construction	2 306	650	2 956	Construction	2 111	1 130	3 242
Description	S21	S22	S2	Description	S21	S22	S2
Life insurance	2	1	2	Life insurance	10	0	10
Freight insurance	43	21	64	Freight insurance	50	43	93
Other direct insurance	421	82	503	Other direct insurance	507	147	654
Reinsurance	297	162	459	Reinsurance	202	112	314
Auxiliary insurance services	153	89	243	Auxiliary insurance services	204	137	341
Pension and standardised guarantee services	0	1	1	Pension and standardised guarantee services	1	0	1
Total	916	356	1 272	Total	974	439	1 413
Description	S21	S22	S2	Description	S21	S22	S2
Financial services	4 461	991	5 451	Financial services	4 128	2 584	6 712
<i>of which FISIM</i>			739	<i>of which FISIM</i>			2 705
<i>of which management costs mutual funds</i>			2 012	<i>of which management costs mutual funds</i>			327
Description	S21	S22	S2	Description	S21	S22	S2
Charges for the use of intellectual property rights	1 706	792	2 498	Charges for the use of intellectual property rights	1 990	1 440	3 430
Description	S21	S22	S2	Description	S21	S22	S2
Trade-related services	2 383	583	2 966	Trade-related services	2 109	456	2 564
Operating leasing services	1 757	131	1 888	Operating leasing services	1 383	562	1 945
Legal services	367	105	472	Legal services	624	273	897
Accounting, auditing, bookkeeping	727	101	828	Accounting, auditing, bookkeeping	607	214	821
Business and management consulting	11 550	4 842	16 392	Business and management consulting	13 716	6 081	19 796
Advertising, market research and public opinion polling	4 354	649	5 003	Advertising, market research and public opinion polling	1 923	2 045	3 969
Research and development service	2 535	1 772	4 308	Research and development service	2 188	2 234	4 422
Architectural, engineering, scientific and other technical services	2 201	876	3 077	Architectural, engineering, scientific and other technical services	1 538	1 094	2 632
Waste treatment and de-pollution	130	3	132	Waste treatment and de-pollution	211	22	233
Agricultural and mining services	145	11	156	Agricultural and mining services	128	24	152
Other business services n.i.e.	548	160	708	Other business services n.i.e.	588	153	741
Total	26 697	9 233	35 930	Total	25 015	13 158	38 172
Description	S21	S22	S2	Description	S21	S22	S2
Audiovisual and related services	633	143	776	Audiovisual and related services	600	118	718
Other personal, cultural and recreational services	197	45	242	Other personal, cultural and recreational services	297	132	429
Total	830	188	1 018	Total	897	250	1 147
Description	S21	S22	S2	Description	S21	S22	S2
Embassies and consulates	9	12	22	Embassies and consulates	23	62	85
Military units and agencies	0	14	14	Military units and agencies	0	157	157
Other government goods and services	30	48	78	Other government goods and services	1 689	0	1 689
Total	39	74	114	Total	1 712	219	1 931
Description	S21	S22	S2	Description	S21	S22	S2
Services not allocated	788	186	975	Services not allocated	403	112	515
Total	71 889	23 213	95 102	Total	67 799	30 662	98 461

5.14.2.1. Manufacturing services on physical inputs owned by others*Overview*

Manufacturing services on physical inputs owned by others occur when a company processes goods (assembling, packing, labelling, etc.) that are owned by other enterprises. The processor is paid a fee by the owner and the principal maintains ownership of the goods throughout the transformation process.

*Figures*Imports (2016, in € millions)

Description	S21	S22	S2
Goods for processing abroad	1 136	439	1 575
Goods for processing in reporting economy	.	.	.

Exports (2016, in € millions)

Description	S21	S22	S2
Goods for processing abroad	.	.	.
Goods for processing in reporting economy	1 851	2 297	4 148

Detailed estimation

Manufacturing services on physical inputs owned by others includes the service fee charged in the case when goods are sent abroad for processing. Inward processing is registered as an export of services. Outward processing gives rise to an import of services. The fee is based on the fee mentioned in the BOP-surveys under the following headings:

- A2300 On contract processing of goods, if the gross movement of goods before or after the processing of these goods has not been declared as such to Intrastat, Extrastat and customs
- A2301 On contract processing of goods, if the gross movement of goods before or after the processing of these goods has been declared as such to Intrastat, Extrastat and customs

For enterprises that are not subject to the BOP-survey or do not declare manufacturing services in the survey (small part), the fee is calculated as the difference between the goods before and after processing, based on external trade data.

For the benchmark year 2010, a reconciliation exercise was done to check the quality of the BOP and foreign trade data. In this respect, the fee obtained based on the foreign trade data was compared with the information on the fee in the BOP-survey and Prodcom. Companies with large differences between the several sources were individually investigated in order to reconcile all the data. If necessary, adjustments were made on the fee (e.g., missing fees). Several companies were informed on the errors in their data. They corrected their report. An update of this exercise is ongoing. In addition, the Large case unit will investigate such discrepancies for the very large companies.

5.14.2.2. Maintenance and repair services not included elsewhere*Overview*

This heading contains the costs of repairing goods (ships, aircrafts, devices, ...) which are owned by non-residents and repaired by residents (and vice versa), excluding computer equipment which is recorded under "computer services". Repairs to real estate (buildings, bridges, roads) are on the other hand included into the "construction services". The cleaning of transport equipment is integrated under transport services. Only the value of the work done is recorded under the heading 'maintenance and repair services not included elsewhere' and contains on-site technical support/repair as well as repairs where the goods cross the borders.

Figures

Imports (2016, in € millions)

Description	S21	S22	S2
Maintenance and repair services	590	109	699

Exports (2016, in € millions)

Description	S21	S22	S2
Maintenance and repair services	574	153	727

Detailed estimation

The repair fee is calculated based on the fee mentioned in the BOP-survey under the following headings:

- A3300 Maintenance and repair services, with on-site technical support
- A3301 Maintenance and repair services, with the goods concerned being imported or exported

For enterprises that are not subject to the BOP-survey or do not declare repair services in the survey, the information in the ITGS-database with transaction codes starting with 6 concerning repairs is used to supplement the information in the BOP-survey. These codes contain the value of the repairing service and are therefore already in accordance with the valuation principles of BPM6/ESA 2010.

5.14.2.3. Transport services

Overview

The general heading "transport services" combines three modes and three categories of transport. The modes of transport are sea transport, air transport and other transport. The last of these three includes international road transport, railways, pipelines, electricity transmission, space transport (satellites), inland water transport and other supporting and auxiliary transport services.

Each mode of transport is subdivided in 3 categories, namely 'passenger transport', 'freight transport' and 'other'. The terms "passenger transport" and "freight transport" need no further explanations. The 'other' services include a broad spectrum of services that are provided in ports, airports, and other distribution centres, such as cleaning, loading/unloading, storage (e.g., refrigerated rooms), packaging for final distribution, rental services, and, more generally, all payments relating to transfer from one mode of transport to another.

Postal and courier services are also included in the heading "transport services". This concerns all payments for the collection and delivery of letters and packages, both by official postal companies and by delivery and courier businesses.

Figures

Imports (2016, in € millions)

Description	S21	S22	S2
Passenger transport by sea	4	19	22
Freight transport by sea	2 053	2 924	4 977
Other transport by sea	1 175	668	1 843
Passenger transport by air	1 241	474	1 715
Freight transport by air	465	403	868
Other transport by air	232	183	415
Passenger transport by other	142	2	144
Freight transport by other	7 635	698	8 333
Other transport by other	2 536	403	2 939
Postal and courier services	300	324	624
Total	15 783	6 098	21 880

Exports (2016, in € millions)

Description	S21	S22	S2
Passenger transport by sea	21	1	22
Freight transport by sea	2 079	1 554	3 632
Other transport by sea	2 317	1 026	3 344
Passenger transport by air	641	212	854
Freight transport by air	311	229	540
Other transport by air	519	395	914
Passenger transport by other	142	10	152
Freight transport by other	5 164	541	5 705
Other transport by other	3 346	889	4 234
Postal and courier services	464	285	749
Total	15 004	5 142	20 146

Detailed estimation

To estimate the total amount of import and exports of transport services, the transport related headings of the BOP-survey are used. This information is supplemented with information coming from Eurostat concerning the sales to and purchases from European Institutions of transport services. Revenue and expenditure relating to freight transport in the Belgian balance of payments only include that part of transport costs that are reported as such by the companies. Is also included in the transport component the part of transport services that were included in the goods component and corrected by the CIF FOB adjustment.

The postal services are estimated via the headings postal and messaging services of the BOP-survey.

5.14.2.4. Travel services*Overview*

The heading includes all services (hotels, restaurants, rented accommodation, local excursions etc.) purchased by non-residents when they stay for less than one year in Belgium for professional or personal reasons (including health reasons and educational purposes). Services purchased by Belgian residents abroad are recorded as imports.

*Figures*Imports (2016, in € millions)

Description	S21	S22	S2
Business travel	1 425	131	1 556
Health-related expenditure	312	21	332
Education-related expenditure	21	16	37
Other personal travel	9 352	1 752	11 104
Total	11 110	1 920	13 029

Exports (2016, in € millions)

Description	S21	S22	S2
Business travel	603	124	727
Health-related expenditure	321	11	332
Education-related expenditure	9	5	14
Other personal travel	5 080	756	5 836
Total	6 013	896	6 909

Detailed estimation

For the estimation of the travel services, the main source are credit and debit card transactions. We assume that there is inbound travel when the country of credit card issuance is not Belgium and when the place of purchase is Belgium. Conversely, outbound travel is when credit card issued in Belgium is used abroad.

The merchant code of the seller gives information about which kind of purchase took place. Money withdrawn, hotel or restaurant bill paid, for example, give an idea of the type of travel services. Each merchant code (MCC) that occurs is linked to a travel category.

- Business travel

Business travel has two components:

- Revenues and expenditures made by border workers:

To calculate the revenues and expenditures made by border workers vis-à-vis FR, NL and DE, the number of border workers is multiplied by the expenditures made in their working country. The number of foreign cross-border workers active in Belgium and Belgian cross-border workers in other neighbour countries are coming from the National Social Security Office (NSSO). For these outgoing border workers and incoming border workers, the expenditures by worker are estimated by BoP compilers.

The expenditures made by border workers in Luxembourg come from a survey that STATEC (statistical office Luxembourg) conducts among border workers. The expenses of Belgian cross-border workers employed in Luxembourg (most of outgoing Belgian cross-border workers) are therefore estimated based on these figures.

- Other business travel:

To calculate other business travel, use is made of credit card/ debit card data. A selection of credit/debit card data is done based on the merchant category codes that correspond to business travel.

- Health-related expenditure

Health-related expenditures of foreigners in Belgium and expenditures of Belgian residents in foreign countries are based on declarations of the National institute for sickness and disability insurance. Information from credit card/debit card data is also used. In this case, the merchant category codes used are those that correspond to health-related expenditures.

- Education-related expenditure

The imports and exports of educational travel are estimated based on information from credit card issuers. All the payments in schools, universities and other educational institutions in Belgium or other countries are regarded as exports and imports of educational travel.

- Other personal travel

To estimate the expenses and revenues for the personal travel, use is made of the declarations of credit card/debit card issuers. The merchant category codes are used to filter all transactions that correspond to personal travel.

The annual business accounts of tour-operators are also used for travel that occurs through tour-operators and are not covered by credit card/debit card transactions. On the export side, prostitution services are also added to the tourism component. See chapter 7 for more information on the estimate of prostitution services.

5.14.2.5. **Construction services**

Overview

Recorded under the heading "Construction" are all civil engineering works or maintenance of real estate. i.e.: construction, repair and maintenance of buildings, roads, bridges and ports (including dredging works) located in Belgium, and which are carried out for account of residents by non-residents (or vice versa). Also included are the costs for hiring construction equipment and the costs for the assembling and disassembling of industrial installations. The locally purchased goods and services which are included in the value of the construction contract are also included.

Figures

Imports (2016, in € millions)

Description	S21	S22	S2
Construction	2 306	650	2 956

Exports (2016, in € millions)

Description	S21	S22	S2
Construction	2 111	1 130	3 242

Detailed estimation

The heading construction is exclusively based on BOP-survey information that measures the construction services and installations for more and less than 1 year carried out abroad by a resident company on behalf of a foreign owner (export) and the services carried out in Belgium by a foreign party (import) for more or less than 1 year. In addition, the subcontracting contracts are surveyed. Repair of transport infrastructure, industrial installations, or maintenance and the locally purchased goods and services are questioned. The construction projects for less than and more than 1 year are both integrated in the balance of payments because it is not possible to correctly value the long-term (i.e., over one year) projects in order to include them in the direct investments. To improve the total coherence between the accounts, all construction projects are integrated in the services account of the balance of payments.

An exercise over the years 2014, 2015 and 2016 gives the following estimates (in € million) for the construction services of more than 1 year integrated in the BOP and the national accounts (based on the BOP-survey headings concerning construction services over more than 1 year):

en millions d' €	2014	2015	2016
P62_construction services > 1 year	614	431	476
P72_construction services > 1 year	454	481	528
P62-P72_construction services > 1 year	160	-50	-52

Given the fact that the net imports of these services are smaller than 0,1 % of GNI and in order to maintain the consistency between the national accounts and the balance of payments, the whole heading construction is integrated in the imports and exports of services in the national accounts.

5.14.2.6. **Insurance and pension services**

Overview

The heading insurance and pension services includes various kinds of insurance contracts such as life insurance, nonlife insurance, reinsurance, freight insurance, pensions, and standardized guarantees. Auxiliary insurance services are also considered.

Only the part of premiums paid and received which is deemed to represent payment for the service rendered is included under services transactions. The remaining component of premiums, as well as claims paid or received, are recorded either as current transfers (if they relate to freight, other direct insurance or

reinsurance) or in the financial account (when this involves individual life insurance services). For pension funds, they are recorded as social contributions/benefits. In the Belgian case, for the year 2016, the cross-border activities of pension funds are negligible.

Figures

Imports (2016, in € millions)

Description	S21	S22	S2
Life insurance	2	1	2
Freight insurance	43	21	64
Other direct insurance	421	82	503
Reinsurance	297	162	459
Auxiliary insurance services	153	89	243
Pension and standardised guarantee services	0	1	1
Total	916	356	1 272

Exports (2016, in € millions)

Description	S21	S22	S2
Life insurance	10	0	10
Freight insurance	50	43	93
Other direct insurance	507	147	654
Reinsurance	202	112	314
Auxiliary insurance services	204	137	341
Pension and standardised guarantee services	1	0	1
Total	974	439	1 413

Detailed estimation

The estimation of the insurance services is based on the BOP-survey information concerning the premiums paid and received for the different insurance categories. To calculate the share that must be recorded as an import or export of services, the premiums are multiplied with a ratio to distinguish between the share registered in the services account and the share registered in the financial account (for life insurance) or current transfers (for all other insurance).

These ratios are calculated based on the following formula in accordance with BPM6 and ESA 2010:

$$\text{Non – life insurance} = \frac{\text{insurance service non – life insurance}}{\text{gross premiums non – life insurance}}$$

$$\text{Life insurance} = \frac{\text{insurance service life insurance}}{\text{gross premiums life insurance}}$$

The service component of the gross data is calculated using long term ratios from the national accounts. In accordance with BPM6 and ESA 2010, the calculation of the insurance service takes into accounts the premium supplements (income generated from investment of technical reserves by the insurance companies). Adjustments for claim volatility are included in the calculation. There is one ratio for freight insurance, and another one for the other non-life.

For the reinsurances, a similar formula is used.

The calculation of the insurance service of life insurances is like the non-life insurances, where the premium supplements are also considered. Only the adjusted claims incurred are replaced by the actual benefits due.

The standardized guarantee services are supposed to be negligible for the Belgian economy and are therefore set to 0.

5.14.2.7. Financial services

Overview

This item includes a wide range of financial services consumed by non-residents (exports) or vice versa (imports). These are commission fees, brokerage fees and all costs relating to financial intermediation.

Besides the explicitly charged financial services, the balance of payments takes the implicitly charged financial services into account, such as financial intermediation services indirectly measured (FISIM). Asset management costs for investment funds taken out of income are also included under the heading of explicitly charged financial services.

Figures

Imports (2016, in € millions)

Description	S21	S22	S2
Financial services	4 461	991	5 451
<i>of which FISIM</i>			739
<i>of which management costs mutual funds</i>			2 012

Exports (2016, in € millions)

Description	S21	S22	S2
Financial services	4 128	2 584	6 712
<i>of which FISIM</i>			2 705
<i>of which management costs mutual funds</i>			327

Detailed estimation

The explicitly charged financial services are measured via BOP-survey information supplemented with information from the BOP of EUI. To obtain the exports of the asset management costs taken out of income, the total production of the investment funds is first estimated based on the costs incurred. The portion of this production that is exported is based on the ownership share of each sector (S.11, S.12, S.14, S.2) in these funds.

On the import side, the asset management costs taken out of income are estimated based on the assumption that the rate (implicit asset management rate expressed as a proportion of assets) for both foreign and Belgian investment funds are identical: implicit asset management rate * assets abroad = imports.

FISIM is calculated as the difference between the interest rates actually received on deposits and paid on loans and a reference rate supposed to represent a "pure" interest rate exclusive of risk premiums and intermediation services. Outstanding amounts of deposits and loans and the corresponding interest are broken down by counterpart sector to allocate FISIM among user sectors. Most of the data used for FISIM calculation stem from quarterly financial accounts and from interest matrices, which give information by counterpart sector (who-to-whom). The internal reference rate is the implicit rate on interbank claims between resident financial intermediaries. The external reference rate used for calculating FISIM imports and exports is calculated as a weighted average of the rates on interbank claims and debts between resident and non-resident financial intermediaries. Only interbank claims and debts (and relating interest) are considered in calculating the reference rates. The imports and exports of FISIM from non-resident financial institutions to resident financial institutions are not recorded. For more information on the calculation of FISIM, see section 3.17.

5.14.2.8. Charges for the use of intellectual property n.i.e.*Overview*

This heading includes:

- Franchise fees and similar fees for the use of registered trademarks
- Royalties and license fees for the use of patents, copyrights and industrial processes and designs (included R&D) and licenses for reproduction and distribution.

Licenses to use software and audio-visual and related products are recorded under the relevant service items and not in the heading charges for the use of other intellectual property.

Figures

Imports (2016, in € millions)

Description	S21	S22	S2
Charges for the use of intellectual property rights	1 706	792	2 498

Exports (2016, in € millions)

Description	S21	S22	S2
Charges for the use of intellectual property rights	1 990	1 440	3 430

Detailed estimation

The BOP-survey is the main source for the estimation of the charges for the use of intellectual property rights. Data are supplemented with the data from the balance of payments of the EU institutions on the use of these rights. In the BOP-survey description, a clear difference is made between the licenses for reproduction and distribution and the licenses to use software and audio-visual and related products, such as to adequately classify these services.

The sales and purchases of franchises and registered trademarks are also surveyed. However, they are recorded in the capital account and not in the current account. The sales and purchases of ownership rights concerning the outcomes of R&D are recorded under the heading 'research and development services' of the current account.

5.14.2.9. Telecommunications, computer, and information services*Overview*

Telecommunications include all costs of hiring and using telecommunication equipment and means of data exchange, including internet, satellite transmission and e-mail. The heading computer and information services includes all revenue and expenditure relating to computer and IT services as well as services provided by press agencies and other information services (such as databases).

Figures

Imports (2016, in € millions)

Description	S21	S22	S2
Telecommunications services	1 369	1 093	2 461
Computer services	3 690	1 057	4 747
Information services	468	29	497
Total	5 527	2 179	7 705

Exports (2016, in € millions)

Description	S21	S22	S2
Telecommunications services	1 766	1 357	3 123
Computer services	4 878	1 368	6 247
Information services	485	115	600
Total	7 129	2 840	9 970

Detailed estimation

The telecommunication services are estimated via BOP-survey information and data from BoP of the EU institutions. For the compilation of the information services, use is made of the 'press agency and other information services' headings of the BOP-survey and the BOP of the EU institutions information concerning the sale and purchases of these services.

Under computer services, the following transactions are included:

- Services related to computer hardware, software, and data processing (support, training, programming, ...)
- Maintenance and repair of computer hardware, software, and data processing
- Sale/purchase of software property rights
- Licenses to use software except the non-customized software (mass production) on physical media (DVD, CD-ROM) with a permanent user's license and a one-off payment. This is part of the goods account.

Special attention is drawn on the distinction between the license to use and to reproduce/distribute and the different types of software (customized vs non-customized), in order to classify adequately these items in the BOP-survey. The heading 'computer services' is the sum of all the amounts declared under the heading 'IT-services' with the following clarifications in the survey:

BOP- heading IT-services: services relating to computer hardware, software and data processing.

includes among other things:

- advice and implementation
- management of computers and peripherals
- IT tool management support
- analysis, design and programming of systems ready for use
- support and training
- data processing, such as data entry and tabulating
- web page hosting service
- development, production, supply and documenting of customized software (as well as its associated license to use)
- electronically delivered (e.g., downloaded) non-customized software (i.e., mass production) (as well as its associated license to use)
- acquisition or assignment of software property rights
- Non-customized software (i.e., mass production) on physical media (DVD, CD-ROM) with a license to use payable in regular instalments.
- maintenance and repair regarding computer hardware, software and data processing

does not include:

- operational leasing and hire of computer hardware (code F6003)
- financial leasing of computer hardware (code F6303)
- database services (code G1002)
- licenses for the reproduction and distribution of software and audio-visual products (code G6000)
- non-customized software (mass production) on physical media (DVD, CD-ROM) with a permanent license to use and a one-off payment (this is not a service, but a good)

Special focus on report GNP Committee on Software Measurement

As regards the GNIG's recommendations on software ((GNIG/026A), the data in the foreign trade/balance of payments statistics are not analysed systematically to identify the software content of the relevant CN codes. However, some large efforts are made to inform the declarants on the correct registration of these goods/services. In the manual accompanying the Intrastat declarations, the treatment of software is described in detail. For goods used as carriers of customized information, including software and software downloaded from the internet, it is clearly mentioned that they belong to the list of goods movements not to be declared to Intrastat.

In the FAQ-part of the user's manual, the different treatments for packaged and custom software and their valuation are also mentioned:

What should be declared in Intrastat?	
Data media	No. If used as carriers of customized information, including software. Yes. Standard software.
Hardware in combination with software	Yes, report the total value.
Software (standard traded programs)	
	Yes. Value of goods based on the invoice value. No, if supply is made via e-mail or Internet (no physical data medium).
Software (tailor-made programs)	
	No, if the "service" element is predominant.
Software downloaded via e-mail or from the Internet	
	Given that no physical transaction takes place, this type of "goods" is not to be recorded for INTRASTAT.

Payments related to software are recorded in the appropriate item (goods, computer services or charges for the use of intellectual property). They are not collected under a general heading of "software". In the current survey, they are not separately identified within the relevant service item.

Non-customized (mass-produced) and customized software are treated in a different way:

- Non-customized software with a license for perpetual use, supplied on physical media are treated as goods and are part of foreign trade statistics (and BOP goods). They are valued at their full transaction value. The software content is not identified separately.
- 'Non-customized software on physical media with a licence to use payable in regular instalments' and 'electronically delivered non-customized software' are treated as customized software.
- Customized software (development, production, supply and documenting) is included in 'computer services'.

Efforts are made to inform the declarants on the correct classification of the different scenarios. For each heading in the BOP, it is mentioned which type of information should be included and which type should not.

Information related to the (Mini-)One-Stop-Shop ((M)OSS) have not been used in the estimation of exports and imports yet. The estimates of these telecommunications, broadcasting and electronic services are already included in our present compilation process for these aggregates. In addition, within our benchmark revision, we added estimates for internet sales based on the use of credit cards data. These new estimates are quite high. By adding MOSS/OSS-linked estimates, we might introduce double-counting for imports, exports, or final consumption of electronic services in our national accounts. However, further development in MOSS-OSS will be monitored in the future.

5.14.2.10. Other business services*Overview*

This general heading covers a wide range of transactions, such as research and development services, professional and management consulting services (legal services, accounting, consulting, advertising) and technical, trade-related, and other business services not included elsewhere.

*Figures*Imports (2016, in € millions)

Description	S21	S22	S2
Trade-related services	2 383	583	2 966
Operating leasing services	1 757	131	1 888
Legal services	367	105	472
Accounting, auditing, bookkeeping	727	101	828
Business and management consulting	11 550	4 842	16 392
Advertising, market research and public opinion polling	4 354	649	5 003
Research and development service	2 535	1 772	4 308
Architectural, engineering, scientific and other technical services	2 201	876	3 077
Waste treatment and de-pollution	130	3	132
Agricultural and mining services	145	11	156
Other business services n.i.e.	548	160	708
Total	26 697	9 233	35 930

Exports (2016, in € millions)

Description	S21	S22	S2
Trade-related services	2 109	456	2 564
Operating leasing services	1 383	562	1 945
Legal services	624	273	897
Accounting, auditing, bookkeeping	607	214	821
Business and management consulting	13 716	6 081	19 796
Advertising, market research and public opinion polling	1 923	2 045	3 969
Research and development service	2 188	2 234	4 422
Architectural, engineering, scientific and other technical services	1 538	1 094	2 632
Waste treatment and de-pollution	211	22	233
Agricultural and mining services	128	24	152
Other business services n.i.e.	588	153	741
Total	25 015	13 158	38 172

Detailed estimation

The heading 'trade related services' is composed of the commission and brokerage services relating to trade (wholesale and retail trade) declared in the BOP-survey.

For the estimation of the operational leasing services, use is made of the BOP-survey headings concerning the renting of transport vehicles (other than cars) without driver or crew for the transport of passengers, and any means of transport without driver or crew for the transport of goods. The operational leasing of computer hardware and other movable property (such as cranes, building plants, other construction machinery without operating personnel, podiums, music systems, etc) is also included in this heading.

The total for research and development services is based on the BOP-survey and consists of the acquisition or sale of R&D-related property rights (patents, copyrights and industrial processes and designs) and the 'pure' research- and development services. R&D services consists of basic research, applied research and

experimental development of new products, whether customer oriented or not. It includes among other things:

- research and development of technologically innovative operating systems
- research and development of new products regardless of type
- commercial research in the field of electronics, pharmaceuticals, and biotechnology.

The headings legal services, accounting, auditing, bookkeeping, business consulting, advertising and architectural services are also estimated using information of the BOP-survey questioning explicitly the import and export of the above-mentioned services.

The data from the BOP-survey are supplemented with the estimation of the export of administrator services based on the income tax declarations. This export is estimated by removing the remuneration realised in Belgium (as declared to the FPS Finance) from the total remuneration for this kind of services. Besides the export of administrator services, an export is also added for the services supplied by the ancillary corporations to their mother office. This export is estimated based on the wages related to these ancillary corporations.

Waste treatment and de-pollution is calculated based on the declared amounts under the BOP-heading waste processing, pollution clean-up and environmental services. Agricultural and mining services is the total of the BOP-headings agricultural and mining services and on-site processing.

The category 'other business services' is the aggregate of the following services declared in the BOP-survey:

- Services of social secretary's offices and (temporary) employment agencies
- Security and investigation services
- Translation and interpreting services
- Photographic services, printouts
- Cleaning of buildings
- Call centre services
- Real estate management services

All the headings, except the trade-related services, are also supplemented with data from the BOP of the EU institutions information.

5.14.2.11. Personal, cultural, and recreational services

Overview

This heading includes audio-visual/related services and other personal, cultural, and recreational services such as health and educational services, heritage, and recreational services (expenses for exhibitions, festivals, concerts, or sporting events). Other personal services are also registered under this heading.

Figures

Imports (2016, in € millions)

Description	S21	S22	S2
Audiovisual and related services	633	143	776
Other personal , cultural and recreational services	197	45	242
Total	830	188	1 018

Exports (2016, in € millions)

Description	S21	S22	S2
Audiovisual and related services	600	118	718
Other personal , cultural and recreational services	297	132	429
Total	897	250	1 147

Detailed estimation

The data concerning the import and export of audio-visual and related services are collected based on the corresponding heading in the BOP-survey and supplemented with information concerning the sale and purchases to the European institutions. The following transactions are included in the audio-visual and related services BOP-heading:

- pay TV services
- hire of audio-visual and related products
- customized audio-visual and related products (and their associated license to use)
- electronically supplied (e.g., downloaded) non-customized (mass production) audio-visual and related products (and their associated license to use)
- acquisition or assignment of property rights with respect to audio-visual products, i.e., purchase and sale of original manuscripts, audio clips, films etc.
- remunerations for artists (including actors, musicians, dancers), authors, composers, producers involved in theatrical and musical productions, sporting events, circuses, and other similar events
- design and development of advertising films

This detailed description of the content of the heading is also included in the BOP-survey to correctly classify the licenses to use, the licenses to reproduce and distribute and the sale/purchases of the audio-visual rights as prescribed by BPM6 and ESA 2010.

The heading 'other personal, cultural, and recreational services' is the aggregate of the BOP-survey information on educational, health-related and culture/leisure services provided remotely or abroad. The information from the BOP of the EU institutions is added. This category also includes the prostitution services.

5.14.2.12. Other government goods and services

Overview

Government goods and services not included elsewhere is a residual category in which the services provided by the general government that cannot be allocated to other balance of payments headings are recorded; the main items in this category are goods and services delivered to or by embassies/consulates, military bases, and other organs.

Figures

Imports (2016, in € millions)

Description	S21	S22	S2
Embassies and consulates	9	12	22
Military units and agencies	0	14	14
Other government goods and services	30	48	78
Total	39	74	114

Exports (2016, in € millions)

Description	S21	S22	S2
Embassies and consulates	23	62	85
Military units and agencies	0	157	157
Other government goods and services	1 689	0	1689
Total	1 712	219	1 931

Detailed estimation

For the estimation of the heading 'Other government goods and services', use is made of BOP-survey information and external information.

The heading embassies and consulates on export side is based on BOP-survey information concerning the renting of immovable property in Belgium to international institutions such as NATO, SHAPE or foreign diplomatic or consular representations in Belgium. On import side, this information is supplemented with information coming from the National Bank of Belgium that interacts as State cashier¹⁹⁴. In this function, the National Bank centralizes the revenue and expenditure of the federal State in the account maintained by the Belgian Treasury. That account records also the transactions carried out by the National Bank on behalf of the government and more specifically also the goods and services purchased abroad by the government or costs made by Belgian embassies abroad.

Concerning the heading military units and agencies, the export is estimated based on information coming from the NATO. On import side, the information is obtained by the National Bank of Belgium in her role as State Cashier.

The import and export of other government goods and services is based on the balance of payments of the EU institutions.

This category also includes, on the export side, the Members states cost of collecting own resources. As mentioned in ESA 2010:

19.28 The main resources of European non-financial institutions and bodies include the following: (a) customs and agricultural duties; (b) production charges on producers of sugar, isoglucose and inulin syrup; (c) the value added tax resource; and (d) The gross national income (GNI) resource.

19.32 A fixed share of the amounts collected under points (a) and (b) of paragraph 19.28 is retained by Member States as collection costs. This share was 25 % in 2009. In the accounts of European institutions, these collection costs are recorded, on the uses side, as 'intermediate consumption' (P.2) of the 'European institutions and bodies' subsector (S.1315). On the resources side, they are recorded as 'imports of services' (P.72) in the rest of the world accounts (S.211).

The data are provided by the FPS Finance.

5.14.2.13. Services not allocated

Overview

This heading is a residual category which summarizes all the services that cannot be allocated to other headings of the balance of payments.

Figures

Imports (2016, in € millions)

Description	S21	S22	S2
Services not allocated	788	186	975

Exports (2016, in € millions)

Description	S21	S22	S2
Services not allocated	403	112	515

Detailed estimation

The estimation of the imports and exports of services not allocated is based exclusively on BOP-survey information with heading "services not specified elsewhere". Research is done regularly to minimize this heading. Every month, the reporting units having high amounts for 'Services not allocated' are scrutinized, and if necessary, contacted to adjust their declaration.

¹⁹⁴ From reference years 2019/2020 onwards, the bank of the Post has replaced the NBB for this function of State cashier.

5.14.2.14. Special focus on ESA 2010, §3.173, 3.174, 3.175 and 3.176

The following table sums up the transactions listed in ESA 2010, §3.173, 3.174 and their integration in the Belgian national accounts.

Transaction listed in §3.173, 3.174	Recorded in Belgian National Accounts?
(a) transportation of exported goods after they have left the frontier of the exporting country when provided by a resident carrier (cases 2 and 3 in Table 3.3);	
(b) transportation of imported goods by a resident carrier: (1) up to the frontier of the exporting country when goods are valued FOB to offset the transportation value included in the FOB-value (case 3 in Table 3.4); (2) up to the frontier of the importing country when goods are valued CIF to offset the transportation value included in the CIF-value (cases 3 and 2 CIF in Table 3.4);	Yes, only if the service is invoiced by a non-resident to a resident carrier. These services are reported in the BOP-survey under the headings B0001 (transport of goods by sea), B0101 (transport of goods by air), B0201 (transport of goods by rail), B0301 (transport of goods by road), B0401 (transport of goods by inland waterway), B1102 (transport of goods by various combined modes). The invoice value is used to report these services.
(c) transportation of goods by residents on behalf of non-residents which does not involve imports or exports of the goods (e.g. the transport of goods that do not leave the country as exports or the transport of goods outside the domestic territory);	Yes, only if the service is invoiced by a non-resident to a resident carrier. These services are reported in the BOP-survey under the headings B0001 (transport of goods by sea), B0101 (transport of goods by air), B0201 (transport of goods by rail), B0301 (transport of goods by road), B0401 (transport of goods by inland waterway), B1102 (transport of goods by various combined modes).
(d) passenger transportation on behalf of non-residents by resident carriers;	Yes, as far as they are reported in the BOP-survey under the headings B2001 (transport of passengers by sea), B2101 (transport of passengers by air), B2201 (transport of passengers by rail), B2301 (transport of passengers by road), B1101 (transport of passengers by various combined modes).
(e) processing and repair activities on behalf of non-residents; these activities are to be recorded net, i.e. as an export of services excluding the value of the goods processed or repaired;	Yes, as far as they are reported in the BOP-survey under the headings A2300 (On contract processing of goods, if the gross transport before or after the processing of these goods has not been declared as such to Intrastat, Extrastat and customs), A2301 (On contract processing of goods, if the gross transport before or after the processing of these goods has been declared as such to Intrastat, Extrastat and customs), A3300 (maintenance and repair services, with on-site technical support) and A3301 (maintenance and repair services, with the goods concerned being imported or exported) or in the foreign trade database (transaction code 4, 5, 6...) and the prescribed valuation is followed.
(f) installation of equipment abroad when a project is of limited duration by its nature;	Yes, as far as they are reported in the BOP-survey under the headings E0301 (construction services running less than one year carried out on a site in Belgium by non-residents + subcontracting services) and E0001 (construction services running less than one year carried out abroad by residents + subcontracting contracts). The construction services aggregate also include installations over a period of more than 1 year.
(g) financial services provided by residents to non-residents including both the explicit and implicit service charge, like FISIM;	Yes
(h) insurance services provided by residents to non-residents by the amount of the implicit service charge;	Yes
(i) expenditure by non-resident tourists and business travellers. The expenditure is classified as services; for the purposes of the supply and use and symmetric input-output tables, a breakdown by component products is necessary;	Yes
(j) expenditure by non-residents on health and education services provided by residents; this includes the provision of these services on the domestic territory as well as abroad;	Yes, as far as they are reported in the BOP-survey under the headings H9000 (educational services provided remotely or abroad), C9000 (educational services delivered to non-residents students in Belgium: obtained on the basis of bank card information), H9100 (health-related services provided remotely or abroad) and C9100 (health related services delivered to non-residents in Belgium: obtained on the basis of bank card information).
(k) services of owner-occupied holidays homes of non-residents (see paragraph 3.77);	No
(l) royalties and license fees, receipts of which are associated with the authorised use of intellectual property rights, such as patents, copyrights, trademarks, industrial processes, franchises, etc., and with the use through licensing agreements of produced originals or prototypes, such as manuscripts, paintings, etc. paid by non-residents to residents.	Yes, as far as they are reported in the BOP-survey under the headings G5000 (franchise fees and similar fees for the use of recorded trade marks) and G6000 (royalties and licence fees for the use of patents, copyrights and industrial processes and designs and licences for the reproduction and distribution).

Concerning ESA §3.175, note that the import of transporting services is valued by using the invoice value (transport service fee reported on the invoice).

As indicated by ESA §3.176, in the Belgian national accounts, all business-related expenditure by business travellers is treated as intermediate consumption. All other expenditure, whether by business travellers or other travellers, are treated as household final consumption expenditure.

5.14.3 ADJUSTMENTS TO IMPORTS AND EXPORTS OF GOODS AND SERVICES IN THE NATIONAL ACCOUNTS

The basis for the estimation of imports and exports of goods and services in the national accounts is the balance of payments. The obtained figures are checked as much as possible, and corrections are made to the basic data if necessary. These adjustments are defined in close cooperation with the balance of payments' staff.

Since the reference year 2015, there is no BoP/RoW discrepancy anymore in the Belgian statistics for goods and services.

CHAPTER 6

The balancing or integration procedure, and the validation of the estimates

6.0 INTRODUCTION

The mechanisms in place to balance the three approaches to GDP are twofold:

- In principle, for the years before T-1, a supply and use method is used. Supply and use tables (SUT) are fully explained in section 6.2 below.
- For the year T-1, the available information is not sufficient to compile full SUT, and the aggregates are based on provisional data sources and methods. Macroeconomic adjustments are used to balance the provisional national accounts.

Table 6.1: overview table of the balancing for 2016

	2016 (in € million)		
	Before balancing	Balancing	After balancing
GDP income to the expenditure approach	429 435	650	430 085
GDP according to the income approach	430 232	-146	430 085
GDP according to the production approach	430 232	-146	430 085
<i>NACE section A</i>	2 713	-11	2 703
<i>NACE section B</i>	239	0	240
<i>NACE section C</i>	53 085	60	53 145
<i>NACE section D</i>	6 197	12	6 209
<i>NACE section E</i>	3 677	6	3 683
<i>NACE section F</i>	19 845	-167	19 678
<i>NACE section G</i>	47 191	35	47 225
<i>NACE section H</i>	21 443	23	21 466
<i>NACE section I</i>	7 154	-7	7 147
<i>NACE section J</i>	15 878	-12	15 866
<i>NACE section K</i>	24 467	-70	24 397
<i>NACE section L</i>	34 587	-39	34 548
<i>NACE section M</i>	37 962	-63	37 899
<i>NACE section N</i>	19 038	8	19 047
<i>NACE section O</i>	29 151	0	29 151
<i>NACE section P</i>	26 596	-3	26 593
<i>NACE section Q</i>	27 044	101	27 145
<i>NACE section R</i>	2 625	-10	2 616
<i>NACE section S</i>	4 828	-9	4 818
<i>NACE section T</i>	457	0	457

Since the implementation of a SUT integrates by essence a balancing procedure, the balancing adjustments on the production side are spilled over all products and industries.

In the past, the final macroeconomic balancing adjustments were broken down by industries proportionally to their weight in production and intermediate consumption -, with therefore the largest impacts in industries like trade (G) or business services (M). Some industries were however excluded from the process due to the quality of their estimates (financial activities, government) or because they were already estimated via a commodity flows approach (health services).

Table 6.2: Balancing adjustments for the last 5 years (1)

(in € million)			
	Balancing item	GDP after balancing	Balancing in % GDP
Production approach			
2014	-1 925	403 003	-0,48%
2015	-956	416 701	-0,23%
2016	-146	430 085	-0,03%
2017	-2 485	444 991	-0,56%
<i>2018 (provisional)</i>	<i>-2947</i>	<i>460 029</i>	<i>-0,64%</i>
Expenditure approach			
2014	7 182	403 003	1,78%
2015	9 093	416 701	2,18%
2016	650	430 085	0,15%
2017	1 712	444 991	0,38%
<i>2018 (provisional)</i>	<i>1 426</i>	<i>460 029</i>	<i>0,31%</i>

(1) 2014-2015: final version in publication of detailed National Accounts, October 2019

2016: final version in publication of detailed National Accounts, October 2020

2017: final version in publication of detailed National Accounts, October 2021

2018: provisional version in publication of detailed National Accounts, October 2021

As shown in the table, there are larger positive adjustment made on the expenditure side than negative adjustment made on the production side. Given the sources available, the production approach is considered as more exhaustive (see section 6.1). By accident, the balancing items for the reference year 2016 were quite low in comparison with the other years.

6.1 GDP BALANCING PROCEDURE

In Belgium, separate estimates are compiled for the production approach and the expenditure approach. These estimations are made independently from each other. As regards the income approach, as already mentioned in chapters 3 and 4, compensation of employees and net other taxes on production and imports are estimated independently, but gross operating surplus/mixed income is calculated as balance. The mixed revenue/operating surplus resulting from the production approach is used as an input for that part of the income approach, resulting in an automatic alignment of the income approach on the production approach.

Each approach uses its own sources and compilation methods (cf. preceding chapters).

Estimates of GDP based on the production approach make use of an almost exhaustive business register in which all economic active agents are recorded, except the self-employed not required to register for VAT. The estimate based on the repertory is completed for the missing units (self-employed not liable to VAT) by using the personal income tax declaration, what makes the population complete.

The comprehensive business register combined with the high quality and exhaustiveness of the administrative data sources make that some predominance is given to the production approach. Some parts of the expenditure approach are not based on exhaustive data sources, but on the results of surveys (like HBS). Consequently, uncertainty is somewhat larger on the expenditure side of the accounts, and this will be considered in the balancing procedure, particularly when it is done without using the SUT approach (i.e., for the most recent year).

In the balancing process, some industries/products are kept unchanged and not affected by the balancing. This is a priori the case for all aggregates related to government, as well as for banking activities, as they benefit from exhaustive coverage and datasets. Moreover, conceptually balanced items like FISIM, insurance, R&D or own-account production are allocated to the different approaches to GDP in an earlier stage, according to a commodity flow method. Therefore, they are kept unchanged by the final balancing procedure, through SUT as well as through macroeconomic adjustments.

Exhaustiveness adjustments are applied across all three measures of GDP. Every adjustment to ensure exhaustiveness is calculated before balancing, using the proper sources, and applying the methodology put in place. More detailed information on this subject can be found in chapter 7.

The semi-definitive and final estimates are independent of the preliminary estimate, as more and more new and more detailed and adequate data sources are becoming available.

As already mentioned, the estimation process for the most recent year (preliminary estimate) is different from the process of the other years. The estimates of the last year become fully available at such a late stage, and in a far less detailed manner, so that balancing with a SUT approach is not feasible. Therefore, balancing is in this case achieved through macroeconomic adjustments. A particular attention is then given to the relative quality of the basic information for each aggregate entering the balancing

6.2 THE SUPPLY AND USE TABLES

SUT are compiled in line with the ESA 2010 transmission programme. They are transmitted to Eurostat in December of each year with a delay of t+36 months.

In the elaboration of the Belgian national accounts, the SUT are fully integrated into the annual compilation process of the accounts. Consequently, they are open for revision for the years of routine revisions. The SUT table for the year 2016 was revised for the last time in 2020, together with the global compilation process.

In principle, for all years before T-1¹⁹⁵, the balancing process between the production and the expenditure approaches is made within annual supply & use tables (SUT) **before** the closure of the accounts, giving the opportunity to amend all aggregates. So, the SUT are used to determine the final level of GDP.

In the past, the SUT were on the contrary compiled **after** the closure of the main aggregates, without the possibility to change totals. Only changes within the breakdowns of the main aggregates were imputed.

In the following sections, more information is given about

- (i) the structure of the SUT tables
- (ii) the data sources and their conversion to national accounts concepts and classifications
- (iii) the balancing of the SUT in current prices.

6.2.1 STRUCTURE OF THE SUPPLY AND USE TABLE

For the actual compiling of the SUT, the Eurostat *reporting format* (A64 x P64) is inadequate, because it is not detailed enough at the product-level as well as at the industry-level.

The *work format* distinguishes therefore many more industries and products, which ensures a higher degree of homogeneity. In addition, it facilitates detailed analysis and adjustment of statistical discrepancies between supply and use. In practice, however, the quantity and quality of the data source impose constraints on the work format.

In the national accounts in general, and in the compilation of the SUT, various price definitions are used.

	Basic price	
	excl. D.21	Taxes on products
	Incl. D.31	Subsidies on products
+	D.211	Non-deductible VAT
+	D.212	Import taxes (excl. VAT) D.2121 Import duties D.2122 Other import levies
+	D.214	Other taxes on products
-	D.311 D.319	Import subsidies Other subsidies on products
+	Trade Margins	
=	Purchase price	

In the supply table, output is valued at basic prices and imports at c.i.f. prices. To obtain total supply by product at purchase price, the margins, and taxes on products (less subsidies on products) are added. In the use table, intermediate consumption and final expenditure are valued at purchase price, and exports are expressed at f.o.b. prices.

¹⁹⁵ However, in the recent years, due to lack of time and resources, it was not possible to use a SUT approach to balance the T-2 reference year. Hopefully, this situation will improve soon.

The SUT work format identifies 139 **industries** (cf. 9.5.1).

The way in which NACE-BEL industries are grouped in the SUT takes account of Eurostat's A64 structure, the importance of the various NACE-BEL 4-digit classes (turnover being the criterion), and the homogeneity of SUT industries. There is a "N to 1" relationship between SUT industries and A64.

A NACE-code and a sector code are given to each institutional unit. Following the transition from administrative to national accounts aggregates, institutional sectors can be distinguished within each SUT industry. In the SUT itself, however, the distinction by sector is not used across the board, but only for some uses such as P.51g (investments) and consumption (P.3).

The number of **products** in the work format is 355 (cf. 9.5.2).

Goods in the SUT are generally defined at CPA 4-digit level, and services at CPA 3-digit level. This rule is sometimes departed from if the product is important for the Belgian economy, or in order to distinguish between products for which trade margins exist or not.

The share of services SUT- industries (belonging to sections G to T) in the total number of SUT-industries is 47 %. However, the data sources for services are sometimes less detailed. If the number of service products is over-extended, too many assumptions would have to be made in order to estimate intermediate consumption per product in the use table. This is the reason why the share of service products in the total number of products is lower (32 %).

NACE-BEL		SUT industries	%	SUT product groups	%
A, B	Agriculture, forestry, fisheries	3	2 %	12	3 %
C	Mineral extraction	1	1 %	7	2 %
D	Industry	57	41 %	193	55 %
E	Electricity, gas & water	7	5 %	10	3 %
F	Construction	6	4 %	18	5 %
G	Trade	5	4 %	2	1 %
H	Transport	8	6 %	25	7 %
I	Hotels and catering	2	1 %	5	1 %
J	Communication	6	4 %	11	3 %
K	Financial institutions	8	6 %	9	3 %
L	Real estate	2	1 %	5	1 %
M - N	Business Services	16	12 %	21	6 %
O - P	Government and Education	4	3 %	8	2 %
Q	Medical and social services	6	4 %	12	3 %
R - T	Other services	8	6 %	16	5 %
TOTAL		139	100 %	354	100 %

In the reporting format submitted to Eurostat, **exports (P.6) and imports (P.7)** are broken down into:

- EU Member States (evolving composition) including EU institutions
- Euro area (Member States and Institutions of the euro area) evolving composition
- Intra EU Extra euro area (EU Member States and institutions not belonging to the euro area) evolving composition
- Extra-EU (evolving composition)

In the SUT, separate columns are provided for goods (P.61 and P.71) and services (P.62 and P.72). Each of them is broken down by geographical area. This approach has the advantage that total trade in goods or services can be obtained automatically as the sum of the columns, thereby making consistency checks with balance of payments data easier. A specific category is also included in the supply table for the **Cif/Fob** adjustment.

The reporting format contains the supply table plus a column for total **trade margins**. In the work format, the margins are presented in two different ways: as the output of certain industries, and as a component of supply (at purchase prices) of certain products (goods). The sum of the margins produced by resident producers (on domestically produced and imported goods) is equal to the sum of the margins on products.

Only trade margins are calculated. Every five years, in elaborating the IOT, output of trade margins is further subdivided into margins related to retail trade, related to wholesale trade, and related to trade of vehicles.

The reporting format asks only for the balance of all **taxes on products (D.21)** and **subsidies on products (D.31)**. The work format makes a further subdivision of taxes products. This makes it possible to monitor the consistency of the amounts in the SUT table with the source data.

D.21 taxes on products

D.211 value added taxes (VAT)

D.212 import taxes (excl. VAT) + D.214 other taxes on products,

D.31 subsidies on products

As regard **final consumption expenditure**, the following distinction in the use table of the work format is made:

- P.3_S.14 consumption expenditure by households
- P.31_S.13 individual consumption expenditure by general government
- P.32_S.13 collective consumption expenditure by general government
- P.3_S.15 (individual) consumption expenditure by NPISHs.

Consumption expenditure by households means the expenditure of resident households. For practical reasons, however, the SUT uses expenditure in the economic territory, i.e., purchases by non-residents in the Belgian economic territory are included in P.3_S.14, whereas purchases by Belgian residents abroad are not included (cf. 5.7.1)

This requests two adjustments for the transition from the SUT to the sector accounts. First, consumption expenditure by resident households in the rest of the world (P.33) is added to the total imports in the supply table and to the consumption expenditure by households in the use table. Second, consumption expenditure by non-resident households in the economic territory (P.34) is deducted from consumption expenditure by households in the use table, and the same amount is added to exports.

The SUT reporting format requires the distinction between three types of **capital formation**:

- P.51g gross fixed capital formation (GFCF)
- P.52 changes in inventories
- P.53 acquisitions less disposals of valuables

To establish which items of **GFCF (P.51g)** are the prime candidates for balancing, and in order to maintain a link to the sector accounts, the GFCF in the SUT work format is further subdivided into sectors and industry and is thus present for each industry and product.

The use table in the work format has only one column for **changes in inventories (P.52)**:

Valuables are non-financial goods which are not used mainly for production or consumption purposes, which are not subject to wear and tear, and which, most importantly, are acquired as stores of value. Given their negligible value, **acquisitions and disposals of valuables (P.53)** are not isolated in the SUT reporting table and are included with the changes in inventories.

The reporting format shows **gross value added** broken down into:

- Compensation of employees (D.1)
of which wages and salaries (D.11)
- Other taxes on production (D.29) less other subsidies on production (D.39)
- Consumption of fixed capital (P.51c)
- Net operating surplus (B.2n) and mixed income (B.3n)
- Gross operating surplus (B.2g) and gross mixed income (B.3g)

In our production process, these categories further subdivide the compensation of employees into wages and salaries (D.11), employers' actual social contributions (D.121) and employers' imputed social contributions (D.122). Other taxes on production (D.29) and other subsidies on production (D.39) are stated separately.

6.2.2 DATA SOURCES AND INITIALISATION

Output and intermediate consumption

ESA 2010 concepts of output (P.1) and intermediate consumption (P.2) are not available as such in administrative or survey data. They can be derived once several adjustments have been made. For a detailed discussion of the transition from business aggregates to national accounts aggregates, cf. section 3.4.

Output (P.1) is the sum of turnover (P.11/V), output for own final use (P.12), changes in inventories of finished products and work in progress (P.11/P52S) and non-market output (P.13). Separate estimates are made for each of these four components¹⁹⁶.

Intermediate consumption (P.2) includes purchases for intermediate consumption (P.2/A) less changes in inventories of raw materials and supplies (P.2/P52U). Both components are calculated separately¹⁹⁷.

Calculation of allocation keys

The calculation of allocation keys applies above all to those reference years for which the structural business survey (SBS) form has annexes asking for detailed product information for turnover and purchases, i.e., every five years starting from 1995 onwards. These annexes are also an important data source for the compilation of input/output tables. The allocation keys are calculated in cooperation with the experts of the Federal planning bureau who compile the input/output tables.

For the other years, the quinquennial keys are adapted using all other available product information.

Distribution keys relating to the most detailed product division of the SUT (355 products) are calculated for turnover, purchases for intermediate consumption and changes in inventories. The calculation is done in different steps and is standardised for most industries. Specific calculations are made for general government, agriculture, health care (hospitals), financial institutions and insurance companies. The specific calculations will not be looked at in any further detail here.

¹⁹⁶ Turnover per product and investments for own final use per product are combined in SUT worktable "V", and changes in inventories in table "P52S".

¹⁹⁷ Acquisitions for intermediate consumption per product are included in SUT worktable "A", and changes in inventories in table "P52U".

Selection of usable enterprises

To calculate the allocation keys for turnover and purchases, "usable" enterprises are selected based on the quality of their responses to the SBS. Regarding product information, an enterprise is regarded as usable if the following criteria are fulfilled:

- the consistency of the information (e.g., between general and product-related information) is validated
- the share of completely unknown products, i.e., product codes which cannot be associated with a SUT product, is within reasonable boundaries (compared to total turnover or total purchases).

The latter criterion is sometimes applied flexibly to ensure the representativeness of the enterprises in the survey sample per industry. The selection of suitable enterprises is made separately for turnover and purchases.

Allocation keys for turnover

When the results of the SBS pass the checks mentioned above, it is decided by the industry experts whether the results of the SBS of a certain enterprise reflect the activities of the industry where it is classified in. If so, the enterprise is supposed to be "typical" for the industry and the results are fully taken into account in the calculating of the distribution keys. If not, the enterprise is supposed to be "atypical" for this industry and the results are not used in the calculation of the distribution keys. The results of the atypical enterprise, however, are used as such (without extrapolation) in initialising the production by product of the industry.

The allocation keys are calculated on the level of the working format of the SUT framework: 355 products x 139 industries. That means that the SBS information, which is initially more detailed, is aggregated to this aggregation levels.

Once the distribution keys are calculated, they are applied to the total production (P.1) per industry minus:

- the trade margins by industry, which are a separate product in the SUT work format
- the production of atypical enterprises which are not distributed via the distribution keys
- the output for own final use (P.12) for several products: housing services by owner occupiers, software, originals, domestic services produced by paid household personnel
- the output of FISIM and R&D by industry.

Allocation keys for purchases (intermediate consumption)

Basically, these keys are calculated in the same way as the distribution keys for production.

Once the distribution keys are calculated, they are applied to the total of intermediate consumption (P.2) per industry minus amounts that can be allocated directly to some products, as is the case for FISIM.

Allocation keys for changes in inventories

The SBS does not provide information on changes in inventories of finished products and work in progress. Provisionally, a distribution is estimated for each SUT industry based on the main products (goods) resulting from the keys for turnover.

However, the SBS provides information on changes in inventories of goods for intermediate consumption (inventories of raw materials and consumables). Provisionally, a breakdown to SUT-products is estimated for each SUT industry based on the most important SUT-products – only goods – that were purchased.

Imports and exports

Total imports and exports of goods and services in the SUT table are determined based on international trade in goods statistics (ITGS) and balance of payments (BoP) data (cf. also 5.13 and 5.14).

The breakdown of **goods** transactions with the rest of the world into SUT products is based on product-specific data in the foreign trade statistics. The basic files on imports and exports of goods in accordance with

the GN8 nomenclature of foreign trade are grouped by SUT products using 6-digit CPA codes. Therefore, the input by SUT products is directly available from ITGS data.

The BoP is the privileged data source on imports and exports of **services**. These data are published in accordance with the IMF classification, with a distinction being made between 11 service groups. If the most highly detailed level of reporting is used, it is possible to distinguish about 55 service groups. Even this most detailed level does not make it possible to complete the SUT, which contains considerably more service products.

The breakdown of the balance of payments service groups to SUT products is based on the description of the service groups and the possible relations between the groups and the SUT-products.

Two situations are possible:

- a "1-to-1" relation between an IMF service group and a SUT-product, which is the case for 22 IMF service groups (out of 55)
- a "1-to-N" relation between an IMF service group and SUT-products: in this case, the allocation of the service group to several SUT-products is done using the survey-data that are underlying the IMF-service group.

A special approach which differs from the general method was adopted for three items (tourism, financial services, and general government services):

- The balance of payments heading "travel" is broken down into intermediate consumption (business travel) and household consumer expenditure (private travel). Given that household consumer expenditure is defined in the SUT in accordance with the domestic concept, only intermediate consumption (business travel) should be broken down into SUT products. The key for this breakdown is derived from information on private travel obtained from the HBS.
- The information gathered by the SBS for banks is used to determine the breakdown of the IMF-heading "financial services" to SUT-products.
- As regards general government services not elsewhere specified, the distribution key is based not on balance of payments data, but on the general key for general government purchases.

All exports and imports of goods and services are further broken down by three geographical areas, i.e., the euro zone, the EU excluding the euro zone and non-EU countries

Trade margins

The calculation of trade margins is described in the discussion of the output approach (cf. 3.13)

In the SUT framework, they are broken down in the supply table:

- between the industrial products in a separate column
- while the total margin by industry is shown as a separate product line in the supply part (P.1)

Transport margins

In agreement with the input/output experts, and like in some other Member states, there is no estimation for transport margins. Information on transport costs is lacking in the data sources. In addition, most of the trade is made with neighbouring countries and inside Belgium. Therefore, transport margins are supposed to be negligible.

Taxes and subsidies on products

VAT (D.211) is a tax on products which is collected by enterprises at the various stages of delivery and ultimately passed on to the final user. Producers pay only the difference between the VAT on their sales and the VAT on their purchases for intermediate consumption or gross investments in fixed assets.

VAT is recorded in line with the principle of net recording:

- output and imports are valued net of the VAT charged.
- the purchase of goods and services is valued inclusive of non-deductible VAT.

This means that VAT is charged to the buyers for whom the tax is not deductible.

The non-deductible VAT, which also forms part of the supply side valuation adjustments, is calculated within the application by applying a VAT matrix to the components on the user side - intermediate consumption, final consumption, and investments - to which non-deductible VAT may relate. This VAT matrix is the translation of the VAT regulations into the format that can be used within the supply and use tables and determines the percentage of non-deductible VAT that applies to that combination per industry sector - product.

Data on import duties (D.2121), which are collected via an automated customs system, are available from the foreign trade statistics¹⁹⁸.

Agricultural levies (D.2122R2) are available via the computerised customs system. Excise duties on imports (D.2122R1) are not distinguished during the initialisation phase from excises on domestic output (D.214R1A). Following integration of the SUT, the breakdown for the reporting format is obtained with the help of various sources of information.

Excise duties and consumer taxes paid to the institutions of the European Union (D.214R1B) are available from the general government accounts. Excise duties and consumer taxes on domestic output paid to general government (D.214R1A), which are initialised together with excise duties on imports, are also derived from the general government accounts. The same is true of a residual group, "other taxes on products" (D.214RR)

There are only other subsidies on products (D.319). There are currently no subsidies on imports (D.311). Detailed information on agricultural subsidies (D.319R1) is obtained from the BoP of the European Union. Data on other subsidies on products (D.319RR) are available from the general government accounts.

Other components

The initial estimates of consumer expenditure by households (P.3_S.14), NPISH (P.3_S.15) and general government (P.3_S.13) are explained in chapters 5.7, 5.8 and 5.9.

The calculation of the aggregates for gross fixed capital formation (GFCF) is explained in the chapter 5.10. The information on which the initial estimate is based is obtained mainly from the annual business accounts (totals by industry and breakdown into large categories of assets), while the structural business survey (SBS) is used every 5 years for further breakdown into SUT products.

The calculation of compensation of employees (D.1), other taxes on production (D.29), and other subsidies on production (D.39) is described in the chapter on the income approach (cf. 4.7, 4.8 and 4.9). Consumption of fixed capital (P.51c) is calculated using the perpetual inventory method (section 4.12). Those aggregates are not considered in the balancing process. They are estimated at further stage, outside the main IT-tool.

The various components of the supply and use are collected within an integrated IT-tool (the so called "ASUT" application), preferably via a direct connection to the specific applications in which the calculations have been carried out. This method of working increases efficiency in time and minimises the risk of making mistakes through manual intervention.

6.2.3 BALANCING

General issues

The calculation of aggregates, the breakdown of those aggregates into accurate estimates of output, intermediate consumption and investments per product, the calculation, per SUT product, of trade margins, taxes and subsidies on products, imports- and exports, and the final estimate of consumption expenditure, are important components of the method of integrating the SUT in the balancing process.

¹⁹⁸ Customs duties are coded in line with the TARIC classification (Integrated Tariff of the European Communities) and are grouped by SUT products via the CN (Combined Nomenclature).

Some imbalances between the supply and use of individual products remain after the initial integration of all data in the SUT framework.

These imbalances are analysed and corrected during the balancing phase. This means that the initial estimates of aggregates can be changed. During this balancing phase, the expertise of the statisticians is used to investigate and explain inconsistencies and correct some of them accordingly. The knowledge of the respective quality of the underlying sources plays certainly a role in this process. Unexplained discrepancies will be imputed to least firmly based items. Some secondary sources of information will be used as quality checks in some specific products such as oil or diamonds.

The coordinator of the annual national accounts, who is responsible for the balancing procedure, monitors the evolution of the main aggregates and their macroeconomic coherence during the balancing process. In this task, he/she is helped by a small team of high-level experts (the so-called "cockpit") which monitors daily the global results by aggregate and / or the imbalances by product. They give the general preferred direction in the most complex cases.

In general, predominance is given to row (product) balancing, as the totals by sector and industry (columns totals) have a more robust estimation base. Indeed, direct product information is only available for exports, imports, and private consumption (although along different classifications). For the other main aggregates (P.1, P.2, P.5), the product breakdown is obtained by applying keys from partial or secondary sources.

For the years 2015 and the following¹⁹⁹, the SUT at current prices were / are the main instrument to balance the annual national accounts.

SUT in PYP are also compiled in a later stage, but they do not yet participate in the balancing process of the accounts in CUP.

Manual balancing of the output and expenditure approaches

As part of the operation to balance the output and expenditure approaches, adjustments can be made either in the columns or in the rows/products. The ASUT software allows either option. The decision on whether to make an adjustment is made for each individual SUT cell²⁰⁰. They are integrated manually in the application by the experts and therefore, described as " manual balancing".

When balancing is done in the columns, the experts responsible for that industry (output and/or intermediate consumption) or component (private consumption, import, export, etc.) adjust in their respective industries or component. Where balancing is applied to the rows, the experts adjust their respective products.

In the first balancing phase, the supply table is stabilised as much as possible. Any anomalies in the product-mix per industry are corrected, and the trade margins per product are again verified. Product imbalances are then analysed. For some products, the balance between groups of products is also examined (e.g., all foodstuffs and chemical products, and products related to the use of motor vehicles). When a balance between supply and use can be achieved within a group, further balancing is done within the products in that group.

An adjustment for intermediate consumption of a product in an industry can give rise to a counterpart adjustment for a related product in the same industry, or for the same product in a different industry. However, this is not necessarily so: intermediate consumption can change because of balancing. Changes applied to an industry are monitored by the expert responsible for that industry, which means that the experts responsible for products receive feedback from their colleagues who are responsible for the industry, and that there is consultation about the adjustments which still must be applied.

¹⁹⁹ In the last benchmark revision of 2019, the years 1995 to 2014 have been balanced using the ancient method of macroeconomic adjustments. However, some recurrent correction put into light in the SUT of the recent years have been back casted when needed.

²⁰⁰ The amount of an adjustment is therefore not automatically distributed among all the components of, say, the intermediate consumption of an industry, or of all industries in which a given product appears as intermediate consumption.

The household final consumption expenditure (HFCE) by product is compiled centrally (see section 5.7). The HFCE coordinator monitors developments in total household expenditure and in its main components (e.g., food, the use of means of transport, financial services). The officials responsible for products can make suggestions to change the final expenditure for some specific products. However, the final decision on whether to adjust the expenditure by product is taken by the HFCE expert(s).

Adjustments for investment products are made jointly by the official responsible for the product and the official responsible for investments. Balancing relates mainly to substitution between investment products within the major categories (buildings, machines, etc.). It can also lead, in some less frequent cases, to adapt the total investment by industry.

Changes in inventories can be balanced with respect to initialised amounts, but the share of inventories in GDP is limited, and so are the balancing adjustments for this category.

In the SUT framework, when adjustments are made to imports and exports of goods and services, a counterpart entry may be made for other goods and services within the same aggregate.

A lot of coherence analysis is already achieved in the production process of the aggregates, especially for the very large operations (also see LCU approach below). If further incoherence at product level is unveiled during the SUT analysis, the total for imports and exports of goods and services may be changed to achieve balancing.

Imbalances regarding products which satisfy one or more of the following criteria are the first to be solved (balanced):

- products which occur as expenditure in only a few SUT cells and for which:
 - the margins are sufficiently reliable or are not significant
 - the estimate of imported services is reasonably reliable or is not significant
 - the initial estimate of consumer expenditure is reliable or is not significant. The initial estimate is regarded as reliable if the products are frequently bought by households and/or if the estimate is based on administrative sources
 - fixed capital formation is reliable or is not significant.
- products whose supply comes exclusively or predominantly by imports.
- products with only one type of use (e.g., only P.2 or only P.3)
- products with a minor difference between supply and use if the structure of supply and use does not differ significantly from a previous SUT (and if there are no indications that it might).

Automatic balancing of the output and expenditure approaches

In a last step, when the discrepancies between the supply and use of each product are below some pre-definite thresholds, the remaining minor imbalances are resolved in an automated way by solving a quadratic optimisation problem with constraints.

Thresholds

For each of the 355 products, the difference between the total supply and the total use must be:

- smaller than 100 million euros

AND

- the ratio of $(\text{supply} - \text{use}) / (\text{supply} + \text{use})$ must be smaller than 2,5 % for that product. Adding this last threshold is necessary to capture the products for which an imbalance smaller than 100 million euros is still big compared relatively compared to its respective industries/components.

The quadratic optimisation problem is a cost minimizing problem that tries to change the initial solution of the SUT after manual balancing as less as possible. Each change to a cell of the SUT comes at a certain cost which the optimization tries to avoid. This is done under some constraints, for example:

- For each product, supply must equal use.
- All cells must be greater than 0, except P.51, P.52 and D.31.

- The sum of the margins in the column must be equal to the sum of the margins on the row (defined as a product).
- For each product, D.211 is equal to the sum of a VAT matrix applied to the components on the user side - intermediate consumption, final consumption, and investments - to which non-deductible VAT may relate.
- The results in some cells are fixed and cannot be changed by the automatic balancing program since information is attained from exhaustive administrative sources.
- Some column totals cannot be adjusted or must be larger than a certain minimum. This is for most the case for the columns which include figures stemming from the government or the financial sector.
- Etc.

This automatic balancing process is a complex process which only can be solved with special optimization software and sufficient computing power. Through the cost minimization, the adjustments made by the optimization process are defined as a function of the results obtained after the manual balancing. At the end, a balanced SUT is obtained, giving a balanced image of the economic flows on the territory.

All adjustments / revisions are carefully documented within the IT tool as well as in the analysis files of the statisticians. They can be useful for the compilation of the SUT of the following years.

SUT and the income approach

The balancing operation must ultimately lead to a consistent estimate of GDP in accordance with the three approaches.

In principle, all variables can be adjusted²⁰¹ by balancing, which means that there are no constraints regarding the initialised amounts or to amounts published in a provisional version.

As has already been pointed out in the description of the income approach, operating surplus (B.2) and mixed income (B.3) in the Belgian SUT are calculated as residuals. The aggregates compensation of employees (D.1), other taxes on production (D.29) and other subsidies on production (D.39) are calculated from detailed data sources. They are not changed during the balancing process. The income perspective does not, therefore, play a significant role in balancing the SUT. When the balancing modifies the output and/or intermediate consumption of an industry, B.2/B.3 is automatically adapted.

6.3 OTHER APPROACHES USED TO VALIDATE GDP

All available supply-side and demand-side data (by product) are confronted with each other in the SUT framework. For activities/products like construction or distribution, independent estimates from the demand and the supply side are produced (see section 7.1.3.5 for more details).

As regards HBS data, they are processed through various steps for national accounts purposes. Adjustments are made for differences in population, concepts, definitions, and classifications between HBS and national accounts (see section 7.1.3.5 for more details).

However, some additional scrutiny is ensured with other parts of the national accounts or macroeconomic statistics, on the non-financial as well as on the financial side.

Interaction with other national accounts products

The main aggregates (by industry/products) of the national accounts are compiled in an integrated way with sector accounts. By construction, all dimensions of the non-financial national accounts are fully consistent with each other.

²⁰¹ Except items like FISIM, insurance, R&D, etc.: see section 6.1.

The annual national accounts are further checked and validated when compiling the regional accounts. The checks made at regional level can sometimes reveal errors or ways to improve the estimates at national level for the most recent years.

The same occurs when the quarterly (sector) accounts are benchmarked on the annual accounts.

Since the 2019 benchmark revision, the rest of the world accounts and BoP data are fully integrated, giving more quality guarantee to all variables of the rest of the world account. Since 2020, the integration of national accounts and BoP is further enhanced in practice, as the teams of experts have been merged.

Some countries base their GDP calculation to a greater or lesser extent on employment data, with value added for some enterprises being extrapolated to the entire industry. In this case, research into the consistency between employment data in the surveys used for the calculation of value added, and in specific employment statistics (Labour Force Survey, census, etc.) is a crucial test of the exhaustiveness of GDP data. In the Belgian national accounts, employment plays no part in the calculation of the value added. Therefore, the results are compared only indirectly with employment data, by evaluating value added by employee and/or self-employed person or by hours worked. This productivity analysis is very useful. Until now, no inconsistency has been found through this analysis.

Some key indicators derived from the sector accounts are closely monitored. They are published on a quarterly basis: the household savings rate, the household investment rate, the profit margin, and the investment rate of non-financial corporations. The development of the series underlying these indicators are carefully analysed before any publication. This is the case for the compensation of employees, disposable income, HFCE, investments, etc.

All statistics related to general government are also particularly scrutinised, in particular deficit and debt, in the framework of the EDP analysis. This ensures that the input for the national accounts coming from government data is fully reliable.

The national accounts staff follows the Belgian economic developments in the various industries or sectors. There are contacts with the professional unions, economic analysts in the different components of the NAI, etc. The developments in economic or accountancy laws are also closely monitored. This way, the adequacy of our data sources and results are checked and monitored.

In a nutshell, given the importance of national accounts for economic analysis and policy purpose, the results of the different estimates of the national accounts series are carefully controlled, verified, and cross-checked before any release.

Given that the supply and use tables incorporate information from various sources, it is the best method to reach an exhaustive estimate of GDP. Therefore, they will be the focus of efforts to improve validation, consistency, and exhaustiveness in the future.

Other projects are set into place to further enhance the coherence between sources and results in the production process of national accounts.

LCU approach

In August 2020, the creation of a separate Large cases Unit (LCU) was decided.

The LCU, which reports directly to the Head of the General Statistics Department, is a new autonomous unit designed to provide proactive expert monitoring of a population of multinational groups (MNE) whose activity weighs on the macroeconomic statistics (national accounts, external statistics, and financial accounts).

Coordinated by a team leader, it consists of a team of 5 experts, whose initial skills in macros statistics as well as in international accounting and tax will be pooled in order to build a new know-how. It will work in collaboration with a network of experts in profiling and business statistics inside the NAI.

The activities of the LCU are:

- Select a population of MNEs on a risk-based basis for the quality of the macro-statistics
- Establish and maintain the profiling of the MNEs
- Guarantee the quality and consistency of the aggregates within and across the MNEs in accordance with the prevailing methodologies, to provide data to the different statistical domains (financial and non-financial national accounts, balance of payments, business statistics)
- Develop and maintain an expert and trustworthy relationship with the selected MNEs to gain their adhesion for improvement of the data.

The reconciliation work by the LCU will precede the balancing procedure, which should therefore be made easier.

Consistency between non-financial and financial accounts

When comparing non-financial and financial national accounts, there are discrepancies for the net lending/borrowing between the financial and the non-financial accounts (B9F/B9) for the domestic sectors. However, these discrepancies are decreasing over time. They are in the average of the EU Member States.

Some recommendations for vertical reconciliation of sector accounts are proposed by ECB/Eurostat. It is planned to implement the recommendations and to reduce the vertical discrepancies as much as possible within the next 2024 benchmark revision. As in Belgium, non-financial and financial accounts are computed in the same institution (the National Bank of Belgium), it facilitates the exchange of information and data; and allows close cooperation between domains. This is the case for example for:

- a. the use of a unique business register
- b. the recording of specific operations
- c. the close monitoring of discrepancies
- d. the integration of the removing of discrepancies in the balancing procedure of sector accounts.

CHAPTER 7

Overview of the allowances for exhaustiveness

7.0 INTRODUCTION

The economic territory coverage of the national accounts is complete and in line with §2.05 to 2.07 of ESA 2010.

"In general, we can say that the criteria for completeness are (i) the existence of an accurately determined reference universe of production units; (ii) the possibility of determining whether units are missing; (iii) the possibility of making adjustments for missing units; and (iv) the existence of general systematic adjustments for evasion and for undeclared labour."²⁰²

In general, exhaustiveness of the GDP is obtained by extrapolating the results of sampling and other investigations as correctly as possible for the population, using registers, applying the definitions of ESA 2010 as accurately as possible. In the case of Belgium, the access to many exhaustive administrative data sources is possible. Extrapolation based on sampling is not so much used by comparison with other countries. However, the inclusion of the underground economy is well taken into accounts in the calculation methods.

An important aspect for achieving an exhaustive GDP concerns the performance of the register of production units. In the sections "Business register and directory" (cf. 3.1.1) and "Sources" (cf. 11.1.1), there is an explanation of how a directory is compiled from the Statbel business register. At present, only non-VAT-registered enterprises which are not incorporated, *and* which have no staff are missing. The aggregates for these units are calculated via another register, namely the personal income tax return file. It can therefore be stated that the calculation of the GDP via the output approach is based on an exhaustive register.

The comprehensive business register combined with the high quality and exhaustiveness of the administrative data sources make that some predominance is given to the production approach. Some parts of the expenditure approach are not based on exhaustive data sources, but on the results of surveys (like household's budget survey). Consequently, there is some more uncertainty on the expenditure side of the accounts.

As the production and primary distribution of income account are compiled simultaneously, the exhaustiveness adjustments (which occur in the second phase of the compilation process) are fully consistent in the production and income approach.

For the various expenditure components, all the possible sources are used, mainly via a direct method, to make initial estimates of the expenditure by product directly. In the expenditure approach, the exhaustiveness corrections are well implemented, but are more difficult to isolate because the estimate of the underlying expenditure categories relies on sources which also capture undeclared activities (e.g., the household budget survey for P3S.14 or a price*quantity approach in the estimation of gross fixed capital formation in dwellings by households).

The underground economy consists of the black economy (or non-observed economy) plus the illegal economy.

Black economy consists of clandestine enterprises plus unreported activities (undeclared turnover/production and/or overstatement of expenses/intermediate consumption).

The illegal economy includes activities that fall within the production boundary of the national accounts but are not legally permitted. An estimate for the production and trade in drugs, prostitution and smuggling was introduced in the Belgian national accounts in September 2014.

'Clandestine enterprises' are non-registered producing units, (non-registered = "not recorded in the statistical registers of economically active units"). These units do not meet the legal requirements concerning payment of taxes, social security contributions, etc. The adjustment for estimating the activity of clandestine

²⁰² GNP Committee, CPNB/166. Report to the Council and the European Parliament on the application of the Council Directive on the determination of GNP at market prices, 1995. §2.4.

enterprises is called *adjustment for hidden labour*. Apart from units active in illegal activities, we believe that clandestine enterprises are a negligible phenomenon in the Belgian economy.

'Unreported activities' means: the failure to declare all activities by enterprises, for which the production and value added should have been included via the calculations based on the registers of production units. The adjustment on value added to correct for unreported activities is called *adjustment for tax fraud (and evasion)*.

The adjustment for tax fraud consists partly of an adjustment for undeclared taxable income and partly of an adjustment for VAT fraud. The adjustment for VAT fraud relates to the amounts not declared to tax authorities in the case of VAT fraud without complicity.

In the case of VAT fraud with complicity the seller and the purchaser agree not to invoice the sale and VAT. There is therefore no transaction relating to the legally applicable VAT, and the amount of the VAT-fraud has not to be included in GDP²⁰³. In the case of VAT fraud without complicity on the other hand, the purchaser pays the VAT, but the seller does not pay this over to the general government.

Apart from adjustments related to the non-observed economy (illegal and legal) adjustments are also made to include wages in kind and tips. Because these corrections also have an upward impact on value added/GDP they are also considered as exhaustiveness corrections.

The plausibility of the assumptions regarding the non-observed economy is tested within the SUT framework. Moreover, exhaustiveness adjustments are regularly assessed and improved, especially within benchmark revisions. In September 2014, the estimate for the NOE was revised in the construction industry as well as in other industries as a result of work done in the framework of the SUT and in order to lift two specific ESA95 GNI reservations. In September 2015, the estimation of prostitutions services was improved. In September 2019, VAT due but not recoverable as a result of bankruptcies was included in the estimate of D.21. In addition, the estimate of remuneration for undeclared work in the private sector was improved. This improvement had no impact on GDP, but on the allocation between remuneration of employees D.1 and operating surplus B.2.

The main exhaustiveness adjustments are implemented prior to entering the balancing process. By construction, adjustments to output are valued at basic prices and adjustments to intermediate and final consumption are valued at purchasers' prices. This will be described in the following sections.

7.1 ALLOWANCES FOR EXHAUSTIVENESS IN THE PRODUCTION APPROACH

7.1.1 IDENTIFICATION OF TYPES OF NON-EXHAUSTIVENESS

The following types of non-exhaustiveness are used to structure the analysis and the compilation of adjustments for non-exhaustiveness:

N1	Producer should have registered
N2	Illegal producer that fails to register
N3	Producer is not obliged to register
N4	Registered legal person is not included in statistics
N5	Registered entrepreneur is not included in statistics
N6	Misreporting by the producer
N7	Statistical deficiencies in the data

Cat N1 covers producers that should have registered but did not, to avoid tax or social security obligations or because they do not exceed a threshold regarding their activity (turnover) and are exempt to file income or VAT-declarations.

²⁰³ An adjustment to capture the hidden sale/production and purchase/expenditure is however necessary.

Because the threshold for turnover under which VAT-declarations do not have to be filed is very low²⁰⁴ in Belgium, there is no need to make an explicit estimate of activity for units with turnover below the threshold value. For the income tax declarations (used for self-employed workers when the activities are not liable to VAT) no threshold exists. Therefore, cat N1 covers the estimate made of undeclared wages paid by households to domestic personnel (cleaning ladies, gardeners etc.). This is the only adjustment for this kind of non-exhaustiveness in the Belgian national accounts.

Cat N2 covers producers active in prostitution, drugs, and smuggling. Other domains of the illegal economy have not been estimated in Belgium so far.

Cat N3 covers producers (households) involved in the production of goods for own final use (e.g., the production of vegetables in gardens for own consumption or the construction and renovation of own dwellings). The production of agricultural products for own final use by households is treated under N3. Work on own dwellings could not be isolated and is included in the amounts recorded under 'combined source data' in GFCF.

Cat N4 and N5 are empty because all active units (incorporated or not) are included in the repertory/business register (which is exhaustive and compiled every year). Categories N4 and N5 are not considered because the use of the business register including different administrative data sets delivers at least one or more usable sources. In the case that data is incomplete or missing, the imputation methods are described in the inventory (part 3.4.1.1.). The use of categories (subpopulations) of enterprises makes it possible to deal with missing or incomplete data in our general compilation method, for example:

- Category A1: all the necessary data is available, so there is no extrapolation method
- Category A2: part of the necessary data is missing, but estimates are compiled
- Category BL or H4: only the wages are available; the other data are calculated from wages data.

Cat N6 covers the adjustment for tax-fraud/evasion (which results in an upward adjustment for value added and wages because these aggregates are underreported in official administrative sources).

Cat N7 covers the adjustments linked to wages in kind and tips.

7.1.2 ADJUSTMENT MADE FOR THE DIFFERENT TYPES OF NON-EXHAUSTIVENESS

In 2016, the overall adjustment for non-exhaustiveness amounted to € 20.0 billion or 4.66 % of GDP

Table 7.1: Exhaustiveness adjustment (added value in € million and %age of GDP)

	2016 - € Mil.	% GDP
Non-observed economy	16 849	3,92%
Illegal economy (N2)	1 942	0,45%
Other (N1+N3+N6)	14 907	3,47%
Other exhaustiveness adjustments (N7)	3 185	0,74%
	20 034	4,66%
GDP	430 085	

The separate amounts for P1, P2 and B1.g by industry and sector are shown in the next tables.

²⁰⁴ Annual turnover of 25 000 € (reference year 2020).

Table 7.2: P1, P2 and B1.g by industry and sector (in € million)

Sum of P.1							Sum of P.2								
Row Labels	C1	N1	N2	N3	N6	N7	Grand Total	Row Labels	mr	N1	N2	N3	N6	N7	Grand Total
⊖ A		113	197	95	0		405	⊖ A		45	73	54	-4		169
S.11					62	0	62	S.11					35	-4	32
S.14		113	197	33			343	S.14		45	73	19			137
⊖ C		767		1004	19		1789	⊖ C		53		548	-543		58
S.11		767			740	19	1526	S.11		53		394	-543		-95
S.14					264		264	S.14				154			154
⊖ D						0	0	⊖ D						-65	-65
S.11						0	0	S.11						-65	-65
⊖ E					28	0	28	⊖ E					16	-21	-5
S.11					27	0	27	S.11					16	-21	-5
S.14					1		1	S.14					1		1
⊖ F					10344	0	10344	⊖ F					5 933	-155	5 778
S.11					7772	0	7772	S.11					4 590	-155	4 435
S.14					2572		2572	S.14					1 343		1 343
⊖ G		458			6033	0	6491	⊖ G		14		1 993	-583		1 425
S.11					4947	0	4947	S.11					1 695	-583	1 112
S.14		458			1087		1545	S.14		14			298		312
⊖ H					343	10	353	⊖ H					133	-115	18
S.11					287	9	296	S.11					111	-115	-4
S.14					57	1	58	S.14					22	0	22
⊖ I					2227	647	2874	⊖ I					788	-25	763
S.11					1175	541	1716	S.11					373	-25	347
S.14					1052	106	1159	S.14					415	0	415
⊖ J					269	0	269	⊖ J					83	-362	-279
S.11					256	0	256	S.11					81	-270	-189
S.12						0	0	S.12						-92	-92
S.14					13		13	S.14					3		3
⊖ K					13		13	⊖ K					0		0
S.14					13		13	S.14					0		0
⊖ L					521	0	521	⊖ L					146	-20	126
S.11					500	0	500	S.11					140	-20	120
S.14					21		21	S.14					6		6
⊖ M					1624	0	1624	⊖ M					539	-297	243
S.11					936	0	936	S.11					329	-297	33
S.14					688		688	S.14					210		210
⊖ N					872	0	872	⊖ N					310	-175	135
S.11					611	0	611	S.11					211	-175	35
S.14					262		262	S.14					99		99
⊖ P					26	0	26	⊖ P					1	-6	-5
S.11						0	0	S.11						-6	-6
S.14					26		26	S.14					1		1
S.15						0	0	S.15						-1	-1
⊖ Q					1455	0	1455	⊖ Q					518	-78	440
S.11					1104	0	1104	S.11					408	-77	332
S.14					352		352	S.14					110		110
S.15						0	0	S.15						-1	-1
⊖ R					376	0	376	⊖ R					101	-16	86
S.11					278	0	278	S.11					78	-15	62
S.14					99		99	S.14					24		24
S.15						0	0	S.15						0	0
⊖ S		895			360	13	1268	⊖ S		179		100	-31		248
S.11					173	6	179	S.11					50	-31	19
S.14		895			187	7	1089	S.14		179		51	0		230
S.15						0	0	S.15						-1	-1
⊖ T		457					457	⊖ T		0					0
S.14		457					457	S.14		0					0
Grand Total		457	2233	197	25592	690	29168	Grand Total		0	292	73	11 265	-2 496	9 134

Sum of P.1							Sum of P.2						
Row Label	N1	N2	N3	N6	N7	Grand Total	Row Label	N1	N2	N3	N6	N7	Grand Total
S.11		767		18 867	575	20 209	S.11		53		8 510	-2 401	6 162
S.12					0	0	S.12					-92	-92
S.14	457	1 467	197	6 725	115	8 960	S.14	0	238	73	2 756	0	3 067
S.15					0	0	S.15					-3	-3
Grand Total	457	2 233	197	25 592	690	29 168	Grand Total	0	292	73	11 265	-2 496	9 134

Sum of B1.g	Column					
Row Labels	N1	N2	N3	N6	N7	Grand Total
A		68	124	41	4	237
S.11				27	4	31
S.14		68	124	14		206
C		713		456	561	1 731
S.11		713		346	561	1 621
S.14				110		110
D					65	65
S.11					65	65
E				12	21	33
S.11				11	21	33
S.14				0		0
F				4 411	155	4 566
S.11				3 182	155	3 338
S.14				1 229		1 229
G		444		4 040	583	5 067
S.11				3 252	583	3 835
S.14		444		788		1 232
H				211	125	336
S.11				176	124	300
S.14				35	1	36
I				1 439	673	2 112
S.11				802	567	1 368
S.14				637	106	743
J				185	362	548
S.11				175	270	445
S.12					92	92
S.14				10		10
K				13		13
S.14				13		13
L				375	20	395
S.11				360	20	380
S.14				15		15
M				1 085	297	1 381
S.11				607	297	903
S.14				478		478
N				562	175	738
S.11				400	175	575
S.14				162		162
P				24	6	30
S.11					6	6
S.14				24		24
S.15					1	1
Q				937	78	1 015
S.11				695	77	772
S.14				242		242
S.15					1	1
R				275	16	291
S.11				200	15	215
S.14				75		75
S.15					0	0
S		716		260	44	1 020
S.11				123	36	160
S.14		716		136	7	860
S.15					1	1
T	457					457
S.14	457					457
Grand Total	457	1 942	124	14 326	3 185	20 034

Sum of B1.g	Column						
Row Labels	N1	N2	N3	N6	N7	Grand Total	
S.11			713		10 357	2 976	14 047
S.12						92	92
S.14	457	1 228	124	3 969	115		5 893
S.15						3	3
Grand Total	457	1 942	124	14 326	3 185		20 034

The amount in **N1** represents the undeclared wages paid by households for employing domestic personnel. The estimation method is described in section 3.26.

The amounts in **N2** represent the value added generated by illegal producers (production of marijuana in S.14_A, production of other drugs in S.11_C, trade margins on drugs and smuggled goods in S.14_G and the production of prostitution services in S.14_S).

The amount in **N3** represents the growing of vegetables by households in their own garden for own consumption (S.14_A). The estimation method is described in section 3.7.

The largest amounts appear in **N6** which is the correction for fiscal fraud/under-reporting of producers. All industries in S.11 and S.14 are impacted with high adjustments for construction (F), trade and repair of motor vehicles (G), and accommodation and food service activities (I).

In **N7** adjustments for tips and wages in kind appear. The amounts for tips only appear in a limited number of industries (taxis: 49B, hotels and restaurants: 55A and 56A, hairdressers: 96A).

The other portion of N7 relates to wages in kind and is estimated in most industries. Only a small amount of these wages in kind represents goods or services produced by the employer, the largest part concerns goods and services purchased by the employer. This explains the negative correction on P2 in column N7 (the purchase of goods and services originally recorded as intermediate consumption are reclassified as wages (in kind): P2- and D1+). The estimation method for N7 is described in section 7.1.3.3 and in section 4.7.2.4.

The exhaustiveness adjustments in the sectors S.13, S.15 and S.12 are non-existent or immaterial²⁰⁵. In S.11 and S.14, they are important and represent respectively 6.0 % and 9.8 % of total added value in these sectors in 2016. Considering the importance of dwelling services (branch 68B which is a not-fraud part of value added) in S.14, the grossing up for unincorporated enterprises is even more important (14.5 %).

Table 7.3: Exhaustiveness adjustment by sector (%age of added value)

2016 - € Mil.	Total exhaustiveness adjustments	Added value	
S.11	14 047	232 899	6,03%
S.12	92	24 883	0,37%
S.13	0	62 679	0,00%
S.14	5 893	60 200	9,79%
<i>S.14 without dwellings (industry 68b)</i>	<i>5 893</i>	<i>40 638</i>	<i>14,50%</i>
S.15	3	3 373	0,08%
Total S.1	20 034	384 033	5,22%
GDP	20 034	430 085	4,66%

²⁰⁵ For S.12 and S.15, only the adjustment for wages in kind is made.

Table 7.3bis. Types and elements of non-exhaustiveness by exhaustiveness method – Output

Types and elements of non-exhaustiveness in the production approach	Exhaustiveness methods						Total
	HBS Survey	Administrative data, academic studies and reasonable assumptions	Administrative data and reasonable assumptions	Specific study in 2015 by KULeuven and some reasonable assumptions	Ad-hoc information and reasonable assumptions (adjustment (y))	Qualitative information, assumptions and balancing	
N1							
Undeclared wages paid by households for employing domestic personnel	457						
N2							
Illegal economy - drugs		1 198					
Illegal economy - smuggling			140				
Illegal economy - prostitution				895			
N3							
Growing of vegetables by households	197						
N4							
N5							
N6							
Fiscal fraud/under-reporting of producers					25 592		
N7							
Wages in kind			64				
Tips						626	
Total	654	1 198	204	895	25 592	626	29 168
%	2%	4%	1%	3%	88%	2%	100%

7.1.3 EXHAUSTIVENESS METHODS FOR THE PRODUCTION APPROACH

7.1.3.1 Employment method

Employment per industry plays no part in the compilation of the Belgian GDP (except to calculate the wages/value added of NACE 97 private households with employees). Data on employment are available from the social security databases and from the labour force survey (LFS - Statbel). Only administrative sources are used to compile the labour market statistics (number of employees and self-employed workers, hours worked). The LFS is only used to estimate the hours worked by self-employed workers.

To estimate employment, we use information available in the databases of the national social security agencies. Those agencies are the National Social Security Office (NSSO) and the National Social Security Office for Provincial and Local Authorities (NSSOPLA, which is now part of the NSSO, but we still work with two different databases) for the employees and the National Institute for the Social Security of the Self-Employed (NISSE) for the self-employed.

The NSSO collects and manages employer and employee social contributions used to finance the various branches of social security. Consequently, it covers nearly all employees and officials employed in Belgium. All incorporated and unincorporated enterprises, NPI's etc. employing personnel with a labour agreement (employment contract) are subject to the social security system and are required to pay social security contributions.

As a complementary source to NSSO, the NSSOPLA is entrusted with the collection of social security contributions for the members of the staff of the provincial and local administrations. These administrations include municipal authorities and municipal public utilities, public centres for social welfare, local police zones, intermunicipal companies and provincial authorities.

On the other hand, every self-employed worker in Belgium must be registered at a Social Security Fund for self-employed to pay his social security contributions. The Social Security Funds calculate and collect the social security contributions and keep the files of the self-employed worker up to date with the National Institute for the Social Security of the Self-employed. This administrative source is thus exhaustive.

Every employer located in Belgium must declare its employees to the NSSO and is responsible for paying the social security contributions for its employees (or the NSSOPLA for the provincial and local administrations). As such, this guarantees that the calculation covers the production activities carried out in Belgium. This

applies to the self-employed workers too. These administrative sources (NSSO, NSSOPLA, NISSE and others) are regularly updated, ensuring that all the information used for national accounts purpose (employment, wages, contributions, etc.) only concern relevant data (production activities carried out in the country) for the reference period.

Different adjustments are calculated in order to pass from administrative data source to the NA figures. These adjustments can be described as follows:

- addition of units missing in administrative registers (employees): the aim of this adjustment is to consider on the one hand workers not liable for contributions or allocated under other social security authorities and on the other hand working students. The number of working students is a separate information available in the NSSO database. The total number of working students is converted into full time equivalents in order to take into account that they do not work during the whole year. The workers covered by the first aspect of this adjustment are:
 - the seamen: those workers are registered by another social security agency than the NSSO or the NSSOPLA. The information about the number of seamen is provided by the Seafarers' Benevolent and Welfare Fund (CSPM). Please note that since the 1st January 2018 seaman are registered at the NSSO as the CSPM has become part of the NSSO.
 - the domestic staff that in most cases is not registered. This adjustment is derived from the adjustment realized for the wages of the households (which is described in section 4.7 of the inventory). The number of hours corresponding to those undeclared wages is obtained by dividing those wages by an estimated average price per hour of domestic services (consumer price index). The number of workers is then derived by dividing the total undeclared hours by the estimated average number of hours worked per year.
 - workers employed under a contract from the LEA (local employment agency) are not registered in the NSSO or NSSOPLA databases as they are administratively considered to be unemployed. The local employment agencies must be considered as employers and hence the LEA workers have to be added to the paid employment. Data about the LEA workers are available at the National Employment Office (ONEM).
- addition of unregistered units active in the black economy (employees): the number of workers involved in the black economy is estimated in a consistent way with the adjustments made in the calculation of wages and value added in the national accounts. We suppose that 2/3 of the workers involved in the black economy are already recorded amongst the "official" employment. This means that only one third is recorded and added to the "recorded" employment (one person can only be counted once).
- adjustments for double counting (employees): the adjustments for double counting are derived from the database of the "Crossroads Bank for Social Security". They cover two types of double counting:
 - workers that are registered in both NSSO and NSSOPLA figures
 - workers whose employed activity is secondary to a self-employed main activity.
- adjustments for double counting and other corrections (self-employed): this item covers different adjustments that are detailed in §4.11 of the inventory, which are:
 - double counting with employees (mainly within the group pursuing a secondary activity on a self-employed basis) based on the database of the "Crossroads Bank for Social Security"
 - exclusion of non-active self-employed persons by applying correction factors on the data from the National Institute for the Social Security of the Self-employed by age range for the self-employed that are older than 65
 - Child minders registered with the NSSO and the NSSOPLA are added to the number of self-employed as they are regarded as self-employed in the national accounts.

The sources used and the different adjustments applied make it possible to estimate the domestic concept of employment.

This estimate is completed with data about net cross-border workers²⁰⁶ in order to produce the national concept of employment:

- exclusion of the ingoing cross-border workers from neighbouring countries (France, Germany, the Netherlands, and Luxembourg)
- exclusion of local staff of Belgian embassies located abroad

²⁰⁶ For more explanations on cross-border employment and remuneration of employees, please refer to §8.1.

- inclusion of the outgoing cross-border workers to neighbouring countries (France, Germany, the Netherlands, and Luxembourg)
- inclusion of resident staff working for foreign embassies located in Belgium
- inclusion of staff of international organisations located on the Belgian territory (European institutions, NATO/SHAPE, Eurocontrol, other smaller international organisations)

Table 7.4 shows the adjustments made to the administrative data relating to employment to obtain the series published in the national accounts.

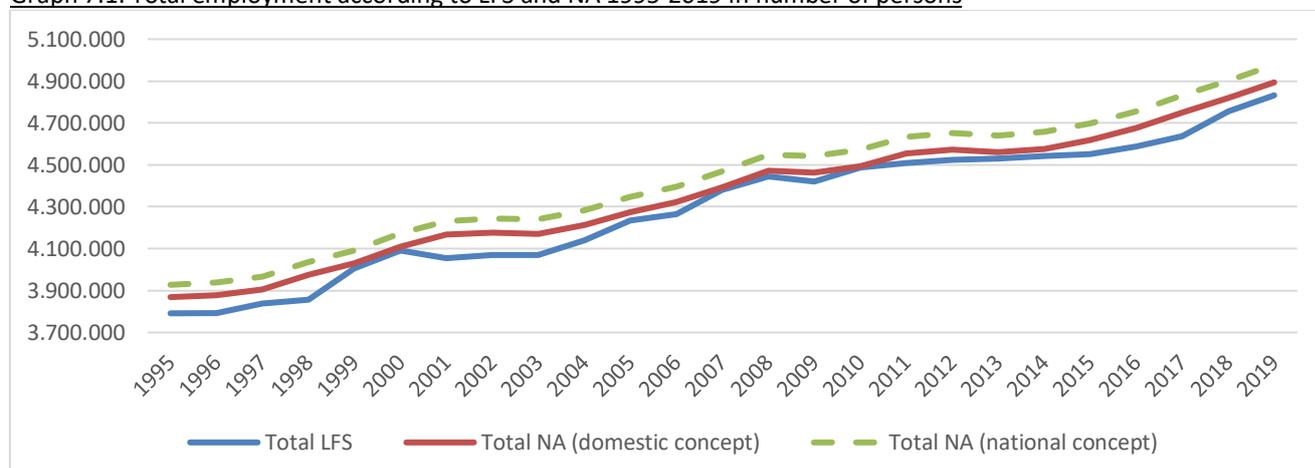
Table 7.4: Total employment for year 2016 in thousands of persons

	2016 - thousands of persons
Data from administrative sources	
employees	3.815
self-employed persons	1.047
Total before adjustments	4.862
Adjustments to administrative data	
addition of units missing in administrative registers (employees)	93
addition of unregistered units active in the black economy (employees)	26
adjustments for double counting and other corrections	-305
employees	-37
self-employed persons	-268
Total adjustments	-186
Final results published in the national accounts	
employees	3.897
self-employed persons	779
Total after adjustments (domestic concept of employment)	4.676
Net number of cross-border workers	81
National concept of employment	4.756
<i>p.m. Employment according to labour force survey (LFS)</i>	<i>4.587</i>

As can be seen from the table, the adjusted employment data derived from administrative sources (used in national accounts) are higher than the corresponding figures in the LFS. This is a strong indication that the business register is exhaustive and that all registered incorporated and unincorporated units (and their associated employment, wages/mixed income and value added) are included in the accounts.

In addition, a long-term comparison between employment according to LFS and to NA shows that both figures are very close. However, NA series has always been higher.

Graph 7.1: Total employment according to LFS and NA 1995-2019 in number of persons



As requested by the ESA2010 transmission programme, data on employment is available in number of persons and in hours worked (on the other hand, employment data is not converted in fulltime equivalents). The productivity by activity is regularly monitored by the NA team, and by users in different institutions. These analyses have not shown any inconsistencies and have not caused any adjustment in the employment data.

In conclusion, up till now, the employment method has been considered as not suitable nor relevant for exhaustiveness estimation in the Belgian case.

7.1.3.2 Illegal activities (N2)

Illegal activities – namely prostitution services, drugs and smuggling of tobacco products - are included in Belgian national accounts, as recommended by Eurostat. The estimation of the illegal economy was introduced in the Belgian national accounts in September 2014 (and revised for prostitution in September 2015) with the introduction of ESA2010.

There is no double counting when including in national accounts. Illegal units are not included in the business register. As regards HFCE, an adjustment is made for prostitution services (see below).

The following sections describe the methodology used to estimate each type of activity.

A. Prostitution services

Estimates for prostitution services are constructed based on the reference year 2015, for which a detailed supply-based study was conducted²⁰⁷ by the University of Leuven in collaboration with the National Bank of Belgium. Services are divided in different market segments, namely window prostitution, street prostitution, services in clubs and brothels, services in massage parlour and sauna establishments, escort and private services, and services provided by male sex workers. For each segment, production in the reference year is estimated by multiplying the segment specific price by its corresponding specific volume.

Transactions for window prostitution are estimated for the reference year based on direct window counts of known prostitution areas in Belgium (Ghent, Liège, Ostend, Seraing, Antwerp, and Brussels). More detailed counts of hours worked per window and duration of transactions were conducted in Antwerp and Brussels. The combination of these data allows making an estimate of the number of transactions for the year 2015.

For all other segments, market shares for the reference year are estimated based on Internet advertisement. These market shares are subsequently combined with the number of transactions estimated for the segment of window prostitution to obtain transactions per segment. The total number of transactions is back casted using the evolution of the male population between 18 and 64 years old. Moreover, the difference in the distribution of market shares between 2000 (estimate based on data from organisations helping prostitutes) and 2015 (study University of Leuven) is used as well, so that the evolution of the market share across different segments could be captured in the estimation.

Average prices per segment in the reference year are also estimated based on data from specialised websites and are back casted using the general index for conventional wages, which will also be used for extrapolation of future years.

An exception is the male sex workers segment, where Internet advertisement was not deemed reliable. A general, conservative, estimate is made, by uplifting female prostitution services with 5 %.

Intermediate consumption is estimated by adopting the hypothesis that the intermediate consumption amounts to 20 % of the production generated by sex workers. To avoid double-counting, it is assumed that this expenditure was already included in final consumption expenditure estimates for housing services (COICOP 04) and needs to be deducted from this expenditure group.

²⁰⁷ Adriaenssens, S., Hendrickx, J., Heylen, W. & Machiels, T. (2015)., "A direct measure of output in prostitution in Belgium", *Research paper KULeuven*, in <<https://lirias.kuleuven.be/handle/123456789/508655>>.

The hypothesis is made that 5 % of all clients are non-residents. The percentage of non-resident sex workers was estimated per segment in the study and held constant for the period 1995 - 2015.

On average, 8.9 % of all sex workers are deemed non-resident. This estimate allows discriminating between domestic production, importations, and exportations. The average of 8.9% is based on the results of the detailed study about prostitution services in Belgium already mentioned.

All consumption of prostitution services is recorded as final consumption expenditure of households. Services consumed by non-residents, and produced by residents, are recorded as exportations and consumption of non-residents on domestic territory. Services consumed by residents, and produced by non-residents, are recorded as importations and domestic consumption. Prostitution services offered by non-resident sex workers on Belgian territory is an importation of personal services and a final consumption expenditure of households on Belgian territory. An 8.9% share of total estimated turnover on Belgian territory is attributed to this type of transactions.

Imports of prostitution services that take place abroad are part of direct purchases abroad. We assume (following the GNI guidelines) that this type of transactions is already included in the balance of payments category "travel" as the basis of this estimate is expenditure made with credit cards and cash estimates, and do not carry out further adjustments. They are therefore not added separately.

The next table summarises the estimates for prostitution services by segment for the year 2016. In total, prostitution services created a value-added of € 716 million in 2016. The activity is classified in SUT product 96A05 and the corresponding branch in the household sector (S.14) 96A.

Table 7.5: Estimates for prostitution services by segment (in € million, 2016)

			Window	Street	Clubs/ Brothels	Massage / Sauna	Escort and private	Male	Total
Market share			30 %	1 %	10 %	16 %	43 %	n/a	
Number of transactions	in thousands		2 482	74	855	1 368	3 555	417	8 750
Average prices	in €		67	81	104	98	149	78	
Turnover (*)	transactions x price	a	166	6	89	134	529	33	957
Non-resident		b	18%	13%	7%	4%	3%	9%	
Resident		c	82%	88%	93%	96%	97%	91%	
Production (P.1)	turnover if resident	$d = a * c$	137	5	83	129	512	30	895
Intermediate consumption (P.2)	20 % of P.1		27	1	17	26	102	6	179
Value-added (B1g)	P.1 - P.2		109	4	66	103	410	24	716
Importations (P.72) (on Belgian territory)	turnover if prostitute is non-resident and consumer is resident	$e = 0.95 * a * b$	28	1	6	5	16	3	59
Exportations (P.62)	turnover if prostitute is resident and consumer is non-resident	$f = 0.05 * a * c$	7	0	4	6	26	1	45
Final consumption of households, national (P.31 S.14)	if consumer is resident	$g = 0.95 * a$	158	6	85	128	502	31	909
Consumptions of residents abroad (P.33)	turnover if consumer is resident and prostitute is non-resident		0	0	0	0	0	0	0
Consumption of non-residents in Belgium (P.34)	turnover if consumer is non-resident and prostitute is resident	$h = 0.05 * a$	7	0	4	6	26	1	45
Final household consumption, domestic (P. 31 S.14)	if consumed on Belgian territory	$i = g + h$	165	6	89	134	528	32	954
Memorandum item: Compensation of P.2 in P.31 S.14 COICOP 04			-27	-1	-17	-26	-102	-6	-179

(*) of which 5 % sales to non-resident clients

B. Drugs

Estimates concerning drugs in Belgium are compiled per type of drug based on a limited range of data available and various assumptions. A distinction is made between the following drug categories: cannabis, ecstasy (XTC), amphetamines, cocaine, and heroin. The approach used is demand-based; comparison between supply and demand is made insofar as this is possible.

The available information comes mainly from the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA)²⁰⁸, various charities, the federal police, and the Belgian National Report on Drugs (BNRD), a national-level report compiled by the Sciensano (the Belgian public health institute).

For Belgium, there is information on the cannabis and XTC users, in the form of a monthly prevalence of drug use, and several sources of information on the prices of the different types of drugs. For amphetamines, cocaine and heroin, information from abroad or hypotheses were used as explained below.

Amphetamines

According to the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA), the prevalence is reported for most countries at a level of 0,5 - 2 %. We set the rate at 0,55% of the population aged between 15 and 65 like the rate of France.

The quantity consumed of amphetamines is set at 2 grams 104 times a year. A study by Van Baelen (2002) showed that amphetamines were consumed on average twice a week (104 times). The quantity of an average consumption is very hard to define due to different purity degrees and can vary between 5 and 40 grams (VAD) of finished product. We assume that the average consumption is equal to 2 grams pure product.

Cocaine

For cocaine, it is reported in the Belgian National Report on Drug that this type of drug is less used than other drugs. The prevalence is assumed at 0,39% of the population aged between 15 and 65 of which 5000 consumers are hard users. The prevalence rate was based on a study by the University of Antwerp (Innovation policy, 2011), which estimated that around 1.75 tons of cocaine was consumed in Belgium in 2011.

As for quantities consumed and number of drugs taking sessions, a distinction was made between occasional users and drug addicts. The occasional users consume 1 gram 40 times a year ("almost weekly"), while drug addicts use 0,5 grams per drug-taking session daily. These hypotheses were based on the Dutch model developed by Smekens & Verbruggen (2005).

Heroin

There are no clear estimates for the number of users in Belgium. Due to the very addictive nature of the drugs, it is assumed that all users are systematic users. We set a population of hard users at 5000 (idem as cocaine).

To estimate total consumption, we set the average consumption at 0.5 grams, taken during 270 sessions a year (daily for 9 months). We only take daily sessions during 9 months in the assumption that there is a lack of funds to buy heroine during the other 3 months a year. These assumptions follow the Austrian model set up by Mazegger (1999).

Most indicators are based on hypotheses and expert judgement. There is little to no hard information available. There are no data available concerning the number of drug users, the quantity of drugs used per drug taking session and the frequency of these sessions per person and per year.

Household final consumption expenditure (P.31_S.14) on drugs is calculated using a "price times quantity" method, whereby the street price is estimated based on the range of prices reported in the annual study by Sciensano, supplemented and verified with the help of several other sources. As for the quantity consumed, an estimate has been made for the number of users and the average consumption per type of drug.

The number of consumers is deduced from demographic statistics and from an estimated prevalence. Potential drug users are found among the population aged between 15 and 65. This finding is multiplied by a prevalence rate per type of drug, which varies each year in line with the data extracted from the BNRD. This prevalence takes account of both occasional users and regular users. The exception is heroin, for which there is no information on prevalence. An estimate of a hard core of users has been made for this type of drug, producing a figure of 5 000 consumers.

Next, an estimate of average consumption per user needs to be made. The following assumptions, in line with the scientific reports and other information, are used. For cannabis, an average consumption of 250 g

²⁰⁸ More specifically the "Country drug report", for which each national focal point, for example Sciensano for Belgium, contributes. In practise, the data on mean prices and purity in Belgium is used. The link is the following: <http://www.emcdda.europa.eu/data/stats2018/ppp>. The mean price is used to estimate the consumption of household in value for each type of drugs. The mean purity coefficient is used to estimate the quantity of importations of cocaine and heroin.

per consumer per year is considered, the average consumption of XTC is estimated at 104 pills per user per year and that for amphetamines is put at 208 grams per consumer per year. As described above, for cocaine, a distinction is made between occasional users and drug addicts, as the former consume 1 g roughly 40 times a year, while drug addicts, which account for 5 000 consumers, use 0.5 g per drug-taking session daily. And, finally, the average consumption of heroin per user is thought to be 135 g per year.

Output (P.1) of drugs is assumed to be nil for cocaine and heroin. An estimate in value terms has been made in the case of cannabis. For XTC as well as amphetamines, an estimate has been made based on the price multiplied by the quantity produced. For all categories, profit margins have been estimated on imports and production when output is not nil, based on the difference between the street price and the import price as well as between the street price and the production price.

Regarding intermediate consumption (P.2) of drug traffickers and producers, there is very little information at hand. Since output of heroin and cocaine is nil, it is assumed that for these types of drugs intermediate consumption is also nil. For XTC, there is an estimate of the unit production cost that has fluctuated over the years between € 0.25 and € 0.40 per pill. Finally, for cannabis and amphetamines, an estimate is made based on output, i.e., respectively 40 % and 4 % of P.1. In the case of cannabis, this method is the same as the Dutch method. For amphetamines, the proportion is taken from the estimate used in the case of XTC.

A limited compensation of employees (D.1) is also estimated for people employed in XTC laboratories. An average wage figure is multiplied by the estimated number of employees. The average conventional wage level is used as there is no specific information available.

As for imports (P.7) of cannabis, an estimate of net imports is used to avoid any transit-related effects. Imports of the other types of drugs are estimated using the "price-times-quantity" method, where the price always varies in relation to the street price and where the quantity is estimated depending on the volume consumed and possibly the quantity produced, if any.

The last aggregate that needs to be estimated is exports (P.6) of drugs. Exports are assumed to be non-existent in the case of cannabis (estimate of net imports), amphetamines, cocaine, and heroin. As far as XTC is concerned, a "price-times-quantity" method has been developed.

A revision of these estimates for drugs activity is planned within the benchmark revision of the national accounts in 2024. The study of Europe-wide annual wastewater campaigns undertaken by the SCORE could be analysed in this framework.

The next table shows the estimates for drugs in the national accounts by type of drugs. The activity amounted to a total value-added of € 1099 million in 2016 and is classified in SUT products 01A01 (cannabis) and 20F05 (all other drug types). The corresponding branches are in the household sector's (S.14) agricultural activities (01A) to produce cannabis, retail trade (47A) for trade margins produced on all types of drugs, and in the non-financial enterprise sector's (S.11) other chemical industry (20F) to produce XTC and amphetamines. An illegal dividend corresponding to the operating surplus is transferred from the non-financial sector to the household sector.

Table 7.6: Estimates for drugs by type (in € million, 2016)

2016 - € Mil.	XTC	Cocaine	Heroin	Amphetamines	Cannabis	Total
P.1_product	724	0	0	42	113	880
Quantity	120 000	0	0	7	17	
Price on domestic market	4	0	0	6	7	
Export price	6	0	0	0	0	
P.1_Trade margins	61	73	14	29	141	318
on P.1_product	49	0	0	21	28	
on P.7	12	73	14	8	112	
P.2_producer	52	0	0	2	45	99
Total value-added	734	73	14	70	208	1 099
P.31 S.14	122	101	16	79	366	684
Quantity	16 687	2	1	8	40	
Price (per gram/pill)	7	54	23	10	9	
P.7_imports	12	28	2	8	112	162
Quantity	3 337	1	0	2	n/a	
Import price	4	22	6	5	5	
P.6_export	675	0	0	0	0	675
Quantity	106 650	0	0	0	0	
Export price	6	0	0	0	0	

C. Smuggling of tobacco products

The estimate of smuggling in Belgium is confined to tobacco products, particularly cigarette smuggling. Since cigars represent a very small share of total household consumption expenditure, at only 3 to 5 % of the tobacco products consumed, the level of cigar smuggling is considered negligible. That assumption is borne out by the lack of cigar seizures and the declining popularity of cigars as the years go by. The approach used is demand-side oriented.

There is very little to no information on the illicit consumption or trade of cigarettes, implying that several hypotheses were necessary. Consumption of smuggled cigarettes is estimated using a price times quantity approach. Street prices are set at half the official price. Quantities are equal to a proportion of the legally sold quantities (based on information of FPS Finance), which was equal to 6.5 % in 2016. This share of illegal consumption is analysed yearly based on information available.

The production of illicit cigarettes is set at zero. Only trade margins are produced and calculated based on price differences between imports, exports, and consumption. Intermediate consumption is assumed to be 10 % of the produced trade margins. To avoid double-counting, it is assumed that this expenditure was already included in final consumption expenditure estimates for transport (COICOP 07) and must not be deducted. As stocks would increase the risk of being caught, we consider them to be negligible and set them to zero.

Imports and exports are estimated based on a price times quantity approach combining seizure data with hypotheses on the risk of being caught, transit rates and market values.

For imports, seized quantities are extrapolated using a risk rate, which was set at 11 % in 2016. A five-year moving average is applied to avoid fluctuations that reflect changes in seizure patterns rather than changes in smuggling. Transit is excluded from the estimates. As Belgium is historically considered to be an important transit country for smuggled goods, the transit rate is set high, at 65 % of all smuggled exports in 2016. Prices are set at 10 % of the street value (which are set at 50 % of official prices) in 2016.

For exports, total quantities are estimated as the difference between imported quantities (incl. transit) and consumed quantities. Total exported quantities allow us then to estimate quantities that are immediately re-exported (transit) after importation (65 % of total exports) and exclude these from the estimates. The export price is calculated based on the price differences with the main country of destination and set at 60 % of the official price in 2016.

The next table shows the main results. In 2016, a value-added of € 126 million was estimated and attributed to the retail trade branch (47A) in the household sector (S.14), with the corresponding SUT product 12A01 (tobacco).

Table 7.7: Main results for smuggling (2016)

2016 - € Mil.	Quantities	Transit	Quantities	Prices (€)	Values
	(total)		(excl. transit)		(in € million)
P.31 S.14			681 683	0,15	103
<i>Memorandum item:</i>					-14
<i>Compensation of P.2 in P.31 S.14 COICOP07</i>					
P.71	1 510 101	538 471	971 629	0,02	15
P.61	828 417	538 471	289 946	0,18	52
P.1 (Margin)					140
P.2					14
B1g					126

7.1.3.3 Income in kind and gratuities (N7)

Adjustments are made for wages and salaries in kind and for tips.

As regards income in kind, in hotels, restaurants and cafés (free meals) and manufacturing of motor vehicles (discounts on the purchase of a car produced by the employer), amounts are estimated for wages and salaries in kind produced by the employer (€ 59 million in S.11 and € 5 million in S.14). Turnover (production) and wages and salaries are increased by these amounts.

In all S.11 industries and in S.12, amounts are estimated for wages and salaries in kind purchased (goods and services purchased by the employer and made available to employees). In total, the amounts involved are € 2.401 million in S.11 and € 92 million in S.12 (which are transferred from purchases (P.2) to wages and salaries (D.1)). For S.15, an amount of € 3 million is estimated.

Table 7.8: Adjustment in added value for wages in kind (2016 data in € million)

2016 - € Mil.	Goods and services produced by the employer	Goods and services purchased by the employer	Total
S.11	59	2401	2460
S.12		92	92
S.14	5		5
S.15		3	3
total	64	2496	2560

The estimation method for wages in kind is detailed in section 4.7.2.4. As regards the inclusion of this item in the output approach, see the description of adjustments (p1) and (p2) in chapter 3 (section 3.4.2).

As regards tips/gratuities, it must be underlined that tipping exists in Belgium but is not so developed, as in the US for example. This is mainly because in Belgium, all purchases of goods and services are charged taxes and service included. Moreover, there are very few jobs that are exclusively remunerated by tips (exclusively in horeca). Tipping is not the rule, even in restaurants and taxis. And usually, the amounts are not so high. Very often, people just let the coins they do not want to put back in their pocket. The tips are mainly paid in cash, although it is possible to add tip with a payment by credit card. Tips payment via credit card are rare, as the workers prefer to receive cash.

Table 7.9: Adjustment in added value for tips (2016 data in € million)

2016 - € Mil.	Taxis	Horeca	Hairdressers	Total
S.11	9	502	6	516
S.14	1	101	7	109
total	10	602	13	626

In four industries (hotels, restaurants, cafés, hairdressers, taxis) the turnover/production is increased because of gratuities/tips. There are no other activities where tips are usually paid. The amount for tips is calculated as a percentage of the turnover for the four activities concerned. The ratios by industry are:

- NACE 55: 5%
- NACE 561 and 563: 5%
- NACE 4932: 3%
- NACE 9602: 1%

These percentages were defined based on information coming from the professional unions. The method and the ratios are analysed when compiling the SUT. Balancing the related industries and products in the SUT framework suggest that the current estimate of tips is plausible and provides no elements that a revision of these percentages should be necessary.

Tipping habits of foreigners/tourists are included in the tip estimations. No distinction is made for tipping habits of tourists. The method includes both resident and non-resident customers.

In theory, tips are subject to income taxes for the person who receives tips. However, very often, these tips are paid in cash, and only partially or not declared at all. The income taxes paid on tips are included in D.5, as we receive exhaustive information from administrative data sources for this variable. Tips are not submitted to VAT, even when they are paid via credit card. See below an extract from the Belgian VAT Regulation.

Le service est compris dans les prix. Les prix sont "TVA et service inclus". Si le client paie volontairement plus que ce qui est facturé, ce pourboire n'est pas compris, pour la TVA, dans la base d'imposition (Manuel TVA, n° 114, G).

Tips are included in added value (in the production approach). See the description of adjustment (q) in chapter 3 (section 3.4.2).

Tips are included in HFCE and exports (in the expenditure approach, see §7.2) and in the income approach (see §7.3).

In S.11 and S.14, the amounts involved are respectively € 516 million and € 109 million in 2016. This adjustment is completely imputed in wages and salaries in S.11 and partly in wages and salaries and mixed income in S.14 (respectively € 42 million and € 65 million).

In the table below, you will find the final impact of tipping on the remuneration of employees.

Table 7.10: Impact of tipping on D.1 (2016 data in € million)

2016 - € Mil.	Taxis	Horeca	Hairdressers	Total
S.11	9	502	6	516
S.14	0,4	40	3	46
total	9	541	9	562

For 2016, the adjustments for wages in kind and tips had an overall impact on added value of 3.185 million.

7.1.3.4 Fiscal audits

In some countries, fiscal audits have made it possible to validate adjustments for the non-observed economy. The application of this exhaustiveness test in Belgium has failed to yield any usable results. Adjustments for tax fraud in certain industries where there is known to be considerable fraud were not significant. The tax authorities are not interested in objective, representative estimates of fraud per NACE category, but focus their attention on specific companies.

7.1.3.5 Compliance with the different GNI and GNP Task Force recommendations

The recommendations from the GNP Committee Task Force on distribution (CPNB/205) related to exhaustiveness are applied, as mentioned in sections 3.13, 3.15 and 3.25.

For these activities/products, independent estimates from the demand and the supply side are produced. Estimates for the supply side are based on annual accounts (Central balance sheet office) and other administrative data, according to the general estimation method. Estimates for the demand side are based on totally different data sources (mainly households' budget surveys and survey on retail trade). They are confronted with each other for validation purposes. Validation of production against expenditure estimates takes place within the supply and use framework.

The recommendations from the GNP Committee Task Force on Construction (CPNB/202) related to exhaustiveness are applied.

Independent estimates (based on at least two methodologies applied to separate data sources) are produced and confronted to each other for validation purposes. Administrative data sources (annual accounts, VAT returns) are used to estimate construction output (see chapter 3). On the expenditure side, a "price x quantity" approach (i.e., number of housing starts x corresponding prices) is used to estimate investments in new residential buildings (see section 5.10.3.4.1). These results are confronted to each other for validation purposes. Therefore, proper quantity times price methods are applied (e.g., building permits) to make estimates of new building work or to produce alternative estimates for validation purposes.

The supply and demand of building materials such as cement are investigated for validating construction. The balancing exercise in the context of establishing the S-U tables makes it possible to check the results obtained and, if necessary, to adjust them.

The estimates of total revenue from subcontracting activities and total expenditure on subcontracting with the construction sector are made and used. Administrative data sources are used in order to estimate construction output. This implies that revenue of subcontractors is included in their annual accounts or VAT return. Expenditure on subcontracting is, on the other hand, included in the administrative data of the project owner.

The repairs and improvements to dwellings from households are estimated in a SUT context. The exhaustiveness method is detailed in section 7.1.3.10.

There is no specific survey for construction activities abroad designed for national accounts purposes. However, the BoP survey (F01DGS) collects information on:

- construction services running less than one year carried out abroad by residents (+ subcontracting contracts)
- construction services running for more than one year carried out in Belgium, by non-residents (+ subcontracting contracts)
- construction work carried out on a site in Belgium by a resident contractor on behalf of a non-resident contracting authority, excluding subcontracting contracts

The construction activity carried out abroad by domestic staff for a period of less than one year is recorded as domestic output via administrative data sources.

The recommendations from the GNP Committee Task Force on Household budget surveys (CPNB/204) related to exhaustiveness are applied, as mentioned in section 5.7.

The raw data provided by Statbel are processed through various steps for national accounts purposes. Adjustments are made for differences in population, concepts, definitions, and classifications between HBS and national accounts.

Differences in definitions and concepts between the HBS and ESA 2010 are analysed. If expenditure booked in the survey data are not considered as final consumption expenditure according to ESA 2010, they are excluded from the procedure. This is, for example, the case for fees to architects (P.51 - gross fixed capital formation), death duties (D.91 - taxes on capital) and various taxes levied by local authorities (D.59 - other current taxes).

All imprecise survey headings, such as “non-specified expenditure” and “pocket money²⁰⁹” are distributed over specifically chosen COICOP headings which were deemed most likely to be concerned. These are mostly food and drinks (COICOP 01), tobacco (COICOP 02), clothing (COICOP 03), cultural and recreational services (COICOP09) and hotels and restaurants (COICOP 11).

The HBS based estimates are regularly checked and compared with other data sources. When available, exhaustive administrative data sources are preferred to HBS. For products for which it is relevant, the commodity flow method is used. The retail trade survey results are not used as such in the compilation process but are used to check and validate the results obtained from other data sources. Finally, an in-depth supply/use analysis by product is applied when compiling SUT tables.

Given that the HBS only surveys private households, it is necessary to include expenditure of collective households (mostly people living in nursing homes, in religious orders, in prisons or for a permanent stay in hospitals). Imputed rents and consumption specific for collective households’ members are also added.

In addition, the highest income categories are underrepresented in the sample of the HBS. Not all revenues (and linked consumption) are declared (underground consumption), giving concerns of biased estimates. As a result, the final consumption expenditure is levelled up based on the ratio between disposable income of households as estimated in HBS and disposable income of households as estimated in national accounts. This process includes extrapolation for infrequent purchased items.

Finally, a five-year moving average is used to smooth the sometimes-strong fluctuations from the HBS results (that can be due to variations in sampling rather than economic changes).

In 2016, the upward coefficient including all these aspects (collective households, disposable income in national accounts and smoothing of HBS results) was equal to 8.5 %. This adjustment is included in the GNI process table under **N4**. The amount added is equal to 7.344 million €.

HBS based estimates are compared with estimates based on other sources (retail sales, commodity flow/supply-side estimates, administrative data, business statistics, etc.). When relevant, these alternative estimates are preferred to HBS based estimates (see chapter 5 for mor details).

The recommendations from the GNP Committee on Intrastat (CPNB/203) related to exhaustiveness are applied, as mentioned in sections 5.13 and 5.15.

As regards comparison of foreign trade data with data from trade partners (mirror data comparison), Belgium participates in the OECD Working party on trading goods and services. Asymmetries on goods, services and travel data are monitored, and information with partner countries is exchanged.

Domestic output and imports confronted with domestic use and exports in the balancing exercise of the supply and use tables.

7.1.3.6 Non-collected VAT due to insolvency and bankruptcy

Before the 2019 benchmark revision, VAT collected by the Government had been estimated using method b) set out in paragraph 4.27 of ESA 2010: *if cash receipts are used as the source, they shall be time-adjusted so that the sums in question are attributed to the period when the activity took place to generate the tax liability. This adjustment is based on the average time difference between the activity and cash tax receipt.* In practice, this means that VAT cash receipts had been recorded under the so-called month-on-month transactionalised cash basis method.

Eurostat’s GNI expert group reached the conclusion that the value of VAT due but not recoverable following bankruptcies should be included in the estimate of GDP, which effectively boiled down to imposing method a) of paragraph 4.27 of ESA 2010 and the option of cancellation through a capital transfer: *if assessments and declarations are used as the source, the amounts shall be adjusted by a coefficient reflecting assessed and*

²⁰⁹ Expenditure by children.

declared amounts never collected. An alternative treatment is that a capital transfer (D.995), as described in point (j) of paragraph 4.165, to the relevant sectors is recorded equal to the same adjustment.

In accordance with paragraphs 4.27 and 4.165, point j) of ESA 2010 and upon recommendation of the GNI expert group, it follows that, if assessments and declarations are used as the source so as to reflect due and declared amounts that are never collected, the amount in question is also recorded as a capital transfer (D.995) to the debtor sectors concerned.

In practice, it has not been possible to reconcile declarations and cash receipts for VAT: it is the transactionalised cash sum that has been increased by an estimate of VAT revenue not collected because of bankruptcies, with the estimate being cancelled out simultaneously in the accounts sequence via the recording of a negative capital transfer receivable in accordance with the ESA 2010 transmission programme. In 2016, this amount was equal to € 429 million.

7.1.3.7 Analysis of the VAT-Gap

In the compilation of the Belgian SUT, non-deductible VAT is calculated for intermediate consumption, final consumption, and gross fixed capital formation (GFCF) using VAT matrices. This amount is owed to the Government, as the economic agent involved is not able to deduct VAT because he is the final user or is supposed to be the final user.

In the SUT-matrices, 325 products and 135 industries are considered. The matrix for the final consumption does not have the dimension for the industries but shows a full product detail. In these VAT matrices, a non-deductible VAT-rate is determined for each combination Product/Industry. That has been done by converting all VAT regulations existing in Belgian law to a single VAT rate for each Product/Industry combination. In applying the above mentioned “theoretical” VAT-rate to the use-components, the theoretical VAT-amount is calculated. This estimation is made on a yearly basis.

This result does not reflect the amount collected by government, due to several reasons of which transactions in the NOE are an important one.

However, in the compilation of the SUT, the amount of VAT that is really collected by the tax administration must be considered. To obtain the actual collected VAT amount, changes are made to the theoretical VAT rates for several combinations Product/Industry. Those changes in rates are implemented for:

- the intermediate consumption of the industry ‘production of owner-occupied dwelling services’
- the final consumption by households (P.31/S.14)
- the GFCF (P.51).

The analysis of the discrepancy between the theoretical VAT and the effectively collected VAT proved to be an interesting and useful exercise to support the estimates of the exhaustiveness adjustments in the Belgian national accounts. The VAT-gap analysis suggests that the value added realised within the NOE is consistent with the estimated VAT-gap.

7.1.3.8 Missing traders VAT fraud

This item was investigated considering the transversal reservation that ended in September 2021. It proved to be nonmaterial for the period under investigation 2010-2019. Missing traders (MT) VAT fraud can be subdivided into acquisition fraud and carousel fraud. In the former, the vendor charges VAT to its clients but does not remit this VAT to the tax authorities. In the latter, an unlawful VAT deduction is made by one of the firms’ part of the fraud.

MT VAT fraud did a lot of damage to the Belgian treasure around the year 2000. Therefore, a unit in the FPS Finance exclusively dedicated to the fight against MT VAT fraud was created. It is called the Supporting Cell Carousel Fraud (SCCF). This cell provided the data for the analysis. In the period 2010-2019, only acquisition fraud was discovered by the SCCF. Because of their rigorous control methods, VAT carousels are non-existent in this period since it is easier for carousel fraud to go undetected abroad. It needs to be noted that a carousel

can still occur if a loophole is discovered by fraudsters in the current or new regulation. The models which detect MT VAT fraud are updated in case a new type of fraud occurs.

The analysis was performed on the premises that only acquisition fraud occurred. Since the SCCF could not provide more information in whether the fraudster's client was part of the scheme or not (fraud with or without complicity), both scenarios were analysed. Over 99% of acquisition fraud cases in Belgium involve real transactions of goods (and the accompanying transport). So far, the SCCF has not discovered fraud with goods that are subject to a lower VAT rate: in all cases a VAT rate of 21% applies.

As taxes are recorded based on accrual basis, an adjustment for non-collected VAT is needed in the case of fraud without complicity.

Highlighted in grey, the following table shows the elements of GDP that are affected by acquisition fraud without complicity.

	Code ESA 2010
PRODUCTION APPROACH	
Output of goods and services (at basic prices)	P.1
Intermediate consumption (at purchasers' prices)	P.2
Gross value added (at basic prices)	B.1G
Taxes on products	D.21
Subsidies on products	D.31
EXPENDITURE APPROACH	
Total final consumption expenditure	P.3
Household final consumption expenditure	P.31 S.14
NPISH final consumption expenditure	P.31 S.15
General government final consumption expenditure	P.3 S.13
Gross capital formation	P.5
Gross fixed capital formation	P.51G
Changes in inventories	P.52
Acquisitions less disposals of valuables	P.53
Exports of goods and services	P.6
Imports of goods and services	P.7
INCOME APPROACH	
Compensation of employees	D.1
Gross operating surplus and mixed income	B.2G+B.3G
Taxes on production and imports	D.2
Subsidies	D.3

The effect of MT VAT fraud depends on the data sources used to calculate GDP. A more detailed analysis of the impact of acquisition fraud without complicity is made below.

Production approach	Comments
P1	The trade margin of the fraudster is not captured since he does not file a VAT declaration (or does not register the transaction in its declaration). We can assume that the impact is limited. In certain cases, the fraudster is willing to accept a negative margin to sell more in a short time span. The reward is the VAT which is illegitimately obtained. The absolute value of a negative trade margin can therefore not be larger than the VAT gains because otherwise the fraud would not be worthwhile. Since it would counteract the impact of D211 (see infra), the most extreme impact on the production approach would be a positive margin. The maximum trade margin on goods with a VAT rate of 21% in the SUT 2018_P2020 was 47% . We will use this rate in our calculations.
P2	In the case of acquisition fraud without complicity, there is no impact on P2 in case the fraudsters client is a company. The latter has an incentive to declare the input VAT paid on its intermediary consumption, in order to deduct it. The transaction is therefore

	assumed to be registered in the VAT declarations and annual accounts, which are the data sources for national accounts.
D211	In case of acquisition fraud without complicity, D211 needs to be corrected for non-collected VAT. The amount is equal to the estimate of MTIC VAT fraud provided by the STI.
Expenditure approach	Comments
P3	Consumption is calculated in an exhaustive manner, based on independent data sources (mainly Household's budget survey ²¹⁰). No correction is needed.
P51	In the case of acquisition fraud without complicity, there is no impact on P51 in case the fraudster's client is a company. The latter has an incentive to declare the input VAT paid on its investments, to deduct it. The transaction is therefore assumed to be registered in the VAT declarations and annual accounts, which are the data sources for national accounts.
P6	In the case of acquisition fraud, there is no re-export in fraudulent chain. Consequently, there is no impact on P6.
P7	For the acquisition fraud to go undetected, the import of the goods by the fraudster is not registered. Since the goods involved in the fraud are subject to a VAT rate of 21%, the impact in P7 can be calculated using the estimate for non-collected VAT. The latter is divided by 21 and multiplied by a hundred.
Income approach	Comments
B2G+B3G	As the fraudster's trade margin is not captured, gross operating surplus and mixed income are affected. The impact is identical to that on P1 in the production approach.
D211	This impact is identical to that of D.211 in the production approach.

The impact calculation of acquisition fraud without complicity is presented in table 7.11. In the period 2010-2019, the impact on GDP/GNI is lower than 0.1% of GNI (September 2020 version), even if an error margin of 10%, which was indicated by the SCCF, is taken into consideration.

The calculation of acquisition fraud with complicity is similar. The only difference is that the non-collected VAT does not have to be added to the D.211 estimate. If the fraudster's client is a company, the latter still has an incentive to declare VAT paid, since it can deduce it in its VAT declaration. We assume that there is no impact on P.2 or P.51. The results are presented in table 7.12.

As conclusion, MT VAT fraud is non-material in the Belgian context. No adjustment was made. In the future, contact with the FPS Finance will be maintained to collect information on possible large-scale VAT fraud.

²¹⁰ See chapter 5 for more details.

Table 7.11: Impact acquisition fraud without complicity on GDP in terms of GNI (amounts in million €)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
MTIC VAT Fraud (Estimation SCCF)	29.0	27.9	18.5	48.8	40.6	40.7	14.5	16.9	44.8	42.6	18.6
GNI (September 2020 version)	368 714	376 569	395 136	402 559	411 459	422 599	434 211	449 070	464 910	482 136	
Production approach											
P.1 (=Fraud/0.21*0.47)	64.9	62.4	41.4	109.2	90.9	91.1	32.5	37.8	100.3	95.3	41.7
D.211	29.0	27.9	18.5	48.8	40.6	40.7	14.5	16.9	44.8	42.6	18.6
GDP	93.9	90.3	59.9	158.0	131.5	131.8	47.0	54.7	145.1	137.9	60.4
GDP/GNI	0.03%	0.02%	0.02%	0.04%	0.03%	0.03%	0.01%	0.01%	0.03%	0.03%	
Expenditure approach											
P.7 (=Fraud/0.21)	138.1	132.9	88.1	232.4	193.3	193.8	69.0	80.5	213.3	202.9	88.8
GDP	-138.1	-132.9	-88.1	-232.4	-193.3	-193.8	-69.0	-80.5	-213.3	-202.9	-88.8
GDP/GNI	-0.04%	-0.04%	-0.02%	-0.06%	-0.05%	-0.05%	-0.02%	-0.02%	-0.05%	-0.04%	
Income approach											
B.2G+B.3g	64.9	62.4	41.4	109.2	90.9	91.1	32.5	37.8	100.3	95.3	41.7
D.211	29.0	27.9	18.5	48.8	40.6	40.7	14.5	16.9	44.8	42.6	18.6
GDP	93.9	90.3	59.9	158.0	131.5	131.8	47.0	54.7	145.1	137.9	60.4
GDP/GNI	0.03%	0.02%	0.02%	0.04%	0.03%	0.03%	0.01%	0.01%	0.03%	0.03%	

Table 7.12: Impact acquisition fraud with complicity on GDP in terms of GNI (amounts in million €)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
MT VAT Fraud (Estimation SCCF)	29.0	27.9	18.5	48.8	40.6	40.7	14.5	16.9	44.8	42.6	18.6
GNI (September 2020 version)	368 714	376 569	395 136	402 559	411 459	422 599	434 211	449 070	464 910	482 136	
Production approach											
P.1 (=Fraud/0.21*0.47) D.211	64.9	62.4	41.4	109.2	90.9	91.1	32.5	37.8	100.3	95.3	41.7
GDP	64.9	62.4	41.4	109.2	90.9	91.1	32.5	37.8	100.3	95.3	41.7
GDP/GNI	0.02%	0.02%	0.01%	0.03%	0.02%	0.02%	0.01%	0.01%	0.02%	0.02%	
Expenditure approach											
P.7 (=Fraud/0.21) D.211	138.1	132.9	88.1	232.4	193.3	193.8	69.0	80.5	213.3	202.9	88.8
GDP	-138.1	-132.9	-88.1	-232.4	-193.3	-193.8	-69.0	-80.5	-213.3	-202.9	-88.8
GDP/GNI	-0.04%	-0.04%	-0.02%	-0.06%	-0.05%	-0.05%	-0.02%	-0.02%	-0.05%	-0.04%	
Income approach											
B.2G+B.3g D.211	64.9	62.4	41.4	109.2	90.9	91.1	32.5	37.8	100.3	95.3	41.7
GDP	64.9	62.4	41.4	109.2	90.9	91.1	32.5	37.8	100.3	95.3	41.7
GDP/GNI	0.02%	0.02%	0.01%	0.03%	0.02%	0.02%	0.01%	0.01%	0.02%	0.02%	

In this study, the recommendations of the GNI Expert Group on Missing Trader VAT fraud (GNIG/085 Rev.1) are applied.

Recommendation	Compliance
<p>R1. Member States should check on an annual basis the existence of transactions in MT VAT fraud and assess the significance of this phenomenon and the need for possible adjustments in national accounts, if and where appropriate. If the initial investigation for a certain country for a certain year demonstrates that the possible existence of the MT VAT fraud is non-material, the investigation for that country and that year can stop at that point. Alternatively, the checks on the existence of such transactions and the assessment of their materiality or non-materiality could be done only for the benchmark year. However, in this alternative case, member states should also provide adequate justification for the same conclusion for the years in between the benchmark years by using for example appropriate indicators or other relevant evidence.</p>	<p>Yes, the existence of MT VAT fraud was checked on an annual basis. It was found to be non-material for the period 2010-2019.</p>
<p>R2. NSIs are recommended to cooperate closely with the responsible Tax Authorities/Ministries of Finance/Customs authorities and gather qualitative and quantitative information that will enable the identification of the different variants of this MT VAT fraud in the country and if possible, its significance in monetary terms (information on the value of MT VAT fraud (non-collected VAT or unduly paid refunds of VAT)). NSIs should investigate the possibilities to have access to tax audit/ inspection and/or criminal tax investigations outcomes to assess the actual amplitude and impact of MT VAT fraud to adequately reflect this in the national accounts.</p>	<p>Yes. The cooperation with the specific unit dedicated to the fight against MT VAT fraud was very good.</p>
<p>R3. Within the NSIs, all the available information should be utilised in order to investigate the data sources used for national accounts and to assess whether these sources capture such transactions and to what extent. This investigation should be done at least at the initial stage of examining this phenomenon and it should cover the Business Register, the SBS and the sources used for the foreign trade statistics (exports and imports of goods) among others. This investigation should lead to a conclusion on the data sources that could be used in their approach to deal with the MT VAT fraud.</p>	<p>Information coming from the MoF shows that the MT VAT fraud is currently under control in Belgium. Such investigation is not necessary at this stage.</p>
<p>R4. In order to assess whether the identified transactions in MT VAT fraud do impact the relevant aggregates in the national accounts, Member States should follow the Decision tree attached in Annex 2. In this context, the change of economic ownership and the existence of mutual consent (ESA2010, para.1.79) are the main aspects to take into consideration in this assessment.</p>	<p>Yes, the decision tree was followed. Change of economic ownership and the existence of mutual consent was considered.</p>
<p>R5. The decision on existence of the change of economic ownership in carousel fraud should not be automatic, it should rely on some evidence e.g., qualitative information from tax authorities. Furthermore, any justified and plausible assumption has to be reviewed frequently to check whether this is still valid. As for the impact on GDP/GNI, it is determined by the extent to which the transactions related to fraud are captured by the data sources and the several adjustments (exhaustiveness, balancing etc.). All possible aspects with respect to the change of economic ownership (change or no change) are covered in the decision tree.</p>	<p>Not relevant: carousel fraud was not present in Belgium in the period 2010-2019.</p>

R6. In choosing whether to make the necessary adjustment to the output or the IC, appropriate consideration should be taken into account for the supply and use balancing or for the estimation of the theoretical VAT, as the final choice should not cause distortions in the balancing decision on other products (not involved in the fraud).	Not relevant: MT VAT fraud is non-material in Belgium in the period 2010-2019.
R7. Carousel fraud is usually accompanied by a misreported trade surplus (exports are recorded, imports not). It should be demonstrated that adjustments are (implicitly or explicitly) made in the national accounts to correct for this misreporting. Alternatively, it should be demonstrated that no material misreporting takes place.	Not relevant: MT VAT fraud is non-material in Belgium in the period 2010-2019.
R8. Either top-down or bottom-up approaches can possibly be used to deal with MT VAT fraud, depending on the availability of relevant information in each country as well as on the appropriate assessment of the country-specific strengths and limitations in each case. In the same context, estimates on MT VAT fraud that may be available in some cases directly from the Tax authorities can possibly be used if the definitional and conceptual consistency is checked beforehand so that these direct estimates can expectedly lead to results that are comparable with those that would have been achieved through independent NA estimates.	The MoF uses a bottom-up approach to detect fraud. Estimates of MT VAT fraud are available directly for the Tax authorities. These estimates are considered as fully reliable for NA compilation purpose.
R9. If a Member State can demonstrate that its approach to deal with MT VAT fraud addresses all the issues raised by the GNIG SG, either by following the agreed recommendations or by using an alternative approach which can produce results that are comparable as those from the agreed recommendations, then the Member State's approach can be considered acceptable. The work undertaken should be properly documented.	OK. The work is described in this document.
R10. Finally, the used approach should be adequately described, including numerical information, in the GNI Inventory.	The MT VAT fraud item will be added to the 2021 GNI inventory to be closed by the end of 2021.

7.1.3.9 Other method: VAT fraud and estimate for the non-observed economy (N6)

In practice, there is an overlap between hidden labour and tax fraud.

A registered enterprise may commit tax fraud by working with undeclared labour: undeclared overtime work by registered staff, or activities performed by unregistered staff.

An unregistered enterprise that (by definition) works purely with hidden labour is at the same time committing tax fraud. Note that it may be assumed that the VAT fraud that is committed in this case is pure VAT fraud with complicity. Should this relate to VAT fraud without complicity, and then VAT is deductible by the purchaser, then the clandestine corporation runs the risk of being discovered²¹¹.

In practice, due to the lack of meaningful information, it is not possible to make a separate estimate for VAT fraud (FwoC) and hidden activities (tax fraud excluding VAT fraud - FwC). Both types of fraud go together: turnover related to VAT fraud is not declared by the producers.

The corrections made to transform "administrative aggregates" into "ESA 2010 aggregates" for the non-observed economy is adjustment (y) in sectors S.11 and S.14. Since there is no available information that allows a separate adjustment for (i) value added resulting from unrecorded labour and undeclared taxable income and (ii) VAT fraud, an overall adjustment per SUT-branch and sector is estimated. The global adjustment (y) covers implicitly FwoC. It is set up in a way that it is guaranteed that the transactions related

²¹¹ Conversely it does not necessarily apply that all VAT fraud with complicity is committed by clandestine corporations.

to FwoC are including VAT and those related to FwC are without VAT. Grossing up percentages for correction (y) are calculated bearing in mind this objective. Moreover, the total estimate for black economy is checked in the SUT framework. The expenditure side of hidden activities is calculated at market price, so including VAT for FwoC purchases, and excluding VAT for FwC purchases.

This adjustment (y) is described in section 3.4.2 for S.11 and 3.4.4 for S.14. It refers only to the N6 category of non-exhaustiveness.

Because of the nature of the NOE, the estimate is largely based on indirect information and expert opinion, rather than observations. These opinions are gathered not only in the field of statistics and national accounts, but also in the fields of tax audit, social audit, and scientific research.

Some key assumptions are put forward to estimate the value added realized in the NOE:

- General government (S.13) and public corporations are not involved in the NOE.
- Financial corporations (S.12) are not involved in the NOE.
- Non-profit institutions serving households (S.15) are not involved in the NOE.
- Industries or transactions that are estimated using a price times quantity approach need no adjustment for the NOE; it is supposed that the hidden activities and enterprises are included in this approach (e.g., dwelling services and investment in dwellings by households).
- Large companies, which are audited, are unlikely to hide turnover and/or overstate expenses. Large companies must provide a “full” accounting scheme. An enterprise is regarded as large if it has exceeded at least two of the following ceilings: annual average employment: 50; turnover (excluding VAT): € 9 000 000; balance sheet total: € 4 500 000²¹², or, if it is listed. In all other cases, enterprises are classified as medium sized or small (abbreviated scheme). Grossing up for the NOE takes place for these SM units only. The scope of SME's is defined using the characteristics of the enterprises that are allocated during the compilation process of the repertory. Basically, the size of the enterprise, measured by balance sheet total, number of employees and turn-over, complemented with legal form of the enterprise and some other criteria, determines the category in which an enterprise is classified (for a description of the categories, see Inventory § 1.3.3.). The categories of enterprises for which the adjustment “y” is calculated are categories B1, B2, B3, C1, C2 and E2.
- Small and medium sized businesses - incorporated (S.11) and unincorporated (S.14) - are more likely to contribute to the NOE. For these units an adjustment for turnover, purchases and wages is estimated. This results in an estimate for “black” value added and wages.
- The major contributors to the NOE are the industries that produce goods and services destined to final consumption or gross fixed capital formation of households.
- Activities of the NOE (apart from illegal activities) do not generate import nor export flows.

This overall adjustment is calculated by applying coefficients to turnover and purchases calculated in phase 1 of the compilation process (administrative aggregates) on a very detailed level, often Nace 3-digit or 4-digit level. The coefficients used for the non-financial corporations (S.11) are different from those used for the unincorporated businesses (S.14).

For most industries, both turnover and purchases are adjusted. The rationale behind the adjustment of both is that producers who produce “hidden” output (which they do not declare to the (tax) authorities) want to ensure that the ratio between declared turnover and declared purchases remains acceptable to the (tax) authorities. In the scenario that they would not declare the “hidden” output but would register the intermediate consumption used in the “hidden” production in their official accounts, (tax) auditors would soon find out, or at least there is a high risk they would, that the input/output ratio is not in accordance with the normal production process. In doing so, they would suffer a high risk of discovery. As we assume that producers involved in the NOE are rational and want to reduce the risk of being discovered, they will not register the intermediate consumption that is linked to the hidden output in their accounts. Hence in calculating the NOE, the intermediate consumption should be estimated as well as the production.

In defining the percentage to gross up the intermediate consumption, the input/output ratio as can be derived from the administrative aggregates is a valuable item. However, this ratio is corrected by changing the input in the sense that all products that can be considered as “overhead” are eliminated from the input. The information to do so is retrieved from the latest available SUT. The logic behind this choice is that in

²¹² Thresholds in use from 18/12/2015 onwards.

generating non-reported output, the input of goods and services that are not involved in the production process would not evolve accordingly. Only the inputs directly needed to realize the non-reported output should be estimated.

Furthermore, in determining the percentage of the grossing up of the intermediate consumption, the overstating of expenses (intermediate consumption) to evade income tax, value added tax, social contributions or other taxes is considered. The percentage applied per branch (on average 0,15 % of total purchases of goods and services) is based on the expert opinion of fiscal auditors who have the recurrent experience that producers, especially households and small and medium sized enterprises, tend to overstate their expenses to reduce the taxable base. Hard facts to determine the exact importance of this practice are impossible to find.

In a nutshell, the intermediate consumption for N6 adjustment is calculated in the following 3 steps:

- i. As a first step the IC/Output ratios from administrative files are taken to calculate the missing IC for the extra output.
- ii. In a second step an adjustment is made to filter out overhead cost.
- iii. In a third step, a further adjustment is made (avg 0.15%) to calculate the over-reporting of IC.

The percentages used to gross up the administrative aggregates are compiled on a detailed level and are based on every available kind of information. This is not always hard information in the sense of precise figures, but often involves indications, opinions, and common sense. The percentages that are now used to determine the NOE in the national accounts are tested on their plausibility using the framework of the supply and use tables (SUT).

In this framework, the supply of goods and services is put against the use of them in the national economy. A satellite account of the NOE is made using this framework to check in particular the percentages and assumptions used to calculate the NOE in the Belgian national accounts. Balancing the related industries and products in the SUT framework suggests that the current estimate for NOE is plausible and provides no elements that updating parameters should be necessary.

As in most other European countries, the non-observed economy is most greatly developed in industries that supply most of their production to households (private individuals). This applies among other things for the construction industry (e.g., for building installation and building completion), the retail trade, the maintenance and repair of motor vehicles, hotels restaurants and cafés (horeca), the activities of doctors, dentists and veterinarians, and other services to private individuals.

The coefficients for adjustment (γ) were revised within the implementation of ESA2010 in 2014. Coefficients are revised when new material information becomes available or when the balancing of the Supply and Use Tables proves to be difficult for products/industries that are heavily involved in the NOE (for instance construction, horeca). The supply and use tables for 2015, 2016 and 2017 were recompiled after the 2019 benchmark revision. The balancing procedures, especially for the products typical involved in the NOE, showed that there was no need to modify the estimates for exhaustiveness for now.

However, in the horeca activities, the Government requested the compulsory use of a new type of cash registers. These cash registers are supposed to fight against tax fraud. The whole sector complains about these new cash registers, as it is more difficult to hide activities. This new type of cash register has been progressively in use since January 2016, but most of the restaurants and cafés postponed the installation of these new cash registers the latest possible. So, we consider adapting the grossing-up percentage for horeca from the year 2019 onwards. This is the kind of information that can trigger a revision of the parameters. This will be analysed within the next benchmark revision, also considering the impact of the COVID-19 crisis.

7.1.3.10 Integration of the non-observed economy in the SUT-framework

An integrated calculation of GDP from the output, expenditure and income side takes place in the framework of the SUT, which covers 135 branches and 350 products. In view of the integration of data from various sources, using the SUT-framework is the most appropriate method to obtain an exhaustive estimate of GDP. In the future, the efforts to improve exhaustiveness estimates will therefore be developed further primarily within this framework.

An initial estimate for exhaustiveness is made in the production approach using administrative data and coefficients. The equivalent of the production-side estimate must be found on the expenditure-side. The framework of the SUT, in which the production- and expenditure-side are integrated, is used to evaluate the consistency and the plausibility of the initial estimates.

The calculation via the production approach using administrative data and grossing up percentages as described above presents the initial estimate of the NOE. To check whether this estimate is valid and realistic when being confronted with the expenditure approach, all estimates are put together in the supply and use tables (SUT) framework. This SUT framework is used for its statistical purpose: identifying data gaps and ensuring the consistency and coherence of the approaches used in determining GDP.

When analysing the NOE (N6) adjustment, specific SUT are compiled for the NOE separately, in order to analyse the coherence and consistency of the estimates made, given the assumptions taken. Later, usual SUT are compiled including the NOE corrections.

The supply that is generated by producers operating in the NOE (excl. illegal producers) is used within the economy. Hence, the NOE supply consists of output of goods and services and the trade margins generated on goods.

In principle all kinds of domestic use would be possible as destinations of the output produced in the NOE:

- Intermediate consumption is the input of goods and services needed in the production process.
- The largest part of the output generated by “hidden” producers is used as final consumption by households. In this case, there are almost no traces to the hidden activities as households do not have the possibility to deduct VAT paid nor to deduct their expenses to reduce their income taxes.
- Part of the gross fixed capital formation is produced in “hidden” activities. This is the case in the construction or renovation of dwellings that will be occupied by the owners. The construction of the dwellings is considered as a GFCF of households, and a portion of the construction/renovation work is done by the owner himself or with the help of family and friends, who are not registered producers.

As regards the GFCF in other assets (acquired by corporations or unincorporated businesses), one could expect that there would be only a marginal fraction that comes from hidden activities, as VAT paid on these acquisitions is deductible from the VAT received from customers and investments lower the income tax base over time via the annual fiscal depreciations.

The plausibility check is done using the latest benchmark SUT. The results of the check show that:

- Domestic output is grossed up by more than 3 % for N6 exhaustiveness. The biggest adjustments are made in construction, wholesale and retail trade, repair of motor vehicles and motorcycles; transportation and storage; accommodation and food service activities, arts, entertainment, repair of household goods and other services and professional, scientific, and technical activities; administrative and support service activities.
- The trade margins, as part of the domestic output, increase with around 8 % because of the NOE-activities.
- The intermediate consumption is accordingly adjusted; the most important adjustments are in the construction industry.
- Figures for GFCF include an overall adjustment to take the NOE into account, especially in the construction of dwellings.
- An adjustment of more than 4 pct. is integrated in the final consumption of households to include the NOE.

The SUT analysis is done for all activities, but a more elaborate analysis of the NOE within the SUT framework was done for the construction industry. The construction industry gathers all enterprises that are producing non-residential buildings and dwellings and that do the finishing and equipping (heating, electricity work, plumbing, etc.) of those constructions.

Enterprises that are involved in the construction of engineering work (NACE 42: bridges, railroads, dredgers etc.) are also part of this industry. Because civil engineering companies almost exclusively work for the government or for other large companies (in Belgium and abroad), no adjustments for the NOE are made in their case.

In 2016, the construction industry generated € 69692 million of output resulting in € 19678 million of value added. More than a fifth of this value added (€ 4411 million) was produced within the NOE. The “hidden” output of the construction industry added up to € 10344 million consuming hidden inputs of goods and services for € 5933 million.

By using the SUT-framework, the intermediate consumption is broken down into manufactured goods (i.e., building materials) and construction services. The actors of these construction services are subcontractors active in the construction industry, but also households building/renovating their own dwellings, who are not obliged to register as a producer.

The portion of the output of construction services that is not used in the production process of construction services (subcontractors - intermediate consumption) is allocated to gross fixed capital formation.

The GFCF in buildings is estimated using a different methodology, depending on the sort of construction:

- For dwellings, a price times quantity method is used. Quantities are derived from the number of building permits allowed and prices are gathered via a bi-annual survey, specially designed and targeted to contractors specialized in the construction of dwellings.
- For non-residential buildings the sources used are the annual accounts and the VAT-statements of the investing companies.

For the construction services produced in the NOE, the assumption is made that for the output allocated to GFCF, no more than 10 % should be allocated to the capital formation of non-residential buildings while at least 90 % should be allocated to the capital formation of dwellings. This refers to the basic assumption that NOE appears mostly when private persons and/or final consumers are involved.

There is the logical assumption that enterprises require an invoice for the assets purchased – in this case buildings - to claim the expenses in their tax statements. So, they will not excessively purchase these kinds of goods when they are produced in the NOE and thus delivered without invoice

The households on the other hand do not have the possibility to claim their expenses. Therefore, the need for invoices is not so important as for the enterprises.

The capital formation of dwellings by households is estimated roughly by multiplying the number of permits obtained to construct dwellings (and renovations) and the price of the construction of a dwelling²¹³. The data sources used to estimate the expenditure approach are totally different to those used to estimate the production approach. Information on the number of building permits is obtained from the official government bodies, while information about the price of dwellings is gathered via a survey targeting building contractors. Consequently, there is no NOE adjustments in GFCF-construction in the expenditure approach as GFCF-construction has already made exhaustive during earlier steps of calculations (e.g., using the price time quantity method). The NOE adjustment on the production approach is made to bring this approach in line with the figures on the expenditure side.

In 2016, the hidden output of the construction industry adds up to € 10344 million, of which approximately 95% in construction services and about 5% in other goods and services. To produce that output, € 5 933 million were needed as intermediate consumption, of which approximately 80% in construction services. The hidden output corresponds with the construction services produced by private persons constructing their own dwellings as well as construction professionals underreporting and offering their services in a hidden way to contractors and other construction companies. The first part, dwelling “for own account”, counts for more than half of the construction services produced as hidden output in the construction industry. The remaining part is used as intermediate consumption.

²¹³ See chapter 5.10 for more details.

The SUT confrontation of the capital formation of dwellings and the output of construction services related to the production of dwellings showed that on the production side, there was a lack corresponding approximately to the equivalent of the hidden output estimated. On the expenditure side, GFCF of dwelling is calculated using a price times quantity approach, which has no direct link to the sources used in estimating the production approach.

7.2 ALLOWANCE FOR EXHAUSTIVENESS IN THE EXPENDITURE APPROACH

Type	Description	Type of expenditure
N1	Producer should have registered	P.3_S.14
N2	Illegal producer that fails to register	P.3_S.14, P.6, P.7
N4	Registered legal person is not included in the statistics	P.3_S.14, P.51_S.11, P.51_S.12, P.51_S.15
N7	Statistical deficiencies in the data	P.3_S.14

Exhaustiveness estimates for the expenditure approach are made explicitly and independently from the output approach. However, for types N1 and N2 (undeclared wages in activity T and illegal activities), the nature of the adjustments creates consistency within the SUT framework.

The imputation in the expenditure side for items **N1** (domestic personnel not reported), is clear: final consumption expenditure by households (€ 457 million in 2016). The estimation method is the same and consistent with the production approach.

For **N2**, apart from P.3_S.14 (€ 1503 million), import (€ 334 million) and export (€ 773 million) of goods and services are also impacted. The consistency with the production approach is shown in the tables and comments of section 7.1.3.2. There is a compensation for intermediate consumption (IC) of producers of prostitution services and smuggling of tobacco products in HFCE. To avoid double-counting, it is assumed that IC for smuggling was already included in final consumption expenditure estimates for transport (COICOP 07). It is also assumed that IC for prostitution was already included in estimates for housing services (COICOP 04). For drugs, the intermediate consumption is assumed to be included in importations.

Adjustment **N4** concern, on one side, P.3_S.14. It covers estimates extrapolated from the benchmark year 2010 and based on HBS results that are levelled up to consider collective households and disposable income of households as estimated in national accounts instead of disposable income of households as estimated in HBS (P.3_S.14: €7 344 million – see also section 7.1.3.5). On the other side, it also includes GFCF extrapolation of purchased software for units that did not fill any SBS (P.51: € 512 million).

Adjustment **N7** covers a compensation for statistical deficiencies in P.3_S.14 data, given experience of previous balancing processes. Before the 2019 benchmark revision, this amount was allocated by expenditure categories which use the HBS as main source. Now, we identify which product should be increased within a SUT analyse, instead of applying a proportional final arbitrage. Within 2019 benchmark revision, a balancing procedure via SUT was introduced from the reference year 2015 onwards. In 2016, the total amount added within this SUT procedure is equal to € 1921 million.

Tips are implicitly included in HFCE. For the concerned activities/products (horeca, taxis, hairdressing), final consumption is estimated based on the results of the *Household budget survey*. In this survey, it is requested to include tips in the amount of the reported purchases. Tips are included in HFCE, but not shown separately, as there is no specific product (COICOP category) for them.

Tips paid by foreigners/tourists are included in P.33/P.34 and in P.62/P.72. These variables are calculated on the basis on BoP data. For BoP purpose, purchases by foreigners in cash and by card are estimated. Tips are included in these estimates but are not shown separately in the data.

The impact of tipping in the production and expenditure approaches are reconciled in the SUT framework.

Table 7.13 Exhaustiveness by expenditure

2016 - € Mil.	N1	N2	N4	N7	Total exhaustiveness adjustments
Household final consumption expenditure	457	1 503	7 344	1 921	11 225
NPISH final consumption expenditure	0	0	0	0	0
General government final consumption expenditure	0	0	0	0	0
Gross fixed capital formation	0	0	512	0	512
Changes in inventories	0	0	0	0	0
Export of goods	0	728	0	0	728
Export of services	0	45	0	0	45
Imports of goods	0	-275	0	0	-275
Imports of services	0	-59	0	0	-59
Total	457	1 942	7 856	1 921	12 175

Table 7.14 Types and elements of non-exhaustiveness by exhaustiveness method – Total expenditure

Types and elements of non-exhaustiveness in the expenditure approach	Exhaustiveness methods						Total
	HBS Survey	Administrative data, academic studies and reasonable assumptions	Administrative data and reasonable assumptions	Specific study in 2015 by KULeuven and some reasonable assumptions	Extrapolation SBS	SUT method	
N1							
Undeclared wages paid by households for employing	457						457
N2							
Illegal economy - drugs		1 099					1 099
Illegal economy - smuggling			126				126
Illegal economy - prostitution				716			716
N3							
N4							
Extrapolation P.3_S14	7 344						7 344
Purchase of software P.51					512		512
N5							
N6							
N7							
Extrapolation P.3_S14						1 921	1 921
Total	7 801	1 099	126	716	512	1 921	12 175
%	64%	9%	1%	6%	4%	16%	100%

7.3 ALLOWANCE FOR EXHAUSTIVENESS IN THE INCOME APPROACH

The next table shows the split-up of the exhaustiveness adjustment (€ 20.036 million) over wages and operating surplus/mixed income by industry and sector.

Table 7.15: Exhaustiveness adjustments by industry, sector, and type

Sum of D.1							Sum of B2.g						
Row Labels	N1	N2	N3	N6	N7	Grand Total	Row Labels	N1	N2	N3	N6	N7	Grand Total
A		0	0	4	4	8	A		68	124	37	0	229
S.11				4	4	7	S.11				24	0	24
S.14		0	0	1		1	S.14		68	124	14		206
C		8		108	561	677	C		705		349	0	1054
S.11		8		90	561	660	S.11		705		256	0	961
S.14				17		17	S.14				93		93
D					65	65	D					0	0
S.11					65	65	S.11					0	0
E				2	21	23	E				10	0	10
S.11				2	21	23	S.11				10	0	10
S.14				0		0	S.14				0		0
F				910	155	1065	F				3503	0	3503
S.11				848	155	1003	S.11				2336	0	2336
S.14				62		62	S.14				1167		1167
G		0		834	583	1417	G		444		3206	0	3650
S.11				759	583	1342	S.11				2493	0	2493
S.14		0		75		75	S.14		444		713		1157
H				53	124	177	H				158	1	159
S.11				50	124	174	S.11				126	0	126
S.14				3	0	3	S.14				32	1	33
I				311	614	925	I				1128	59	1186
S.11				229	567	795	S.11				573	0	573
S.14				83	47	130	S.14				555	59	613
J				41	362	403	J				144	0	144
S.11				41	270	311	S.11				134	0	134
S.12					92	92	S.12					0	0
S.14				0		0	S.14				10		10
K				0	0	0	K				13	0	13
S.14				0		0	S.14				13		13
L				31	20	51	L				344	0	344
S.11				28	20	49	S.11				331	0	331
S.14				3		3	S.14				12		12
M				134	297	430	M				951	0	951
S.11				113	297	409	S.11				494	0	494
S.14				21		21	S.14				457		457
N				108	175	283	N				455	0	455
S.11				95	175	270	S.11				305	0	305
S.14				13		13	S.14				149		149
P				0	6	7	P				24	0	24
S.11					6	6	S.11					0	0
S.14				0		0	S.14				24		24
S.15					1	1	S.15					0	0
Q				48	78	126	Q				889	0	889
S.11				46	77	122	S.11				650	0	650
S.14				2		2	S.14				240		240
S.15					1	1	S.15					0	0
R				41	16	57	R				234	0	234
S.11				39	15	54	S.11				161	0	161
S.14				2		2	S.14				73		73
S.15					0	0	S.15					0	0
S		0		28	40	68	S		716		232	4	952
S.11				16	36	52	S.11				108	0	108
S.14		0		12	3	15	S.14		716		125	4	845
S.15					1	1	S.15					0	0
T	457					457	T	0					0
S.14	457					457	S.14	0					0
Grand Total	457	8	0	2 651	3 122	6 238	Grand Total	0	1 933	124	11 677	64	13 797

Sum of D.1							Sum of B2.g						
Row Labels	N1	N2	N3	N6	N7	Grand Total	Row Labels	N1	N2	N3	N6	N7	Grand Total
S.11		8		2 358	2 976	5 342	S.11		705		8 000	0	8 706
S.12					92	92	S.12					0	0
S.14	457	0	0	293	51	801	S.14	0	1 228	124	3 676	64	5 092
S.15					3	3	S.15					0	0
Grand Total	457	8	0	2 651	3 122	6 238	Grand Total	0	1 933	124	11 677	64	13 797

As the income approach is not estimated independently, the impact of exhaustiveness adjustment by category is the same as in the output approach. The value added linked to exhaustiveness adjustments appears as operating surplus in S.11 (€ 8 706 million), in mixed income in S.14 (€ 5 092 million) and in compensation of employees (€ 6 238 million).

The employment of non-registered domestic personnel (**N1**) has an impact on wages only (€ 457 million).

It is assumed that no material wages - only € 8 million - is paid by producing illegal goods and services (**N2**) which implies that virtually all income generated in illegal activities appears as operating surplus (in S.11 - € 705 million) and mixed income (in S.14 - € 1228 million).

The production of home-grown vegetables for own consumption (**N3**) generates a mixed income (€ 124 million).

The payment of tips and wages and salaries in kind (**N7**) is reflected in higher wages. The adjustment for tips/gratuities is calculated in the same way as for production approach. For sector S.11, the whole amount is added in the remuneration of employees. For sector S.14, a portion is added in remuneration of employees. Another portion (€ 64 million) is allocated to the gross mixed income (tips for self-employed people). Whatever this distinction, the impact on GDP/GNI is the same as for the production approach. The allocation between D.1 and B.3G for households is calculated by activity, based on the allocation of total B.1G between D.1 and B.2g/B.3g by industry.

The correction for fiscal fraud (**N6**) gives rise to the payment of € 2651 million of undeclared wages and generates € 8000 million of operating surplus and € 3676 million of mixed income.

The undeclared wages paid by S.14 are quite small because most unincorporated businesses have no employed staff. They are paid “net” (without social contributions or income tax). The mixed income is calculated by difference between the undeclared value added for S.14 and the undeclared wages paid in S.14.

In S.11, ‘black’ wages are estimated considering that they are paid “net” (without social contributions or income tax). This explains why the ratio D1/B1g is much lower in the non-observed economy than in the official economy (reflected in official administrative sources e.g., annual accounts). The operating surplus is calculated by difference between the undeclared value added for S.11 and the undeclared wages paid in S.11.

In the Belgian national accounts, no independent estimate is made for GDP according to the income approach (see Inventory §1.4 and §4). For all industries, operating surplus and mixed income are calculated as the balance between the value added in basic prices and (compensation of employees (D.1) + net other taxes on products (D.29-D.39)). We do the same for the NOE.

With the changeover to ESA 2010 in 2014, new extrapolation coefficients for the black economy had been defined for value added, with no corresponding impact for the estimates of undeclared wages (and employment). This situation had to be improved. Within the 2019 benchmark revision, the split between wages and operating surplus/mixed income for N6 adjustment was revised.

The new method for estimating this black-market remuneration is based on the coefficients defined for value added, while taking account of the fact that, by the very definition of undeclared work, no employer contributions, nor any payroll tax are levied. It implies an upward revision of compensation of employees, and more particularly of its “gross wages and salaries” component, for the private sector, especially in the construction, catering and wholesale, retail trade and repair branches. As the operating surplus/mixed income is calculated as balance, this revision has no impact on the level of GDP, but only on its composition in the income approach.

7.4 SUMMARY OF THE EXHAUSTIVENESS ADJUSTMENTS

The following table gives an overview of the exhaustiveness adjustments by sector and by industry for the year 2016 (in € million)

Table 7.16: exhaustiveness adjustments by sector and by industry for the year 2016 (in € million)

		N1+N3+N6	N2	N7	Total Other	Total
Non-financial corporations (S.11)		10 357	713	2 976	218 852	232 899
A	Agriculture, forestry and fishing	27	0	4	1 219	1 249
B_E	Manufacturing, energy, water	358	713	648	59 718	61 437
F	Construction	3 182	0	155	13 751	17 089
G_H	Trade, repair, transportation and storage	3 428	0	707	55 060	59 195
I	Accommodation and food services	802	0	567	4 246	5 614
J_T	Other services	2 561	0	896	84 858	88 314
Households (S.14)		4 550	1 228	115	54 307	60 200
A	Agriculture, forestry and fishing	138	68	0	1 247	1 454
B_E	Manufacturing, energy, water	110	0	0	1 038	1 148
F	Construction	1 229	0	0	1 361	2 590
G_H	Trade, repair, transportation and storage	823	444	1	1 553	2 821
I	Accommodation and food services	637	0	106	790	1 533
J_T	Other services	1 613	716	7	48 318	50 654
L	of which real estate activities	15	0	0	28076	28091
T	of which households as employers	457	0	0	0	457
Financial corporations (S.12)		0	0	92	24 791	24 883
Government (S.13)		0	0	0	62 679	62 679
NPI's serving households (S.15)		0	0	3	3 370	3 373
Total economy		14 907	1 942	3 185	363 998	384 033
D.21-D.31						46 053
GDP						430 085

N2: illegal economy

N7: wages in kind and tips

N1+N3+N6: other adjustments (mainly adjustments for underreporting of income/value added)

Expressed as a % of value added by sector/industry, we obtain the following results for 2016:

Table 7.17: Exhaustiveness adjustment as percentage of added value by sector/activity

		N1+N3+N6	N2	N7	Total exhaustive ness	Total observed activities	Total
Non-financial corporations (S.11)		4,4%	0,3%	1,3%	6,0%	94,0%	100,0%
A	Agriculture, forestry and fishing	2,2%	0,0%	0,3%	2,5%	97,5%	100,0%
B_E	Manufacturing, energy, water	0,6%	1,2%	1,1%	2,8%	97,2%	100,0%
F	Construction	18,6%	0,0%	0,9%	19,5%	80,5%	100,0%
G_H	Trade, repair, transportation and storage	5,8%	0,0%	1,2%	7,0%	93,0%	100,0%
I	Accommodation and food services	14,3%	0,0%	10,1%	24,4%	75,6%	100,0%
J_T	Other services	2,9%	0,0%	1,0%	3,9%	96,1%	100,0%
Households (S.14)		7,6%	2,0%	0,2%	9,8%	90,2%	100,0%
A	Agriculture, forestry and fishing	9,5%	4,7%	0,0%	14,2%	85,8%	100,0%
B_E	Manufacturing, energy, water	9,6%	0,0%	0,0%	9,6%	90,4%	100,0%
F	Construction	47,5%	0,0%	0,0%	47,5%	52,5%	100,0%
G_H	Trade, repair, transportation and storage	29,2%	15,7%	0,0%	44,9%	55,1%	100,0%
I	Accommodation and food services	41,6%	0,0%	6,9%	48,5%	51,5%	100,0%
J_T	Other services	3,2%	1,4%	0,0%	4,6%	95,4%	100,0%
L	of which real estate activities	0,1%	0,0%	0,0%	0,1%	99,9%	100,0%
T	of which households as employers	100,0%	0,0%	0,0%	100,0%	0,0%	100,0%
Financial corporations (S.12)		0,0%	0,0%	0,4%	0,4%	99,6%	100,0%
Government (S.13)		0,0%	0,0%	0,0%	0,0%	100,0%	100,0%
NPI's serving households (S.15)		0,0%	0,0%	0,1%	0,1%	99,9%	100,0%

Expressed as a % of GDP, we obtain the following figures:

		N1+N3+N6	N2	N7	Total non observed economy
Non-financial corporations (S.11)		2,41%	0,17%	0,69%	3,27%
A	Agriculture, forestry and fishing	0,01%	0,00%	0,00%	0,01%
B_E	Manufacturing, energy, water	0,08%	0,17%	0,15%	0,40%
F	Construction	0,74%	0,00%	0,04%	0,78%
G_H	Trade, repair, transportation and storage	0,80%	0,00%	0,16%	0,96%
I	Accommodation and food services	0,19%	0,00%	0,13%	0,32%
J_T	Other services	0,60%	0,00%	0,21%	0,80%
Households (S.14)		1,06%	0,29%	0,03%	1,37%
A	Agriculture, forestry and fishing	0,03%	0,02%	0,00%	0,05%
B_E	Manufacturing, energy, water	0,03%	0,00%	0,00%	0,03%
F	Construction	0,29%	0,00%	0,00%	0,29%
G_H	Trade, repair, transportation and storage	0,19%	0,10%	0,00%	0,29%
I	Accommodation and food services	0,15%	0,00%	0,02%	0,17%
J_T	Other services	0,37%	0,17%	0,00%	0,54%
L	<i>of which real estate activities</i>	0,00%	0,00%	0,00%	0,00%
T	<i>of which households as employers</i>	0,11%	0,00%	0,00%	0,11%
Financial corporations (S.12)		0,00%	0,00%	0,02%	0,02%
Government (S.13)		0,00%	0,00%	0,00%	0,00%
NPI's serving households (S.15)		0,00%	0,00%	0,00%	0,00%
Total economy		3,47%	0,45%	0,74%	4,66%

The integration of the illegal economy and of wages in kind and tips has a relatively modest impact on GDP (resp. 0.45 % and 0.74 %). The adjustments for underreporting/fiscal fraud (incl. the estimate of black wages paid to domestic personnel) however are more substantial (3.47 % of GDP).

A significant part of GDP is fraud-insensitive: no adjustment is made for the value added of the general government, the financial sector and units belonging to S.15. The estimation method for agriculture (NACE 01 to 05) and dwelling services is a price*quantity approach which is not distorted by possible fraud either.

The adjustment for fiscal fraud (N1+N3+N6) in S.11 is € 10 357million or 4,4 % of total value added produced by non-financial corporations. The adjustment in manufacturing industry, energy and water is low because large corporations - whose value added is not adjusted – represent more than 90 % of the total value added here. In the other activities within S.11, the grossing up for underreporting is higher.

For households (S.14) the adjustment for fiscal fraud (N1+N3+N6) is estimated at € 4 550 million or 7.6 % of total value added. The calculation of value added in agriculture is based on detailed quantity and price data derived from the economic accounts of agriculture and is therefore largely fraud insensitive. But for NACE codes 016 (support activities to agriculture), 02 (forestry) and 03 (fishing), adjustments are estimated because in these industries value added is also compiled based on administrative sources (annual accounts and VAT-declarations). The estimate of value added relating to the production of housing services is also a price*quantity approach and therefore fraud-insensitive²¹⁴. For the private households with employees (NACE 97), an average hourly rate is applied to an estimated number of hours worked. The adjustment for fiscal fraud is considerable in construction, trade and transportation and hotels, restaurants, and cafés (between one third and half of total value added). When dwelling services are excluded, the average adjustment for underreporting in S.14 amounts is closed to 1/5 of total value added.

²¹⁴ An adjustment is only estimated for self-employed real estate agents whose activity is also included in this NACE heading.

CHAPTER 8

Transition from GDP to GNI

8.0 INTRODUCTION

Table 8.1: transition items from GDP to GNI

Variables		2016 data (in € mil.)
GDP	(a)	430 085
Compensation of employees received from RoW	D.1	9 584
Compensation of employees paid to RoW	D.1	-3 069
Taxes on production and imports paid to EUI	D.2	-1 827
Subsidies granted by EUI	D.3	658
Property income received from RoW	D.4	52 036
Interest	D.41	16 783
Distributed income of corporations	D.42	19 631
Reinvested earnings on FDI	D.43	12 752
Other investment income	D.44	2 870
Property income paid to RoW	D.4	-53 257
Interest	D.41	-15 234
Distributed income of corporations	D.42	-25 733
Reinvested earnings on FDI	D.43	-11 740
Other investment income	D.44	-550
Net primary income received from Row	(b)	4 125
GNI	(a)+(b)	434 211

In Belgium, non-financial accounts, financial accounts, and balance of payments are compiled within the same institution, i.e., the central bank. Non-financial accounts are compiled by the central bank for the account of the National accounts institute.

All items are estimated in cooperation with the BoP compilers. There is full consistency between BoP and national accounts for all reference years from 2009 onwards for all transition items, although minor discrepancies might appear, due to vintage and different revision policies between NA and BoP. The ESA2010 and BPM6 manuals are fully implemented in the compilation of D.1 to D.4 variables.

The transition items are described in the sections below.

8.1 COMPENSATION OF EMPLOYEES (D.1)

The main sources used to identify compensation of employees for resident people working for non-resident employers and non-resident workers working for resident employers are administrative and statistical sources:

- National institute for sickness and invalidity insurance (INAMI)
- FPS Foreign affairs
- National social security office (NSSO)
- Annual accounts of some large international institutions
- Brussels statistical office (IBSA)
- Belgian balance of payments
- Balance of payments of the European institutions
- National accounts of the neighbouring countries

There is an established exchange of data with Luxembourg, which is the main partner country for Belgian outgoing cross-border workers. Direct information from STATEC is used in the compilation procedure. Information on cross-border remuneration of employees²¹⁵ comes from the Luxembourg BoP. We receive monthly data, updated twice a year. The use of these data from STATEC ensures that there is European consistency at least on the largest portion of cross-border remuneration of employees received by Belgium.

²¹⁵ Data is provided for D.1, D.11, D.12, D.51, D.61 and D.62 related to cross-border workers.

For the other neighbour cross-border workers, the calculation process is the following. The number of in and out cross-border workers by country are known through statistics from the National institute for sickness and invalidity insurance (INAMI). This information is available once a year, i.e., the number of cross-border workers by counterpart country on June 30. These numbers are multiplied by the average compensation of employee (D.1) per capita of the corresponding country (found in the national accounts of the respective countries), such as to obtain total compensation of employees by country.

As regards non-resident workers who are not cross-border workers (i.e., seasonal workers), information from the Belgian balance of payments is used.

According to ESA 2010 §11.17, 11.18, 11.25, the remuneration of staff of embassies to be recorded concern local staff working for embassies only, and not the diplomatic staff. This remuneration is included in the total estimate of cross-border D.1. For the local staff of Belgian embassies located abroad, information on staff costs from the FPS Foreign affairs is used. Resident staff working for foreign embassies located in Brussels are affiliated to the Belgian social security system. Consequently, data from the NSSO database is used to compile outgoing D.1. for these employees.

For resident employees working for the European institutions (EUI), information coming from the balance of payments of the EUI is used. For resident employees working for the NATO/SHAPE and for Eurocontrol, data from NATO payroll and Eurocontrol annual report are used.

For resident workers working for other smaller international organisations located in Brussels (there are a lot of them), information from the Brussels statistical office on the number of people working for these institutions is available. There is no direct data on the wages, as these institutions are extra-territorial. They are not affiliated to the Belgian social security system and are not included in the population for surveys of the Belgian authorities. Consequently, to estimate D.1, the number of employees is multiplied by the D.1 per capita of the European institutions.

The employees of extra-territorial institutions located in Brussels do not pay income taxes to the Belgian government. They are not affiliated to the Belgian social security system but have their own pension and health insurance system. The compilation of D.1 for these staffs takes these characteristics into account.

A register of extra-territorial organisations located in Belgium is available here:

https://www.nbb.be/doc/dq/e_pdf_bb/sx_oig-list_en_201406.pdf²¹⁶

As the sources used to estimate compensation for employees are mainly national accounts or BoP data, they are consistent with the definitions of ESA2010, i.e include social contributions, income taxes and other payments payable by employees. They are calculated on accrual basis.

The methodology is detailed below.

(a) Incoming workers

In the compilation process, three categories of incoming workers are considered:

- Incoming cross-border workers from neighbouring countries (DE, FR, LU, NL)
- Incoming workers from other countries for short term contracts
- Local staff of Belgian embassies located abroad

²¹⁶ For a full list, see annex 1 of this document: http://ibsa.brussels/fichiers/themes/Methodo_EmploiInternational.pdf

Table 8.2: calculation for incoming cross-border workers - outgoing remuneration of employees

Variables	Sources or calculation	2016 data
(1) Number of incoming cross-border employees	INAMI	49 247
of which DE		1 174
of which FR		36 299
of which LU		541
of which NL		11 233
(2) Average private-sector remuneration in Belgium (in €)	BE national accounts	52 315
(3) Remuneration of incoming cross-border employees (in mil. €)	(1) x (2)/10 ⁶	2576
of which DE		61
of which FR		1899
of which LU		28
of which NL		588
(4) Remuneration of incoming workers from other countries for short term contract (in mil. €)	BE BoP	460
(5) Remuneration of local staff of Belgian embassies located abroad (in mil. €)	MoFA	33
(6) Total remuneration of incoming employees (in mil. €)	(3)+(4)+(5)	3069

(b) Outgoing workers

In the compilation process, four categories of outgoing workers are considered:

- Outgoing cross-border workers to neighbouring countries (DE, FR, LU, NL)
- Outgoing workers to other countries for short-term contracts
- Staff of international organisations located on the Belgian territory (European institutions, NATO/SHAPE, Eurocontrol, other international organisations)
- Resident staff working for foreign embassies located in Belgium

Table 8.3: calculation for outgoing cross-border workers - incoming remuneration of employees

Variables	Country	Sources or calculation	2016 data
(1) Number of outgoing cross-border employees	France	INAMI	7 551
(2) Average remuneration (in €)	France	French national accounts	46 899
(3) Remuneration of outgoing employees to FR (in mil. €)	France	(1) x (2)/10 ⁶	354
(4) Number of cross-border employees	Netherlands	INAMI	32 260
(5) Average remuneration (in €)	Netherlands	Dutch national accounts	45 907
(6) Remuneration of outgoing employees to NL (in mil. €)	Netherlands	(4) x (5)/10 ⁶	1481
(7) Number of cross border employees	Germany	INAMI	6 111
(8) Average remuneration (in €)	Germany	German national accounts	40 672
(9) Remuneration of outgoing employees to DE (in mil. €)	Germany	(7) x (8)/10 ⁶	249
(10) Remuneration of outgoing employees to LU (in mil. €)	Luxembourg	STATEC	2822
(11) Remuneration of neighbour cross-border employees (in mil. €):		(3) + (6) + (9) + (10)	4906

Variables	Sources or calculation	2016 data (in mil. €)
(12) Remuneration of incoming workers from other countries for short term contract	BE BoP	201
(13) Remuneration from European institutions	BoP of EUI	3720
(14) Remuneration from international organisations	NATO, Eurocontrol, IBSA	644
(15) Remuneration of resident staff of embassies located in Brussels	NSSO	114
(16) Total remuneration of outgoing employees	(11) + (12) + (13) + (14) + (15)	9584

8.2 TAXES ON PRODUCTION AND IMPORTS (D.2)

Taxes on production and imports paid to the Institutions of the EU come from statistics established by the FPS Finance. They mainly cover entry duties on imports, and from 2015 onwards, the contribution to the Single resolution fund. They are all compiled on accrual basis.

Taxes on production and imports cover the following items:

- Customs duties on imports from non-member countries passed on to EU
- Taxes on imports from non-member countries passed on to EU (agricultural levies)
- Taxes on products: sugar levy
- Contributions to the Single resolution fund (from 2015 onwards).

Customs duties on imports from non-EU countries are paid in the country where the goods are cleared through customs and not in the country of destination. As Belgium has the port of Antwerp and airports that are international "hubs" for cargo (Brussels and Liège), many import-export companies have set up and developed, with the result that customs duties collected in Belgium are relatively higher than in countries without such accesses.

Import-export operations included in the national accounts follow the national concept and not the Community concept. If customs duties are paid by importers who are not resident in Belgium, their imports will not be recorded in the Belgian national accounts and the same applies to the customs duties paid by them. By comparing national imports with Community imports, a correction coefficient is calculated and applied to the customs duties collected.

These D.2 taxes are collected on behalf of the EU and are recorded in the transition from GDP to GNI in the full amount, i.e., including amounts retained by the Member State as collection cost.

Table 8.4: taxes on production and imports

Categories	Source	2016 data (in mil. €)
Import duties (D.2121)	MoF	1539
Taxes on imports excluding VAT and duties (D.2122)	MoF	1
Taxes on products except VAT and import taxes (D.214)	MoF	9
Other taxes on production (D.29)	MoF	278
Total taxes on production and imports		1 270

According to ESA 2010, GNI and VAT based EU own resources are recorded in a specific other transfer item (D.76). For year 2016, the amount of this item is equal to € 4 086 million. The data comes from the FPS Finance and the FPS Budget.

8.3 SUBSIDIES (D.3)

Before 2013, data on subsidies granted by the institutions of the EU within the framework of the CAP were provided by the BIRB²¹⁷. A correction for pre-financing was applied to obtain data on accrual basis²¹⁸. From the year 2013 onwards, this data source has not been available anymore. The figures have been provided via the balance of payments of the European institutions. In this data source, series comply with the accrual time of recording principle.

These subsidies are paid directly by EUI to resident producer units, and do not impact general government accounts. They cover subsidies granted for the common agricultural policy (CAP).

Subsidies cover the following items:

²¹⁷ Bureau d'intervention et de restitution belge.

²¹⁸ The agriculture year goes from the 1st of October to the 30th of September.

Table 8.5: subsidies granted by the Institutions of the EU

Categories	Source	2016 data (in mil. €)
Subsidies on products (CAP) D.319	BOP of EUI	148
Subsidies on production (CAP) D.39	BOP of EUI	510
Total subsidies		658

In the sector accounts, other EU transfers granted to Belgium are recorded in the following transactions:

Categories	Source	2016 data (in mil. €)
International cooperation (D.74)	S.13 account	375
Miscellaneous current transfers (D.75)	BOP of EUI	567
Investment grants (D.92)	S.13 account and BoP of EUI	178
Other capital transfers (D.99)	S.13 account	5

Miscellaneous current transfers cover EUI transfers to households, NPISH's and non-financial corporations as recorded in the EUI balance of payments. Investment grants, international cooperation and other capital transfers paid to general government are calculated based on public accounts. Investment grants to households and non-financial corporations cover mainly EAGGF and Objective 1 grants.

8.4 PROPERTY INCOME (D.4)

The property income flows with the Row by type are summarized in the next table. Sources and compilation methods for each type of income are described below.

Table 8.6: property income vis-à-vis the rest of the world (2016 data in mil. €)

Categories		Received	Paid	Net
Interest	D.41	16 783	15 234	1 549
Distributed income of corporations	D.42	19 631	25 733	-6 103
Dividends	D.421	19 631	25 733	-6 103
Withdrawals from income of quasi-corporations	D.422	0	0	0
Reinvested earnings on foreign direct investment	D.43	12 752	11 740	1 013
Other investment income	D.44	2 870	550	2 320
Investment income attributable to insurance policy holders	D.441	909	108	801
Investment income payable on pension entitlements	D.442	0	12	-12
Investment income attributable to collective investment fund shareholders	D.443	1 961	430	1 532
Dividends attributable to collective investment fund shareholders	D.4431	746	14	732
Retained earnings attributable to collective investment fund shareholders	D.4432	1 215	416	800
Total property income	D.4	52 036	53 257	-1 221

8.4.1 INTEREST (D.41)

Principle of the compilation of interest matrices

As a rule, interest flows are estimated by combining financial stocks with interest rates, while taking account of certain constraints where direct information on these flows are known. All calculations and balancing are done in an interest matrix that enables interest flows between each institutional sector to be estimated.

In the sector accounts, the interest received and paid by each institutional sector is recorded in the primary income allocation account with no information on the counterpart sector that received or paid the interest concerned. However, the totals are estimated from interest matrices that show interest flows by counterpart sector.

The basic principle for the establishment of interest matrices relies on identifying the counterpart sector that receives or pays the interest. Failing direct information on interest flows between sectors, each matrix cell is estimated from data on claims and debts available in the financial balance sheets (estimated through a debtor approach) to which theoretical yield rates are applied (depending on the creditor sector, the debtor sector, and the type of financial instrument). The theoretical yield rates are gross; they do not contain any payment of taxes. Using theoretical yield rates allows calculating the interests when they become due, as defined in ESA2010, and not when they are distributed.

The result is an interest matrix with totals in rows and columns representing the total interest received and paid by each institutional sector.

There are very few index-linked debt securities in Belgium. It was therefore chosen to treat these the same way as the other transactions in F.3.

Outstanding amounts for financial lease are included in instrument AF.4. Related interests are therefore automatically calculated for these amounts. On the opposite, swaps and forward rate agreements are included in the instrument AF.71, and their income is consequently not included in the matrix.

Interests are recorded including grants for interest relief. In our national accounts, grants for interest relief are also recorded as subsidies (D.39) paid by the government sector (S.13) to other sectors.

There are two cases in the calculation method:

- Sectors which are constrained (S.122, S.13, etc.): the total interests are given by accounting data which do not specify the counterpart of the payment of interest. A grant for interest relief is always accounted as an interest received from a bank as well. It is therefore included in the interests.
- Sectors which are not constrained: we apply interest rates to outstanding amounts and do take into account total interest rates without considering any grant for interest relief. Therefore, in this case, grants for interest relief are also included in interest.

Some interest flows are known or estimated from other sources. Therefore, they do not have to be estimated from the matrix of claims and debts of the financial balance sheets. This applies particularly to the flows of some financial institutions (S.121, S.122, S.123, S.124, S.128, S.129) and general government (S.13), for which accounting data on total accrued interest received and paid are available. These accounting data represent constraints on the rows and columns of the interest matrix. The constraints for sectors S.121, S.122, S.123, S.124, S.128 and S.129 and for general government are used to align the results of the theoretical calculation, thereby making it possible to determine the interest received and paid by counterpart sector corresponding to the accounting data. Information is available for the interest paid by general government to general government. Other counterparts are not known. For S.121, information is available for each counterpart.

There exists business accounting information for non-financial corporations (S.11), other financial intermediaries and financial auxiliaries (S.125 and S.126) and NPISHs (S.15), but it needs further treatment to extract the interest component from total investment income and from total financial expenses. Moreover, this accounting information is not exhaustive. Many corporations are missing. In addition, the interests are not calculated on accrual basis. The flows of interest received and paid estimated from the accounting data of sectors S.11, S.125, S.126 and S.15 are less reliable and therefore less constraining than the accounting data of sectors S.121, S.122, S.123, S.124, S.128 and S.129 and general government. At the end of the day, the business accounting information for these sectors is not used. They are estimated in the same way as the sectors where there is no accounting information (S.14 and S.2). Interest flows are determined from calculated counterparts of constrained sectors, and from the results of the theoretical calculation done on the matrix of current financial claims and debts.

For S.2, we receive additional information from the Balance of payments.

The general method used (stocks*interest rate on quarterly basis) ensures that interest flows are estimated on accrual basis.

The introduction of various external sources for calculating the interest matrix means that the system is no longer "closed" and that the sum of all the interest received and paid is not balanced. Balancing is applied to the interest received or paid of sectors for which there are no constraints.

Interest matrices are established for all sectors and all financial sub-sectors:

- non-financial corporations (S.11)
- the National Bank of Belgium (S.121)
- monetary financial institutions (S.122)
- monetary mutual funds (S.123)
- non-monetary mutual funds (S.124)
- other financial intermediaries (S.125)
- financial auxiliaries (S.126)
- captive financial institutions and money lenders (S.127)
- insurance corporations (S.128)
- pension funds (S.129)
- general government (S.13)
- households (S.14)
- NPISH (S.15)
- rest of world (S.2)

A theoretical calculation of interest received and paid by each of these sectors to other sectors is made for the following short-term and long-term financial instruments²¹⁹:

- AF.2 Deposits
- AF.3 Debt Securities
- AF.4 Loans
- AF9 Other accounts receivable/payable

This theoretical calculation is aligned on interest received and paid by S.121, S.122, mutual funds (S.123, S.124), S.128, S.129 and S.13. At the same time, a ranking of sources is also established. We give preference to sources that are based on more reliable and/or more exhaustive data.

Matrix balancing involves four steps:

Starting point: A "theoretical" matrix (theoretical calculation) which is balanced.

- Step 1: Applying constraints that are known for each counterpart.
- Step 2: Fixing the cells of the matrix that must not change in the rebalancing (step 3). This is the case for sectors where we do have a constraint by counterpart (S.121 and all its counterparts, and interest intra-S.13). Interests that are used to compute the reference rate which is a basis to the calculation of the FISIM are also frozen, to avoid a big fluctuation of this rate, and therefore a big fluctuation of FISIM. This is the case for interests between and within S.122, S.125 and S.2 (financial part)²²⁰. All these cells are "fixed" and are not modified by the next stages.
- Stage 3: Rebalancing the matrix by re-estimating the interest of sectors where there is a constraint, starting with the most reliable constraints (S.13, then S.122, S.123/S.124, S.128/S.129). This rebalancing must have very small impact on the result if the theoretical matrix is well estimated.
- Step 4: Using information from the balance of payments for cells which are not constrained in step 2 and step 3.

The interests vis-à-vis RoW recorded in the national accounts are consistent with those recorded in the balance of payments. The matrix balancing exercise is made in cooperation with BoP compilers for RoW.

²¹⁹ The interest calculation is done at the most disaggregated level of the classification of financial accounts in order to take into account the most appropriate yields according to the instrument.

²²⁰ Interests within S.122 are rather reliable, as they are available from accounting data. On the contrary, interests between S.122 and S.125, and within S.125 are based on a theoretical calculation in which the outstanding amounts are known, but for which a most appropriate interest rate is used.

Interest matrices after adjustment for FISIM

Interest recorded in the national accounts must be adjusted for FISIM (financial intermediation services indirectly measured). This adjustment means that a portion of the interest flows is reclassified as payment for services.

The FISIM are computed for each sector separately and for credits and deposits separately, according to the following formulas:

- FISIM on credits = outstanding amounts * (implicit rate – internal reference rate)
- FISIM on deposits = outstanding amounts * (internal reference rate – implicit rate)

The internal reference rate is computed based on the interests on credits (AF4) and deposits (AF2) between and within the sectors S.122 and S.125, and the corresponding outstanding amounts.

When one of the financial sectors is located in the rest of the world, an external reference rate is used, based on the interests on credits (AF4) and deposits (AF2) between the sectors S.122 and S.125 on one side and financial sector in S.2 on the other side, and on the corresponding outstanding amounts. This allows to compute the imported FISIM and the exported FISIM.

The FISIM are then calculated for each sector, for credits and deposits separately, and for each counterpart separately. Therefore, by summing up the results, we obtain the FISIM for each sector, for each variable (P.1, P.2, P.3, P.6, P.7, D.4R and D.4U).

Knowing that the calculation of FISIM is fully based on the interest matrix, the allocation of FISIM is reliable and fully consistent with the interests.

With respect to gross interest flows (before FISIM adjustment), the impact of applying FISIM is as follows:

For FISIM producers

- a decrease of resources of D.41 (decrease of interest received on credits)
- an increase of uses of D.41 (increase of interest paid on deposits)
- an increase of production P.1 or importations (P.7) (production of services on credits and on deposits)

Overall, FISIM producers record a decrease in net resources of D.41.

For FISIM consumers

- an increase of resources of D.41 (more interest received on deposits)
- a decrease of uses of D.41 (less interest paid on credits)
- an increase of consumption P.2/P.3/P.6 (consumption of services on credits and on deposits)

Overall, FISIM consumers record an increase in net resources of D.41.

The FISIM adjustment is neutral as regards the balance of the interest matrices, but it does affect the total interest received and paid by all sectors. The balance of interests received and paid to the rest of the world exactly offsets that of imports and exports.

Interest paid to and received from the rest of the world is obtained after balancing the interest matrix and applying the adjustment for FISIM.

The interest flows associated with the Intra-Eurosystem financial claims and liabilities related to the issuance of Euro banknotes, are recorded from a direct data source. The data comes from the bookkeeping of the National bank of Belgium (NBB). The same data source is used in the compilation of the BoP. In the account of the NBB, this item is called:

"Capital Share Mechanism" Billets de banque émis par la BCE Montant compensatoire	}	monetary income
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NBB calculate the allocation of monetary income on Eurosystem technical assets/liabilities in line with the Decision of the European Central Bank of 25 November 2010 (ECB/2010/23).

Table 8.7: interest vis-à-vis the rest of the world (2016 data in mil. €)

Categories	D.41 including Fisim adjustment	Fisim adjustment (-)	D.41 without Fisim adjustment
D.41 received from S.2	16 783	3 272	20 055
D.41 paid to S.2	15 234	1 307	16 541
D.41 net received	1 549	1 966	3 514
<i>For information :</i>			
<i>Import of Fisim</i>		739	
<i>Export of Fisim</i>		2 705	
<i>Net export of Fisim</i>		1 966	

8.4.2 DIVIDENDS (D.421)

Dividends paid to and received from the rest of the world are calculated per institutional sector. they exclude super-dividends, which are treated as a financial transaction.

The general meeting of shareholders may decide to pay out a dividend in cash or in the form of additional shares. Regardless of the instrument they choose, both are considered as a distribution of dividends by the Belgian accounting standards (BEGAAP). They enter both in the same section in the income statement as distribution of dividends of the Belgian entity. The payments received from the rest of the world (ROW) in the form of shares are treated in the same manner and are registered as dividends in the national accounts. The shares issued to shareholders (stock dividend) are thus included in cross border flows of property income.

Contrary to the stock dividends, bonus shares are excluded from the recording of dividends. The incorporation of reserves may involve the issue of bonus shares to the shareholders. The equity of the firm remains the same and there is no actual distribution to the shareholder. The change in equity of the company doesn't reflect an enrichment of the shareholder. If a Belgian company decides to issue bonus shares, there will be no entry as distribution of dividends in the income statement and thus there is no registration in the national accounts. The dividend concept in the FDI survey and for portfolio investments is established so that all sources are consistent. The bonus shares received from entities of the ROW are excluded because of this requested alignment between the FDI survey, the securities database, and the annual business accounts.

RECORDING:

Dividends are recorded before deduction of current taxes on income and wealth.

According to ESA 2010 § 4.57, the time of recording of dividends is the point in time at which the share price starts to be quoted on an ex-dividend basis. In Belgium, a share is quoted ex-dividend once the dividend has been approved by the general assembly and thus when the obligation to the shareholder arises. This occurs after the closing date of the annual accounts followed by the shareholders' general assembly. The dividend will be recorded shortly after the approval of the general shareholders' meeting. For each company, the date of the general assembly at which the annual accounts were approved is determined. The recording of the dividend takes place 5 days after the approval and is assumed to be a good proxy for the ex-dividend date. There is no pro-rata calculation applied to this item:

$$D.421U_T = \text{dividends payable}$$

Recording in year T if the day of the general meeting (+5 days) occurs in year T

CALCULATION AND SOURCES:

Dividends paid by Belgium to the rest of the world

For dividends paid by Belgium (S.1) to the rest of the world (S.2), a distinction is made between dividends resulting from direct investments and dividends resulting from portfolio investments.

Direct investments dividends

Paid dividends by both S.11 and S.12 are collected from the individual annual accounts filed to the Central Balance Sheet Office.

For non-financial and financial corporations, the foreign control percentages per company are provided by the Balance of payment survey. For companies falling below the threshold applied to the survey, the information is provided by the FPS Economy (Statbel). The control percentage multiplied by the dividend paid mentioned in the individual annual accounts gives the amounts of dividends paid to the rest of the world.

Portfolio investments dividends

Dividends from portfolio investments are provided by the Balance of payments. Data from the Centralised Securities Database (CSDB) is used for the calculation of the portfolio dividends. As of 2016, the CSDB makes it possible to carry out income calculations at the level of the security/instrument. The dividends are calculated based on the outstanding amounts of the shares, market value in euro at the end of each month, multiplied by the dividend amount divided by the monthly average price of the stock.

Dividends paid by the rest of the world to Belgium

Dividends paid by the rest of the world (S.2) to Belgium (S.1) are calculated within the Balance of payments for the institutional sectors S.11 and S.12. A distinction is made between those resulting from direct investments and those resulting from portfolio investments.

Direct investments dividends

The direct investments survey conducted for the needs of the Balance of payment contains information on the dividends paid by the direct investment corporations. Items J1001 and J1002 of the BoP survey correspond to the dividends actually paid by the foreign companies and are recorded at the time of payment.

Portfolio investments dividends and third-party holdings

Dividends from portfolio investments of Belgian corporations (S.11 and S.12) in the ROW are estimated within the Balance of payments in the same way as described above ((stock * (dividend_amount/monthly_average_price)).

In addition to portfolio dividends, dividends received from third party holdings (TPH) have been recorded in the national accounts since 2009. TPH are other portfolio investments of Belgian institutional units in cross-border securities such as shares and bonds. For example, TPH includes the households holding foreign equity in their securities portfolio. The dividends received from the assets are provided by the Balance of Payments and are calculated based on CSDB data.

Dividends received by the general government (S.13) from the rest of the world are known from the general government account.

Dividends received by Households (S.14) are determined as a residual, i.e., after calculation of all other dividend flows, including those from and to the rest of the world. Consequently, the dividends received from S.2 cannot separately be identified from those received from other resident sectors. The dividends received by households include the gross operating surplus generated by non-observed and illegal activities sectorised in S.11.

Given the method used, dividends recorded in RoW are consistent with those recorded in BoP.

Table 8.8: dividends vis-à-vis the rest of the world (2016 data in mil. €)

Categories	2016 data (in million €)
D.421 received from S.2	19 631
Of which direct investments	17 107
D.421 paid to S.2	25 733
Of which direct investments	20 678
D.421 net received	-6 103

Annex: compilation of super dividends (F.5)

According to ESA2010, if the level of dividends declared is greatly more than profits, the dividends causing the excess are classified as 'super dividends' and treated as a financial transaction (withdrawal of owners' equity: F.5)

Super dividends paid by Belgium to the rest of the world

A pragmatic method has been developed in order to classify part of the dividends paid by Belgian companies to their foreign shareholders as extraordinary dividends and therefore exclude them from transaction heading D.421. This method is applied to all financial and non-financial subsectors.²²¹

Dividends recorded in a company's annual accounts are (partly) reclassified as super dividends if, at the same time, they generate a decrease in shareholders' equity. The basic idea is that the payment of all or part of the dividends, in such cases, gives rise to a decrease in net worth (loss of wealth) of the company.

The detection of super dividends is based on an individual analysis of the annual accounts filed by companies. The following algorithm is applied for companies filing a standard accounting scheme with the Central Balance Sheet Office:

- If the dividend paid (item 694 of the annual accounts) is higher than the decrease in equity (item 791/2)²²², the super dividend equals the decrease in equity (791/2), with the balance being an ordinary dividend
 - $694 = 100$ and $791/2 = 40$
 - $694 - 791/2 = \text{dividend (D421)} = 60$
 - $791/2 = \text{super dividend (F5)} = 40$
- If the dividend paid (item 694) is lower than or equal to the decrease in equity (item 791/2), the super dividend is equal to the dividend paid (694); the ordinary dividend being nil.
 - $694 = 20$ and $791/2 = 50$
 - $694 = \text{super dividend (F5)} = 20$
 - $\text{dividend (D421)} = 0$

As in the case of dividends on FDI, super dividends FDI paid to the ROW are estimated taking into account the control % of non-resident companies in Belgian affiliates. For portfolio super dividends payable to the RoW we multiply the portfolio dividend with the super dividend ratio (super dividend/total dividend). For the year 2016 an amount of € 1.899 million of super dividends paid to the ROW was estimated, of which € 1.628 million FDI super dividends and € 270 million portfolio super dividends.

Deviations from the methodology above are exceptionally permitted for extraordinary transactions such as mergers, liquidations, and restructurings and to the extent that there is an agreement between the National Accounts and the BoP for the recording of a super dividend that has an impact on the external balance (B.12)

Super dividends paid by the rest of the world to Belgium

Super dividends paid by the rest of the world (S.2) to Belgium (S.1) are identified and calculated by the Balance of payments service based on information collected via its direct investments survey or via the CSDB. As in the case of dividends, super dividends received from the ROW are estimated based on the control percentage of resident companies in foreign affiliates or by correcting the portfolio dividends calculated on the CSDB stocks. For the year 2016 the amount is 0.

²²¹It should be noted that a more precise method of identification is applied to dividends that affect the general government account (S.13), in accordance with the rules of ESA2010 (notably §4.56) and the Manual on Government Deficit and Debt.

²²²791: transfers from capital and share premium account; 792: transfers from reserves.

8.4.3 WITHDRAWALS FROM THE INCOME OF QUASI-CORPORATIONS (D.422)

Up till now, the net property income flows associated with dwellings abroad (holiday homes located abroad owned by Belgians and holiday homes located in Belgium owned by foreigners) have been deemed immaterial (between 0.01 and 0.02 % of GNI) and have therefore not been integrated in the national accounts.

8.4.4 REINVESTED EARNING ON FOREIGN DIRECT INVESTMENT (D.43)

Reinvested earnings on foreign direct investment (D.43) are estimated in close cooperation with balance of payments' compilers.

D.43 is the part of the profit from a foreign subsidiary that is not distributed in the form of dividend to the parent company. Direct investments of corporation A in B are involved when A (corporation a is called "direct investor") controls at least 10 percent of the share capital of B (corporation B is called "direct investment enterprise"). This definition is in line with the international standards.

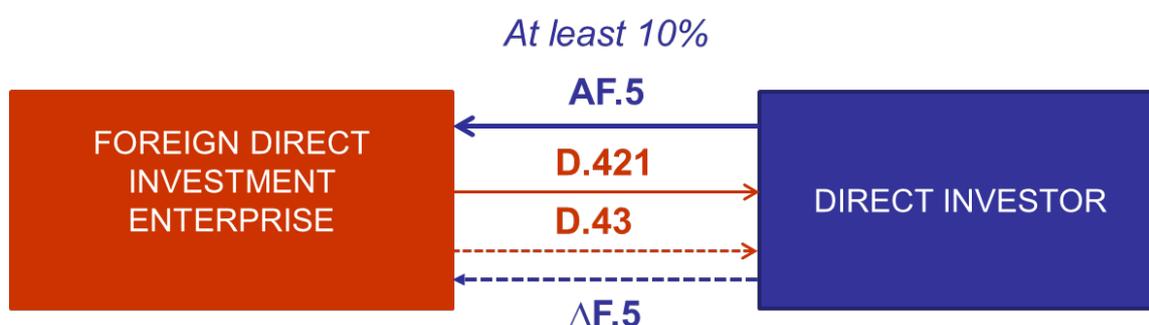


Figure 8.1: Foreign direct investments and the reinvested earnings concept (D.43)

Reinvested earnings are a derivative of two concepts, namely the net operating surplus of the company less dividends paid. In Belgium, the Current Operating Performance Concept (COPC) is used for the Net Operating Surplus, whereby the profit (or loss) is adjusted for extraordinary income and expenses.

The retained earnings are derived by deducting the distributed profits of the direct investment enterprise from the net profit of the enterprise. As a remainder the remuneration of capital in the enterprise's annual accounts is used to estimate the dividends distributed by an enterprise (D.421). Thus, following definition is used to estimate reinvested earnings:

$$\text{Reinvested earnings for period } T = D.43_T = (COP_T * \%fdi) - D.421_T$$

If the dividend is greater than the profit, D.43 is negative.

The retained earnings are thus fictitiously distributed to the direct investor before being reinvested in the direct investment enterprise immediately afterwards. The income flow (D.43) within the primary income distribution is compensated by an equivalent financial transaction (F.5).

8.4.4.1 Compilation method: REFDI received by Belgium from the rest of the world for directly owned companies

Data for calculating D.43 originating from the rest of the world (direct investment of a Belgian company abroad) are extracted from the direct investments' surveys drawn up for Balance of payments purpose.

The FDI surveys ensure a good coverage of the FDI population. This population is regularly updated to consider newcomers or deaths of companies. The financial corporations are covered exhaustively by the direct investment surveys. Concerning the non-financial sector, the reporting companies are selected on a cut-off basis. However, the criteria are quite demanding (see https://www.nbb.be/doc/dq/e_pdf_bb/fdifoi_quick_guide_en.pdf). The response rate to the surveys is very high. In general, no extrapolation techniques are applied. However, for some aggregates (such as reinvested earnings on FDI), the entities falling below the threshold are taken into account through data from secondary sources available in the national accounts.

Separate survey forms are available for financial and non-financial corporations. The results of the surveys are integrated into the national accounts after the analysis of the time series on an entity basis. In addition, other general quality controls are applied, such as the verification of results against the results in companies' annual accounts.

The appropriate institutional sector code is allocated to each company in accordance with the register (annual repertory) used in the national accounts.

The following surveys are used:

- F13FDI – Survey on direct investment flows
- R13FDI – Survey on the results of direct investment enterprises and equity position of non-resident companies not directly held

By applying COPC, the normal operating result after tax is used and adjusted for extraordinary expenses and revenues. Extraordinary charges are therefore added to the company's net profit and extraordinary revenues are deducted:

$$\begin{aligned}
 COP &= J0013 - J0014 - J0019 + J0020 \\
 J0013 &= \textit{Profit for the financial year}; \\
 J0014 &= \textit{Loss for the financial year}; \\
 J0019 &= \textit{Extraordinary profit}; \\
 J0020 &= \textit{Extraordinary loss};
 \end{aligned}$$

It should be noted that items J0019 and J0020 were only included in the FDI surveys as of reference year 2013. The exceptional results must therefore be estimated for the previous years. For this purpose, the ratio of the extraordinary result to the net result from of all Belgian companies is used²²³.

The reinvested earnings are derived by deducting the dividends received on foreign direct investments from the COP calculated according to the definition below.

$$D.43_{receivable\ T} = COP_T - D.421_T$$

Dividends are corrected to exclude extraordinary dividends in accordance with the general method developed to estimate super dividends.

8.4.4.1 Compilation method: REFDI paid by Belgium to the rest of the world for directly owned companies

Non-financial corporations (S.11), other financial intermediaries (S.125), financial auxiliaries (S.126) and captive financial institutions (S.127)

The population of direct investment corporations (FDI population) is composed by combined use of the direct investments survey organised by the Balance of payments division and the structural business survey (SBS) for non-financial corporations. BOP and SBS are combined to obtain an FDI population as exhaustive as

²²³ Ratio's available in the statistics on annual accounts from the Central Balance Sheet Office: ratio from all sectors excluding banks and insurance companies (PU450)

possible. Both surveys also give information on the control percentage exercised by non-resident corporations over resident corporations.

Detailed information is available for the corporations included in the FDI population that allows the current operating profit to be calculated on an individual basis. The COP and dividends are compiled for each individual enterprise based on a selection of appropriate items extracted from the business accounts (profit and loss account). In this way an estimate as accurate as possible of COP after deduction of corporation taxes is obtained for each enterprise included in the FDI population.

COP is calculated as follows:

Full schemes	(large enterprises)
<i>Operating income</i>	
70/74	turnover; changes in inventories of finished goods and work in progress; own construction of fixed assets; other operating income
<i>Operating costs</i>	
60 (-)	raw materials, consumables, and goods for resale
61 (-)	services and other goods (not recorded under 60)
62 (-)	remuneration, social charges, and pensions
630 (-)	depreciation on tangible and intangible fixed assets
640/8 (-)	other operating costs
<i>Financial income</i>	
750 (+)	income from financial fixed assets
751 (+)	income from current assets
<i>Financial charges</i>	
650(-)	interest and other debt charges
<i>Income taxes</i>	
67/77 (-)	Income taxes

Abbreviated schemes	(small and medium enterprises)
9800	gross operating margin
62(-)	remuneration, social charges, and pensions
630 (-)	depreciation on tangible and intangible fixed assets
640/8 (-)	other operating costs
75 (+)	financial income: no information available to eliminate other operations than transactions
65 (-)	financial charges: no information available to eliminate other operations than transactions
67/77 (-)	income taxes

Realised holding gains and losses are, in the Belgian business accounts, registered under specific items (item 763 and 663). These items are excluded from the formula used to calculate the current operating profit.

Reinvested earnings are calculated by deducting dividends paid to the foreign direct investors:

$$D.43_{payable T} = COP_T - D.421_T$$

Dividends are corrected to exclude extraordinary dividends in accordance with the general method developed to estimate super dividends.

Deposit-taking corporations except the central bank (S.122)

For monetary financial institutions subject to Belgian law the calculation is also carried out on an individual basis. Information on these monetary financial institutions is available: annual accounts of financial institutions (Schedule A collected by the National Bank of Belgium) and control percentages via the direct investments survey of the balance of payments.

From the Schedule A for each corporation information is available on profits (after depreciation and taxes), losses, exceptional income, exceptional costs, and dividends paid out, which permits the current result to be compiled.

After reducing the current operating profit by the dividends paid out, and applying the control percentage, one gets the reinvested earnings "paid" to the rest of the world.

More specifically, the COP for banks is obtained by adding the following items:

- 540: total net profits (after corporation taxes)
 - or 440 total losses of the enterprise
- 529: extraordinary charges (+)
- 429: extraordinary income (-)

By including the extraordinary charges and excluding the extraordinary income from the total profit of the enterprise, a profit concept is obtained which does not take into account holding gains and losses nor other extraordinary profits and losses.

Dividends of the financial institutions subject to Belgian law are available by enterprise under accounting code 669.

The REFDI for monetary financial institutions subject to foreign law are calculated on a global basis. Information on the profits (after depreciation and taxes), losses, exceptional income, and exceptional costs, is available in the annual accounts of the financial institutions. These branches are fully controlled by the foreign parent company; they have no separate juridical personality. There is no share capital relating to the branch office, and no dividends are therefore paid out. The profits obtained are in practice found to be fully reinvested.

Insurance corporations (S.128)

The control percentage of insurance corporations is deduced from data for the relevant individual corporations. This percentage is applied to the net current result of the entire sector. This net result can be deduced from the annual accounts of the insurance corporations.

The compilation is based on exhaustive balance sheet information of enterprises under the prudential control of the National Bank of Belgium, and on information provided by the structural business survey for branches not subject to Belgian supervision.

For each of these two categories, the COP is obtained by estimating the net operating surplus, adding property income and current transfers receivable, and deducting property income and transfers payable (including dividends) of the enterprises belonging to each category.

For enterprises controlled by the National Bank, the COP calculated for the concerned population is multiplied by the foreign control percentage, defined as a capital weighted average of the individual control percentages. This results in the RIE outflow.

For Belgian branches of foreign corporations, the whole COP is considered as reinvested earning on FDI.

8.4.4.3 Compilation method: REFDI from indirectly owned enterprises

Due to an action point in the GNI verification cycle 2016-2019, the income from indirectly owned enterprises (within big company groups - multinationals) in the cross-border flows of reinvested earnings were added to the income from directly owned companies. This update was made from reference year 2009 onwards and was also included in BoP data.

Indirectly owned enterprises are entities that are indirectly owned by a Belgian or foreign parent through one or more directly owned subsidiaries.

A first analysis was applied for multinationals or big company groups. In order to limit our analysis to the biggest groups, a threshold was set on the financial assets of the companies²²⁴. A total of 60 groups were considered. The preliminary analysis showed that the integration of indirectly owned enterprises had a significant impact on our external income balance and should therefore be included in the estimate of reinvested earnings on FDI.

Figure 8.1 below illustrates the changes in the income flows after the inclusion of indirectly owned enterprises. This figure shows a group XYZ, including all direct and indirect relationships. For the sake of simplicity, it is assumed that all participations are equal to 100%²²⁵.

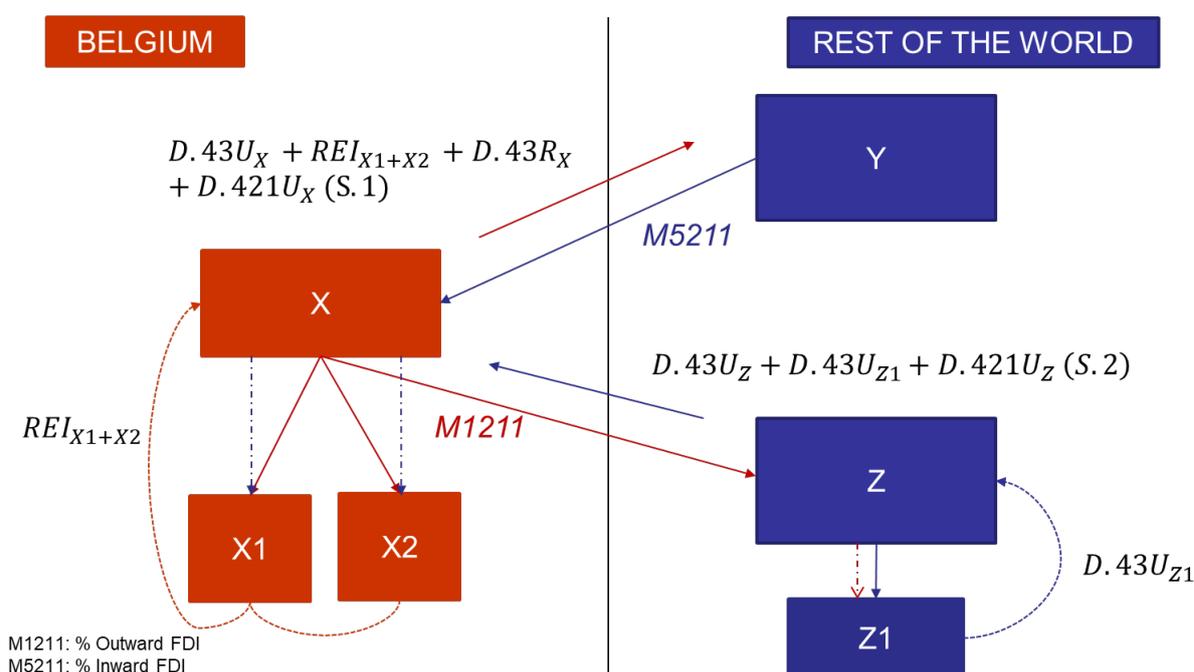


Figure 8.2: income flows FDI including indirectly owned enterprises

The relationships within group XYZ can be summarized as follows:

- Y has a direct participation in X
- X has a direct participation in X1, X2 and Z
- Z has a direct participation in Z1
- **Through Z, X has an indirect participation in Z1**

²²⁴ For entities with a standard reporting scheme, only companies with financial fixed assets of more than 1.5 billion were analysed.

²²⁵ If the share is less than 100%, the flows are multiplied by the percentage of ownership.

- Through X, Y has an indirect participation in X1 and X2 (Belgium) and Z and Z1 (rest of the world)

In the example shown in the figure 8.1, there is therefore a flow from Z/Z1 and X1/X2 to the foreign mother Y. The income flows between Belgium and the rest of the world are adjusted:

From the point of view of Belgium (S.1):

- Resources: $D.43R_X + D.421R_X$ (S.1)
- Uses: $D.43U_X + REI_{X1+X2} + D.43R_X + D.421U_X$ (S.1)²²⁶

From the point of view of the rest of the world (S.2):

- Resources Row: $D.43R_Y + D.421R_Y$ (S.2)
- Uses Row: $D.43U_Z + D.43U_{Z1} + D.421U_Z$ (S.2)

The changes above have an impact on the balances:

(1.1) Flows between X and Z:

$$D.43R_X + D.421R_X \text{ (S.1)} = D.43U_Z + D.43U_{Z1} + D.421U_Z \text{ (S.2)}$$

(1.2) Flows between X and Y

$$D.43U_X + REI_{X1+X2} + D.43R_X + D.421U_X \text{ (S.1)} = D.43R_Y + D.421R_Y \text{ (S.2)}$$

By including the indirectly held participations, the reinvested profits of Z are fully transferred to Y. The Belgian group parent is in fact a transit parent, whereby only reinvested profits from the direct and indirect Belgian participations have an impact on the external income balance. The D.43 receivable of directly owned foreign enterprises have therefore no longer an impact on the income balance:

$$(1.3) \text{ External Balance Impact} = D.421R_X - D.421U_X - D.43U_X - REI_{X1+X2}$$

It should be noted, however, that the foreign direct or indirect participations still have an impact on the gross D.43 flows, but the resources are fully offset by the uses. Moreover, the above comparison only applies if the group is under full foreign control and if all direct participations within the investment chain are equal to 100%. If group YXZ had been a Belgian group, the earnings from the foreign held directly and indirectly participations would have had an impact on the external balance.

Large multinational groups often have a complex structure with numerous domestic and foreign (in)direct subsidiaries. For Belgian entities within the group, we have information on their participations and on the profitability of these participations through the **annual accounts** of the parent company and subsidiaries. For the entities abroad, however, we are dependent on the **FDI surveys** which are submitted by the companies themselves and which are then collected and processed within the External Statistics division of the National Bank. The enterprises are surveyed for both direct and indirect foreign subsidiaries.

For the direct foreign subsidiaries, quality controls are carried out by verifying in the annual accounts of the Belgian company whether all participations have been included and whether the profits correspond to the reported survey figures. However, for indirectly held enterprises such checks are not available and therefore we are entirely dependent on the input received from the companies.

The quality of the reported data on the indirect relationships strongly depends on the reporting entity. Abnormal annual changes in group profits were observed, particularly for the largest Belgian multinationals. It was therefore decided to use the **consolidated annual accounts** filed via the National Bank's Central Balance Sheet Office. Together with the solo annual accounts of the Belgian parent company and subsidiaries, the share of foreign companies within the Belgian group could be determined. The "**Accounting Consolidation Method**" was therefore only applied to multinationals with a Belgian parent company that publishes consolidated accounts.

²²⁶ REI_{X1+X2} : Reinvested earnings X1 plus X2. There are no reinvested earnings recorded between domestic enterprises, hence the choice not to use the D.43 code but to use the REI code for domestic flows.

The financial head offices are not yet covered by the Accounting Consolidation Method. Financial head offices often include both financial and non-financial companies where the reporting requirements differ according to the type of enterprise. The manual reconciliation of the different accounting standards is too complex, and the results are difficult to verify. The “**statistical consolidation method**”, explained in section B), was therefore used for the financial head-offices and all other groups excluded from the Accounting Consolidation method.

A. Accounting Consolidation Method (ACM)

Under the Accounting Consolidation Method, the total group profit is calculated using the consolidated profit and loss account. Figure 8.2 below provides an overview of the different steps and flows of ACM.

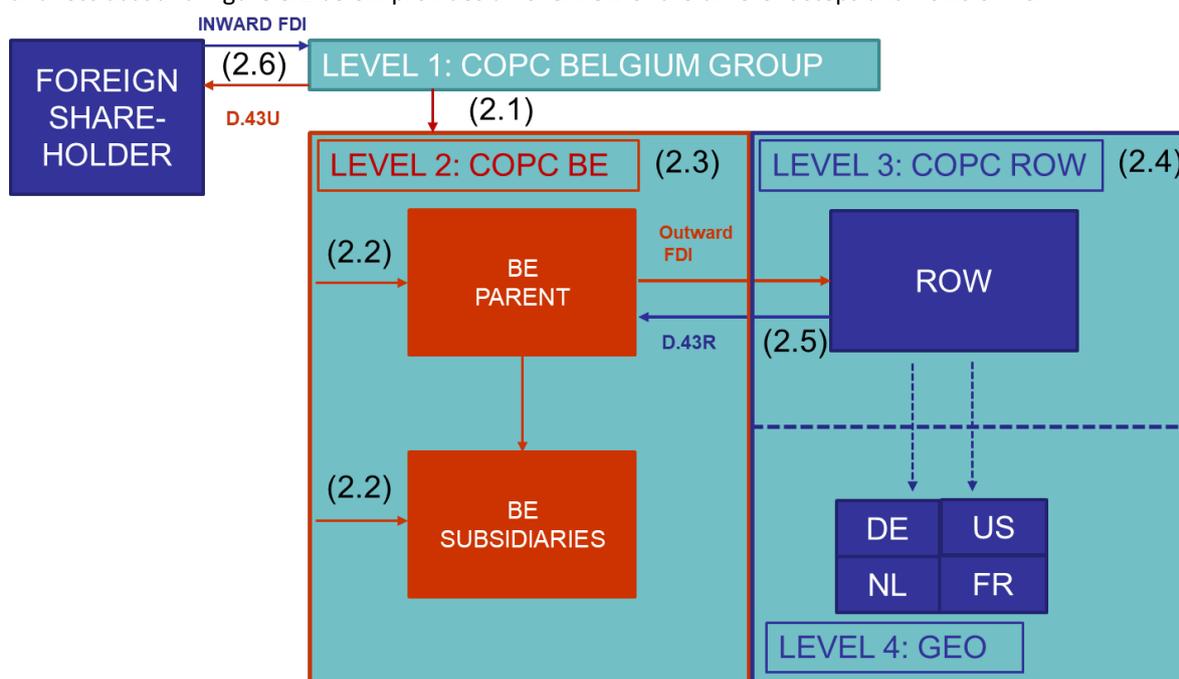


Figure 8.3: flows ACM

The COP Concept is applied to the consolidated figures. The following definition is used to obtain normal group profit after tax:

$$\begin{aligned}
 (2.1) \quad COP_{GROUP} &= \text{Profit/loss from operating activities}^{227} \\
 &+ \text{Interest income} - \text{interest expense} + \\
 &\text{Share of profit (loss) of associates and joint ventures accounted for equity method} \\
 &- \text{Income tax expense} \\
 &- \text{Depreciation and amortization} \\
 &+ \text{Impairment losses} - \text{impairment gains}
 \end{aligned}$$

Once the profit is estimated at group level, the share of the Belgian members of the group is calculated. This is done based on the COPC of the individual group members adjusted for intra-group financial transactions. By adjusting for the financial flows within the group, double counting in the financial result is avoided.

$$\begin{aligned}
 (2.2) \quad Intragroup &= \text{item 9421} + \text{9431} - \text{9461}^{228} \\
 \text{adjusted COPC} &= COP - \text{intragroup}
 \end{aligned}$$

²²⁷ COPC is adjusted for capitalization of R&D and restructuring costs. The part of the minority shareholders within the total profit is excluded.

²²⁸ Item 9421 from the business accounts is ‘Financial income from financial fixed assets’, item 9431 is ‘Financial income from current financial assets’, item 9461 is ‘Charges of debt’.

This adjusted COPC is calculated for each Belgian company within the group. In order to identify the Belgian group structure, we use the solo annual accounts of all Belgian group members. An IT-application Government Finance Statistics (GFS) uses these accounting data to compile the Belgian group structure of each parent company. GFS calculates the direct and indirect participation of each subsidiary, enabling the determination of the control percentage of the parent company within each subsidiary. The GFS family-export tool calculates the adjusted COP of each group member and uses the control percentage to calculate the total Belgian group profit:

$$(2.3) \quad COP_{BE} = \text{Net profit}_{\text{Belgium of group Z}} = \sum_{Y=1}^n \text{adjusted COP}_Y$$

$Y = \text{number of Belgian group members } (1, \dots, n)$

Reinvested earnings receivable (D.43R):

The portion of the group profit that is not accounted for by the Belgian profits is allocated to the rest of the world:

$$(2.4) \quad COP_{ROW} = COP_{group} - COP_{BE}$$

The definition for the calculation of reinvested earnings remains unchanged, i.e., the difference between the Net Profit and the dividends:

$$(2.5) \quad D.43R_{ACM} = COP_{ROW} - D.421R_{S1}^{229}$$

Reinvested earnings payable (D.43U):

If the Belgian parent company is partly or fully controlled by a foreign shareholder, the reinvested earnings is paid to the rest of the world at a rate equal to the percentage of the inward foreign direct investment:

$$(2.6) \quad D.43U_{ACM} = (COP_{GROUP} * \%FDI_{inward}) - D.421U_{S1}^{230}$$

The external balance can therefore be written as:

$$(2.7) \quad \text{Impact External Balance: } D.421R_{S,1} - D.421U_{S,1} + D.43R_{ACM} - D.43U_{ACM}$$

As showed in figure 8.2 the geographical breakdown of the profits and the D.43 aggregate occurs at the final step. However detailed data on the geographical distribution of profits are not available in the consolidated accounts. Secondary sources and the FDI surveys are used to estimate the profit breakdown per country.

B. Statistical Consolidation Method (SCM)

Consolidated data are not available for all groups. For example, for multinationals with a head office abroad, the available consolidated data doesn't allow the determination of the Belgian profits within the group. The data from the FDI surveys and the annual accounts are used to estimate the reinvested earnings obtained from indirectly held participations.

²²⁹ Excluding portfolio dividends

²³⁰ Excluding portfolio dividends

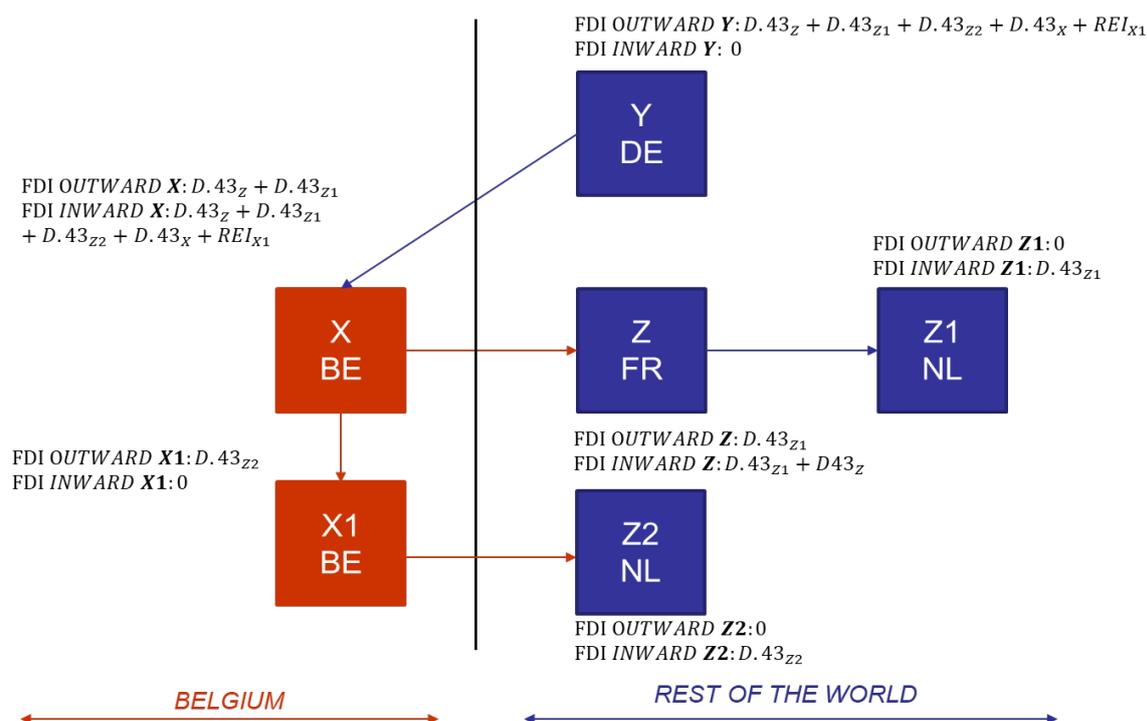


Figure 8.3: Flows SCM

Figure 8.3 shows a simplified version of the D.43 income flows under the statistical consolidation method. From the point of view of Belgium there is an inward FDI flow from the direct investor Y in X. The outward Belgian FDI flows consist of the investment of X in Z and X1 in Z2.

In a first step, the entire Belgian group structure is analysed, and the Belgian parent company (X) is identified. For each entity, the COP is determined according to the standard definition described under 1.4.4.2. No adjustment is made for intra-group transactions as only the retained earnings (i.e., earnings after payment of dividends) are transferred to the parent entity. By aggregating all profits, the Belgian profit of the group is determined.

$$(2.8) \quad COP_{BE(t)} = \text{Net profit}_{Belgium} \text{ of group } X = COP_{X(t)} + \sum_{X=1}^n COP_{Xn(t)}$$

X = Belgian parent company
 Xn = number of Belgian subsidiaries (1, ..., n)
 t = period (year)

Next the retained earnings (REI²³¹) between Belgian group members are calculated in proportion to their shareholders' percentage within the Belgian group:

$$(2.9) \quad REI_{Xn(t)} = COP_{Xn(t)} - \text{Dividend}_{Xn(t)}$$

$$REI_{BE(t)} = \sum_{X=1}^n REI_{Xn(t)} * \% \text{ share}_{Xn}$$

$\% \text{ share}_{Xn}$ = shareholders' percentage of parent X in Belgian subsidiary Xn

²³¹ REI code has been used instead of D.43 because reinvested earnings between resident group entities are not recorded in the National Accounts.

The outward FDI flow is then determined by identifying each foreign subsidiary of all Belgian group members. For these foreign subsidiaries, COP is calculated according to the current methodology. The total net profit of the foreign subsidiary is then multiplied by the percentage of ownership of the Belgian entity in the foreign subsidiary:

$$(2.10) \text{ COP}_{Zn(t)} = (J0013_{Zn} - J0014_{Zn} - J0019_{Zn} + J0020_{Zn}) * (\%fdi_{outward X}) \text{ (year } t)$$

$\%fdi_{outward X} = \text{Outward FDI } \% \text{ of Belgian entities of group } X$
 $Zn = \text{foreign group members } (1 \dots n)$

Reinvested earnings receivable (D.43R)

Reinvested earnings receivable are then calculated by deducting from the Net Profit the dividends paid by the foreign subsidiary. The D.43 aggregate is transferred along the investment chain in proportion to the percentage of ownership between the subsidiaries. The accumulated reinvested earnings from directly and indirectly owned foreign enterprises are recorded only once when the income flow enters the country. The flow is registered at the entity which has a direct relationship with the foreign subsidiaries. In the case of figure 8.3 the outward FDI income flow is recorded at X and X1.

$$(2.11) D.43_{Zn(t)} = \text{COP}_{Zn(t)} - \text{Dividend}_{Zn(t)}$$

$$D.43R_{Xn(t)} = \sum_{Zn=1}^n D.43_{Zn(t)} = D.43R_{X(\text{directly owned})} + D.43R_{X(\text{indirectly owned})}$$

A distinction can be made between the reinvested earnings collected from directly owned foreign enterprises and D.43 from indirectly owned enterprises. Currently, reinvested earnings from directly owned enterprises are already recorded, so Belgium's resource side increases with the reinvested earnings of the foreign indirect subsidiaries.

Reinvested earnings payable (D.43U)

If the Belgian parent has a foreign direct investor, the calculated reinvested earnings from the entire investment chain are first transferred to the Belgian parent company. The reinvested earnings of the Belgian and the foreign subsidiaries are transferred to the Belgian parent in proportion to shareholdings' percentages of X in its Belgian subsidiaries Xn. The D.43 of the Belgian parent company is added to the equation to receive the total reinvested earnings of group X.

$$(2.12) \text{ Reinvested earnings payable of group } X =$$

$$\text{reinvested earnings of Belgian parent and subsidiaries} +$$

$$\text{reinvested earnings received from foreign affiliates}$$

$$= D43_{PARENT} + REI_{BELGIAN SUBSIDIARIES} + D43_{FOREIGN SUBSIDIARIES}$$

$$= D.43U_{X(t)} + REI_{BE(t)} + D43U_{ROW(t)}$$

$$\text{where } D43U_{ROW(t)} = \sum_{Xn=1}^n D.43R_{Xn(t)} * \% \text{ share}_{Xn}$$

The total reinvested earnings are then transferred to the foreign parent in proportion to the percentage of the inward foreign direct investment. The Belgian and foreign reinvested earnings are thus recorded as D.43 payable.

$$(2.13) D.43U_{GROUP X} = (D.43U_{X(t)} + REI_{BE(t)} + D.43U_{ROW(t)}) * \%FDI_{INWARD FDI Y}$$

$$\%FDI_{INWARD FDI Y} = \text{inward foreign direct investment of } Y \text{ in } X$$

Definition 2.3 shows that only the Belgian participations still have an impact on the external balance when the Belgian parent falls under full foreign control and all direct participations within the investment chain are equal to 100%. The following equation applies:

$$(2.14) \text{ Impact external balance} = D.421R_X - D.43U_{X(t)} - REI_{BE} - D.421U_X$$

8.4.4.4 Compilation method: Adjustment in COP for capitalisation of R&D, software, mineral exploration, or originals

When calculating reinvested earnings (RIE) received from and paid to the Rest of the World (ROW) Belgium currently uses the Current Operating Performance (COP) concept as an approximation for the Net Operating Surplus (NOS) concept. As explained in detail under section 1.4.4, Belgium uses survey data and individual enterprise data to calculate the operating profit (COP), excluding extraordinary income and expenses. However, the COP definition does not fully consider the changes that were introduced by the ESA 2010 manual. The capitalisation of R&D potentially causes the COP concept to no longer conform to the NOS concept. Intellectual property and thus R&D are recognised as an asset under ESA2010 which implies that:

- treatment of expenses on purchased R&D as Gross Fixed Capital Formation (GFCF) and no longer as intermediate consumption (P.2)
- recognition of own account production of R&D as output (P.1) and GFCF
- consumption of fixed capital from R&D assets.

Another item to be capitalised is software, for which the same adjustments need to be made to bring enterprise data in line with ESA requirements.

The treatment of these assets according to the above requirements may thus cause the COP concept to be non-compliant with the ESA standard for the NOS concept. In order to assess the impact, it is necessary to consider whether the business accounts, which are used to calculate COP, are compliant with the ESA requirements. In the Belgian national accounts, when calculating the gross domestic product according to the production approach, adjustments are made to the business accounts for the capitalisation of certain items such as R&D and software. These adjustments are considered material for the calculation of value added (inventory chapter 3 – 3.4.2), so the assumption can be made that this will also be the case for the calculation of the COP/NOS on an entity level basis.

The next step is to analyse whether these ESA-adjustments are also significant at the GNI aggregate level and therefore whether there is a need to revise the series of reinvested earnings. The result of this analysis showed that the **net impact of cross-border flows of RIE on FDI is non-material (less than 0.1% of GNI) for timespan 2010-2018**. Consequently, it was decided **not to apply the conceptual adjustments**. However, this analysis will continue in the future, and adjustments might be applied to the RIE if the materiality goes higher than 0.1% of GNI.

The method and the results of the analysis are described below.

COPC adjustments – inward FDI (debit side)

For the calculation of the revised COP definition, only the adjustments for the capitalisation of software and R&D are considered significant. The calculation of the reinvested earnings payable on inward foreign direct investments (FDI) is based on individual business accounts. Because these enterprises are established in Belgium, most of the adjustments for capitalisation of expenses are also available at enterprise level. These adjustments are in fact already available through the calculation of value added in the national accounts. For details on the adjustments for R&D and software we refer to adjustments (g) and (i) in chapter 3 of the inventory²³². The COP definition is thus adapted by no longer treating expenses on purchased R&D/Software as intermediate consumption and by recognizing own account production as an output.

By recognising these R&D/software assets, an adjustment should also be made to bring depreciation from the business accounts in line with the newly capitalised assets. This is done by removing the depreciation for R&D and other licences from the original figure and replacing it with an amount consistent with the national accounts definition of consumption of fixed capital (CFC). This CFC adjustment was developed specifically for the FDI population and only for these assets²³³. The results of the CFC adjustment for R&D and Software are available at activity branch level (SUT).

²³² Chapter 3 - 3.4.2: step 2: transition from administrative/business aggregates to ESA 2010 aggregates.

²³³ The consumption of fixed capital for R&D and software is estimated using the PIM method (see GNI inventory 4.12). Investments series for the relevant populations and for the different years were established using individual information when available and extrapolating based on total investments for the relevant branches when needed.

For the transition from the old COP definition to the new ESA-compliant definition, all individual adjustments for R&D and Software (shift from intermediate consumption to GFCF) are first aggregated at the level of the branch of activity (SUT). In the equations below, they are called ‘ESA adjustments’. Then the depreciation from the business accounts is corrected via the ‘CFC adjustment’ to take account of these new assets. All these adjustments are thus added to the original COP, resulting in a new revised COP that meets the ESA standards. The results are available at SUT branch level for the whole economy (S.1).

$$(3.1) \quad COPC_{ESA \text{ compliant}} = COPC_{business \ data} + ESA \ adjustments - CFC \ adjustment$$

$$Impact \ ratio_{debit \ side} = \frac{ESA \ adjustments - CFC \ adjustment}{outstanding \ amounts \ on \ Inward \ FDI_equity}$$

In order to assess the impact of the adjustment, the amount of the adjustment is compared with the outstanding amounts of equity on inward direct investments in that branch. This impact ratio gives thus an idea of the extent to which the reinvested earnings in a particular branch are affected by the adjustments required in the ESA manual.

COPC adjustments – inward FDI (credit side)

Reinvested earnings on outward FDI are calculated, as for inward investments, on individual business accounts data but in this case, it is collected through the FDI surveys. However, unlike the debit side, no data are collected on the adjustments necessary to bring those business results in line with ESA definitions, nor on total investments and/or assets in R&D and software. Consequently, since a method based on individual adjustments is not feasible, a more pragmatic approach based on macro adjustments was chosen. This method applies the impact ratio calculated for the debit side (equation 3.1) on the outstanding amounts of equity on outward foreign direct investments.

$$(3.2) \quad Impact \ capitalisation \ on \ outward \ FDI = \\ (outstanding \ amounts \ on \ outward \ FDI_equity_{credit \ side}) \times impact \ ratio_{debit \ side}$$

The above definition is applied at an aggregate level, that is at the activity branch level A21. So, for every branch, we use the impact ratio calculated for that branch at the debit side and apply it on the outstanding amounts of the direct investors of that activity branch. Following assumptions are thus to be made:

- The activity of the direct investor from Belgium is the same as the direct investment enterprise in the rest of the world
- For a foreign entity with the same equity valuation as a Belgian entity, the same ESA adjustments are proposed as for the Belgian entity.

COPC ADJUSTMENTS - GNI IMPACT:

To assess whether the adjusted COP definition has an impact on the Belgian GNI, the net impact of the adjustments must be calculated, namely the difference between reinvested earnings received and paid. These results are set out in table 8.9, together with the corresponding outstanding equity amounts.

Table 8.9: GNI impact: net impact of the adjustments to the COPC of the reinvested earnings payable (D43use-S1) and receivable (D43res-S1) - (data in mil. €)

GNI impact	2010	2013	2015	2016	2017	2018
Impact Credit - D43res_S1	833	810	1.005	-584	-429	214
Assets - Outward FDI	291.682	371.387	522.304	580.796	584.437	503.693
Impact Debit - D43use_S1	1.093	1.016	1.303	-203	-30	204
Liabilities - Inward FDI	613.173	627.169	645.894	593.779	559.420	510.644
GNI impact	-260	-207	-298	-380	-400	11
%GNI	0,07%	0,05%	0,07%	0,09%	0,09%	0,00%

From 2015 onwards, a clear convergence can be observed between the assets and liabilities of foreign direct investments. However, if we look further into the past, we see that there were significantly more foreign direct equity investments in Belgium than foreign outward investments by Belgian investors. In order to check whether this imbalance between inward and outward FDI has a significant impact on the results of this exercise, we added two more years to the calculations, namely 2010 and 2013.

Overall, the effect does not appear to be material for the whole period. The materiality threshold (0.1% GNI) is not exceeded in any of the test years and there are no indications that the results of the non-tested years would be significantly different. Even though the COP adjustments on both the payable and receivable amounts are significant, they appear to offset each other to such an extent that there is no net material impact on the Belgian GNI balance.

Table 8.10: REFDI received from the rest of the world (2016 data in mil. €)

Reinvested earnings as resources (2016, € millions)				
	Current Operating Profit (COP)	Dividends receivable (D.421r)	Reinvested earnings = COP - D.421p	Of which indirect flows
S.11	23 141	14 466	8 675	11 405
S.122	2 413	57	2 355	147
S.125	130	121	9	111
S.126	1 338	894	445	0
S.127	2 550	1 428	1 122	49
S.128	287	141	146	0
Total S.1	29 859	17 107	12 752	11 712

Table 8.11: REFDI paid to the rest of the world (2016 data in mil. €)

Reinvested earnings as uses (2016, € millions)				
	Current Operating Profit (COP)	Dividends payable (D421p)	Reinvested earnings = COP - D.421u	Of which indirect flows
S.11	21 543	10 543	11 000	6 322
S.122	4 477	3 196	1 281	1 480
S.125	206	341	-135	-62
S.126	672	1 006	-334	50
S.127	4 655	4 899	-244	879
S.128	865	693	172	194
Total S.1	32 418	20 678	11 740	8 862

8.4.5 INVESTMENT INCOME ATTRIBUTABLE TO INSURANCE POLICY HOLDERS (D.441)

INCOME PAID TO THE REST OF THE WORLD

The amount of investment income attributed to insurance policy holders paid out to the rest of the world is calculated as part of insurance output, as described in chapter 3.17.7

Given that insurance output is calculated in detail for non-life insurance, life insurance and reinsurance, the investment income corresponding to these three types of insurance is identified separately. The share paid out to the rest of the world can be isolated in the following way.

In the case of non-life (transport & other) insurance, the figures for insurance premiums paid by the rest of the world to insurance companies in Belgium are estimated based on Balance of payments' surveys. On the other hand, an 'investment income/gross premiums' ratio is calculated each year using data obtained from calculating domestic production of liability and transport insurance. A moving average of this ratio is then calculated over three years. The amount of investment income paid out to policy holders located in the rest of the world is then estimated by multiplying the ratio obtained (three-year moving average) by the premiums paid by the rest of the world to insurance companies located in Belgium.

The same methodology is applied to life insurance. Figures for life insurance premiums received from the rest of the world are estimated based on Balance of payments (BoP) surveys. An 'investment income/gross premiums' ratio is calculated each year using data obtained from calculating domestic production of life insurance. A moving average of this ratio is then calculated over three years. The amount of investment income paid out to policy holders from the rest of the world is then estimated by multiplying the ratio obtained (three-year moving average) by the life insurance premiums paid by the rest of the world to insurance companies in Belgium.

For reinsurance, investment income paid out to the rest of the world is calculated as part of the wider concept of reinsurance output. The amount can be deduced directly by using the method of calculation (Eichmann method) described in the chapter on reinsurance (chapter 3.17.7). To recap, premiums received from abroad are estimated on the basis of the structural survey results. A supplement-to-premium ratio calculated for specialist reinsurers is estimated and applied to the figure for premiums received to obtain the premium supplements. The amount for premium supplements effectively corresponds to the amount of investment income paid out to the rest of the world, since this is then paid back in premium supplements in accordance with the methodology for reinsurance.

This method ensures that the flows are consistent with the premium supplement in export of insurance.

Table 8.12: investment income attributed to non-resident insurance policy holders

<i>2016, € millions</i>		
Income paid to the rest of the world	Source	Result
Non-life (liability) insurance		
<i>Gross premiums received from the RoW</i>	BOP survey	1250
<i>Ratio of investment income to premiums received</i>		5,2%
<i>Investment income paid to the RoW</i>		<i>64</i>
Transport insurance		
<i>Gross premiums received from the RoW</i>	BOP survey	151
<i>Ratio of investment income to premiums received</i>		3,2%
<i>Investment income paid to the RoW</i>		<i>5</i>
Life insurance		
<i>Gross premiums received from the RoW</i>	BOP survey	82
<i>Ratio of investment income to premiums received</i>		45,6%
<i>Investment income paid to the RoW</i>		<i>37</i>
Reinsurance		
<i>Gross premiums received from the RoW</i>	Structural survey	448
<i>Ratio of supplements to premiums received</i>		0,3%
<i>Investment income paid to the RoW</i>		<i>1</i>
TOTAL		108

INCOME RECEIVED FROM THE REST OF THE WORLD

The investment income attributed to policyholders paid by the rest of the world to Belgium is estimated by applying the annual rate of return on life technical provisions observed for domestic life insurers to the amount of life insurance and annuity entitlements of households held abroad (AF.62).

Table 8.13: investment income received by resident insurance policy holders

<i>2016, € millions</i>		
Income paid by the rest of the world	Source	Result
Life insurance and annuity entitlements (a)	Financial accounts (AF.62)	34 113
Long-term rate (b)		2,7%
TOTAL	(a) x (b)	928

8.4.6 INVESTMENT INCOME PAYABLE ON PENSION ENTITLEMENTS (D.442)

From 2016 on, the national accounts have been recording additional transfers from pension funds established in Belgium to non-resident affiliates. Some international groups have set up pension funds in Belgium and transferred pension entitlements of workers from non-resident companies into them.

The following transactions have consequently been recorded in the national accounts:

- investment income payable on pension entitlements paid by resident pension funds to the rest of the world
- net social contributions paid by the rest of the world to the resident pension funds sector
- social benefits paid by these pension funds to the rest of the world
- an adjustment for changes in the rest of the world's (household) pension entitlements on resident pension funds.

These amounts are derived from the profit and loss accounts and balance sheets of cross-border pension funds established in Belgium.

Table 8.14: investment income payable on pension entitlements

Categories	2016 data (in mil. €)
D.442 received from S.2	0
D.442 paid to S.2	12
D.442 net received	-12

8.4.7 INVESTMENT INCOME ATTRIBUTABLE TO COLLECTIVE INVESTMENT FUND SHAREHOLDERS (D.443)

The following sources and procedures are used to identify and cover cross-border flows of investment income attributable to domestic shareholders of foreign collective investment funds (CIF) (broken down by dividends attributable to collective investment funds' shareholders (D.4431) and retained earnings attributable to collective investment funds' shareholders (D.4432)):

- International investment position (IIP)
- Financial balance sheets
- Statistics on investment funds gathered by the Belgian prudential authority (Financial Services and Market Authority-FSMA)
- Security-by-security database (SbS)

The starting point of the estimation is the outstanding amount of foreign CIF hold by domestic shareholders as recorded in the IIP. In order to obtain the income attributable to the domestic shareholders, the rate of

return of the domestic CIF is applied on this outstanding amount. Then, in order to distinguish D.4431 from D.4432, we use information from SbS. The whole procedure is applied on a quarterly basis and distinguishes monetary from non-monetary CIF.

The calculation on an annual basis is shown below.

Table 8.15: investment income attributable to resident CIF shareholders

Variables	Sources or calculation	2016 data (in mil. €)
(1) Average outstanding amount of foreign CIF hold by domestic shareholders	IIP	186 666
(2) Average annual rate of return of domestic CIF (in %)	FSMA and financial balance sheets	1,05 %
(3) Total D443 paid by the rest of the world	(1)*(2)	1 961
(4) Share of distribution IF (in %)	SbS	38 %
(5) Total D4431 paid to the rest of the world	(3)*(4)	746
(6) Total D4432 paid to the rest of the world	(3)-(5)	1 215

For years after 2012, the investment income attributable to the domestic shareholders of foreign CIF is directly derived from balance of payments data.

The following sources are used to identify and cover cross-border flows of investment income attributable to foreign shareholders of domestic collective investment funds (broken down by dividends attributable to collective investment funds' shareholders (D.4431) and retained earnings attributable to collective investment funds' shareholders (D.4432))

- Financial balance sheets
- Statistics on investment funds gathered by the Belgian prudential authority (Financial Services and Market Authority-FSMA)
- Security-by-security database (SbS)

The total investment income of domestic collective investment funds (CIF) is available in FSMA statistics. To calculate the share of this total income going to foreign shareholders, we use the share of foreign shareholders in domestic CIF recorded in the financial balance sheets. Then, to distinguish D.4431 from D.4432, we use information from SbS. The whole procedure is applied on a quarterly basis and distinguishes monetary from non-monetary CIF. The calculation on an annual basis is shown below.

Table 8.16: investment income attributed to non-resident CIF shareholders

Variables	Sources or calculation	2016 data (in mil. €)
(1) Total investment income of resident CIF	FSMA	2 030
(2) Average annual share of foreign owners of domestic CIF (in %)	Financial balance sheets	21,2 %
(3) Total D443 paid to the rest of the world	(1)*(2)	430
(4) Share of distribution IF (in %)	SbS	3,3 %
(5) Total D4431 paid to the rest of the world	(3)*(4)	14
(6) Total D4432 paid to the rest of the world	(3)-(5)	416

8.4.8 RENT ON LAND AND SUB-SOIL ASSETS (D.45)

This item is considered as negligible in the Belgian national accounts.

CHAPTER 9

Main classification used

This chapter gives an overview of the main classifications used to compile the national accounts, and the relation between these classifications and the European classifications given in ESA2010.

9.1 CLASSIFICATIONS USED IN THE OUTPUT APPROACH

INDUSTRY CLASSIFICATION

In ESA2010, the European industry classification NACE Rev. 2²³⁴ is grouped by industry classifications A64, A38, A21, A10 and A3. The NACE-BEL 2008, drawn up by Statbel, is the Belgian version of NACE Rev. 2 and is identical to NACE Rev. 2 up to and including classification into classes (4-digits), but includes a further classification of the classes into subclasses (5-digits).

The Belgian industry classification in the national accounts groups categories of the NACE-BEL into 140 industries for the supply and use table (SUT). As there is no activity in mining of coal and lignite (nace 05), extraction of crude petroleum and natural gas (nace 06) and mining of metal ores (nace 07) in Belgium, these industries do not appear in the SUT.

The different aggregation levels for industry classification used in Belgium are shown in the annex below.

PRODUCT CLASSIFICATION

The product classification in ESA2010 is based on the European product classification CPA²³⁵, that for reporting purposes is grouped to the classifications P64, P38, P21, P10 and P3.

For the integration of the supply and use table this classification is however aggregated. The CPA headings (6-digit level) were therefore grouped into 354 SUT products²³⁶.

For industries reporting to the Prodcom survey²³⁷, the data can be grouped by the SUT classification via the CPA. The Prodcom classification is a further breakdown of the first 4 digits of the CPA.

The nomenclature used in the business structure survey to obtain detailed information on turnover, purchases and investments per product, is based on the CPA, which makes it possible to link it to the SUT classification.

The correspondence between CPA-products and SUT-products is shown in the annex below.

9.2 CLASSIFICATIONS USED IN THE INCOME APPROACH

The income components of value added are compiled according to the same industry classification (SUT-industries) as in the production approach.

9.3 CLASSIFICATION USED IN THE EXPENDITURE APPROACH

A consistent estimate of GDP is obtained by integrating the three approaches to GDP in the supply and use table. The SUT product classification (cf. 9.1.2) is therefore also relevant for the expenditure approach.

To initialize the SUT, source data are grouped by SUT product classification.

²³⁴ Statistical classification of economic activities in the European Community, Rev. 2, Eurostat, 2008

²³⁵ Statistical classification of products by activity in the European Economic Community, 2015 version, Eurostat

²³⁶ Coding of SUT products: the first 3 positions correspond with the first 3 of the SUT sector where the product is mainly produced, the following 2 are sequential

²³⁷ Prodcom: community survey of industrial production, Eurostat

The nomenclature of the household budget survey contains more than 1000 headings. It is linked at a detailed level with both the SUT classification and the COICOP²³⁸.

The Belgian nomenclature for imports and exports of goods is more detailed for some headings than the European combined nomenclature. It contains more than 9000 headings. The link to the SUT product classification is possible via the CPA.

Data relating to imports and exports of services are available according to the nomenclature given in the BoP Manual (6th version).

After integration of the SUT, the gross fixed capital formation according to the SUT classification is grouped by the Eurostat classification AN_F6. The final consumption expenditure of households can be grouped via the household budget survey nomenclature into Eurostat classification COICOP.

The final consumption expenditure of NPISH's is grouped under the following SUT categories:

Classification P3 S15

COPNI	SUT classification	
Recreation and culture		
	90A91	Creative, arts and entertainment services; non-market
	91A91	Library, archive, museum and other cultural services; non-market
	93A91	Sporting services and amusement and recreation services, non-market
Education		
	85A92	Sports and recreation education services; cultural education services; other education services n.e.c.; educational support services; non-market
Social protection		
	87A92	Residential care services (except residential nursing care and welfare services delivered through residential institutions); non-market
	88A92	Social work services without accommodation (except child day-care services), non-market
Political parties, labour and professional organisations		
	94A91	Services furnished by trade unions and other membership organisations, non-market
Services n.e.c.		
	72A91	Scientific research and development services; non market

The final consumption expenditure of the government is grouped according to the following categories:

²³⁸ COICOP: classification of individual final consumption by purpose (households).

Classification P3 S13

COFOG	SUT classification	
Individual consumption expenditure by government (P31)		
Health		
	21A01	Basic pharmaceutical products
	21A02	Medicaments
	21A03	Other pharmaceutical preparations; sub-contracted operations as part of manufacturing of pharmaceutical preparations
	32B04	Medical and dental instruments and supplies
	86A01	Hospital surgical services (except rehabilitation, psychiatry and geriatrics)
	86A02	Hospital rehabilitation services; Hospital psychiatric services; Other hospital services
	86B01	General medical and specialist medical practice services
	86C01	Dental practice services
	86D01	Medical laboratory, blood, sperm and transplant organ bank services; diagnostic imaging services
	86D02	Nursing and physiotherapeutic services and other human health services n.e.c.
	87A01	Residential nursing care and welfare services delivered through residential institutions to elderly persons
Recreation and culture		
	90A91	Creative, arts and entertainment services; non-market
	91A91	Library, archive, museum and other cultural services; non-market
	93A91	Sporting services and amusement and recreation services, non-market
Education		
	85A93	Pre-primary, primary, secondary, higher education services; non-market
Social protection		
	35B01	Manufactured gas; distribution services of gaseous fuels through mains
	68B02	Rental and operating services of own or leased residential real estate, renters
	84A91	Administration services, except defence services and compulsory social security services
	84C91	Compulsory social security services
	87A02	Residential care services (except residential nursing care and welfare services delivered through residential institutions); market
	88A01	Child day-care services
	88A02	Social work services without accommodation (except child day-care services); market
Collective consumption expenditure by government (P32)		
	38A01	Waste; waste collection services
	39A01	Remediation services and other waste management services

COFOG	SUT classification	
	49B91	Urban and suburban passenger land transport services, non-market
	52A92	Services incidental to land transportation, non-market
	60A91	Programming and broadcasting services; non-market
	72A91	Scientific research and development services
	84A91	Administration services, except defence services and compulsory social security services
	84B91	Defence services
	84C91	Compulsory social security services

Classification P31 S14



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9.4 ANNEXES

Industry classification (SUT)

A3	A10	A21	A38	A64	SUT	NACE-BEL	Name of industry	
1	1	A	AA	01	01A	01.1	Crop and animal production, hunting and related service activities <i>Growing of non-perennial crops</i>	
						+ 01.2	<i>Growing of perennial crops</i>	
						+ 01.3	<i>Plant propagation</i>	
						+ 01.4	<i>Animal production</i>	
						+ 01.5	<i>Mixed farming</i>	
						+ 01.6	<i>Support activities to agriculture and post-harvest crop activities</i>	
						+ 01.7	<i>Hunting, trapping and related service activities</i>	
				02	02A	Forestry and logging		
				02.1	<i>Silviculture and other forestry activities</i>			
+ 02.2	<i>Logging</i>							
+ 02.3	<i>Gathering of wild growing non-wood products</i>							
+ 02.4	<i>Support services to forestry</i>							
03	03A	Fishing and aquaculture						
		03.1	<i>Fishing</i>					
		+ 03.2	<i>Aquaculture</i>					
2	2	B	BB	05-09	X	05.1	Mining of coal and lignite <i>Mining of hard coal</i>	
						+ 05.2	<i>Mining of lignite</i>	
						X	Extraction of crude petroleum and natural gas	
							06.1	<i>Extraction of crude petroleum</i>
							+ 06.2	<i>Extraction of natural gas</i>
							X	Mining of metal ores

A3	A10	A21	A38	A64	SUT	NACE-BEL	Name of industry
						07.1	<i>Mining of iron ores</i>
						+ 07.2	<i>Mining of non-ferrous metal ores</i>
					08A		Other mining and quarrying
						08.1	<i>Quarrying of stone, sand and clay</i>
						+ 08.9	<i>Mining and quarrying n.e.c.</i>
					09A		Mining support service activities
						09.1	<i>Support activities for petroleum and natural gas extraction</i>
						+ 09.9	<i>Support activities for other mining and quarrying</i>
		C	CA	10-12	10A	10.1	Processing and preserving of meat and production of meat products
					10B	10.2	Processing and preserving of fish, crustaceans and molluscs
					10C	10.3	Processing and preserving of fruit and vegetables
					10D	10.4	Manufacture of vegetable and animal oils and fats
					10E	10.5	Manufacture of dairy products
					10F	10.6	Manufacture of grain mill products, starches and starch products
					10G	10.7	Manufacture of bakery and farinaceous products
					10H		Manufacture of sugar, cocoa, chocolate and sugar confectionery
						10.81	<i>Manufacture of sugar</i>
						+ 10.82	<i>Manufacture of cocoa, chocolate and sugar confectionery</i>
					10I		Manufacture of other food products
						+ 10.83	<i>Processing of tea and coffee</i>
						+ 10.84	<i>Manufacture of condiments and seasonings</i>
						+ 10.85	<i>Manufacture of prepared meals and dishes</i>
						+ 10.86	<i>Manufacture of homogenised food preparations and dietetic food</i>
						+ 10.89	<i>Manufacture of other food products n.e.c.</i>
					10J	10.9	Manufacture of prepared animal feeds
					11A		Manufacture of beverages, excl. waters and soft drinks
						11.01	<i>Distilling, rectifying and blending of spirits</i>
						+ 11.02	<i>Manufacture of wine from grape</i>
						+ 11.03	<i>Manufacture of cider and other fruit wines</i>

A3	A10	A21	A38	A64	SUT	NACE-BEL	Name of industry
						+ 11.04	<i>Manufacture of other non-distilled fermented beverages</i>
						+ 11.05	<i>Manufacture of beer</i>
						+ 11.06	<i>Manufacture of malt</i>
					11B	11.07	Manufacture of soft drinks; production of mineral waters and other bottled waters
					12A	12.0	Manufacture of tobacco products
			CB	13-15	13A		Preparation and spinning of textile fibres; Weaving of textiles; Finishing of textiles
						13.1	<i>Preparation and spinning of textile fibres</i>
						+ 13.2	<i>Weaving of textiles</i>
						+ 13.3	<i>Finishing of textiles</i>
					13B	13.9	Manufacture of other textiles
					14A		Manufacture of wearing apparel
						14.1	<i>Manufacture of wearing apparel, except fur apparel</i>
						+ 14.2	<i>Manufacture of articles of fur</i>
						+ 14.3	<i>Manufacture of knitted and crocheted apparel</i>
					15A		Manufacture of leather and related products
						15.1	<i>Tanning and dressing of leather; manufacture of luggage, handbags, saddlery and harness; dressing and dyeing of fur</i>
						+ 15.2	<i>Manufacture of footwear</i>
			CC	16	16A		Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
						16.1	<i>Sawmilling and planing of wood</i>
						+ 16.2	<i>Manufacture of products of wood, cork, straw and plaiting materials</i>
				17	17A		Manufacture of paper and paper products
						17.1	<i>Manufacture of pulp, paper and paperboard</i>
						+ 17.2	<i>Manufacture of articles of paper and paperboard</i>
				18	18A		Printing and reproduction of recorded media
						18.1	<i>Printing and service activities related to printing</i>
						+ 18.2	<i>Reproduction of recorded media</i>
			CD	19	19A		Manufacture of coke and refined petroleum products

A3	A10	A21	A38	A64	SUT	NACE-BEL	Name of industry
						19.1 + 19.2	<i>Manufacture of coke oven products</i> <i>Manufacture of refined petroleum products</i>
			CE	20	20A	20.1 excl. 20.13	Manufacture of basic chemicals, fertilisers and nitrogen compounds, plastics and synthetic rubber in primary forms, excl. manufacture of other inorganic basic chemicals
					20B	20.13	Manufacture of other inorganic basic chemicals
					20C	20.2	Manufacture of pesticides and other agrochemical products
					20D	20.3	Manufacture of paints, varnishes and similar coatings, printing ink and mastics
					20E	20.4	Manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations
					20F	20.5	Manufacture of other chemical products
					20G	20.6	Manufacture of man-made fibres
			CF	21	21A	21.1 + 21.2	Manufacture of basic pharmaceutical products and pharmaceutical preparations <i>Manufacture of basic pharmaceutical products</i> <i>Manufacture of pharmaceutical preparations</i>
			CG	22	22A	22.1	Manufacture of rubber products
					22B	22.2	Manufacture of plastics products
				23	23A	23.1	Manufacture of glass and glass products
					23B	23.2 + 23.3 + 23.4	Manufacture of refractory products; Manufacture of clay building materials; Manufacture of other porcelain and ceramic products <i>Manufacture of refractory products</i> <i>Manufacture of clay building materials</i> <i>Manufacture of other porcelain and ceramic products</i>
					23C	23.5	Manufacture of cement, lime and plaster
					23D	23.6 + 23.7 + 23.9	Manufacture of articles of concrete, cement and plaster; Cutting, shaping and finishing of stone; Manufacture of abrasive products and non-metallic mineral products n.e.c. <i>Manufacture of articles of concrete, cement and plaster</i> <i>Cutting, shaping and finishing of stone</i> <i>Manufacture of abrasive products and non-metallic mineral products n.e.c.</i>
			CH	24	24A		Manufacture of basic iron and steel and of ferro-alloys; Manufacture of tubes, pipes, hollow profiles and related fittings, of steel

A3	A10	A21	A38	A64	SUT	NACE-BEL	Name of industry
						24.1	<i>Manufacture of basic iron and steel and of ferro-alloys</i>
						+ 24.2	<i>Manufacture of tubes, pipes, hollow profiles and related fittings, of steel</i>
					24B		Manufacture of other products of first processing of steel; Manufacture of basic precious and other non-ferrous metals; Casting of metals
						24.3	<i>Manufacture of other products of first processing of steel</i>
						+ 24.4	<i>Manufacture of basic precious and other non-ferrous metals</i>
						+ 24.5	<i>Casting of metals</i>
				25	25A		Manufacture of structural metal products; Manufacture of tanks, reservoirs and containers of metal; Manufacture of steam generators, except central heating hot water boilers; Manufacture of weapons and ammunition; Forging, pressing, stamping and roll-forming of metal; powder metallurgy
						25.1	<i>Manufacture of structural metal products</i>
						+ 25.2	<i>Manufacture of tanks, reservoirs and containers of metal</i>
						+ 25.3	<i>Manufacture of steam generators, except central heating hot water boilers</i>
						+ 25.4	<i>Manufacture of weapons and ammunition</i>
						+ 25.5	<i>Forging, pressing, stamping and roll-forming of metal; powder metallurgy</i>
					25B	25.6	Treatment and coating of metals; machining
					25C		Manufacture of cutlery, tools and general hardware; Manufacture of other fabricated metal products
						25.7	<i>Manufacture of cutlery, tools and general hardware</i>
						+ 25.9	<i>Manufacture of other fabricated metal products</i>
			CI	26	26A		Manufacture of electronic components and boards; Manufacture of computers and peripheral equipment
						26.1	<i>Manufacture of electronic components and boards</i>
						+ 26.2	<i>Manufacture of computers and peripheral equipment</i>
					26B		Manufacture of communication equipment; Manufacture of consumer electronics
						26.3	<i>Manufacture of communication equipment</i>
						+ 26.4	<i>Manufacture of consumer electronics</i>

A3	A10	A21	A38	A64	SUT	NACE-BEL	Name of industry
					26C		Manufacture of instruments and appliances for measuring, testing and navigation; watches and clocks; Manufacture of irradiation, electromedical and electrotherapeutic equipment; Manufacture of optical instruments and photographic equipment; Manufacture of magnetic and optical media
						26.5	<i>Manufacture of instruments and appliances for measuring, testing and navigation; watches and clocks</i>
						+ 26.6	<i>Manufacture of irradiation, electromedical and electrotherapeutic equipment</i>
						+ 26.7	<i>Manufacture of optical instruments and photographic equipment</i>
						+ 26.8	<i>Manufacture of magnetic and optical media</i>
			CJ	27	27A		Manufacture of electric motors, generators, transformers and electricity distribution and control apparatus; Manufacture of batteries and accumulators; Manufacture of wiring and wiring devices; Manufacture of electric lighting equipment
						27.1	<i>Manufacture of electric motors, generators, transformers and electricity distribution and control apparatus</i>
						+ 27.2	<i>Manufacture of batteries and accumulators</i>
						+ 27.3	<i>Manufacture of wiring and wiring devices</i>
						+ 27.4	<i>Manufacture of electric lighting equipment</i>
					27B		Manufacture of domestic appliances; Manufacture of other electrical equipment
						27.5	<i>Manufacture of domestic appliances</i>
						+ 27.9	<i>Manufacture of other electrical equipment</i>
			CK	28	28A		Manufacture of general-purpose machinery; Manufacture of other general-purpose machinery
						28.1	<i>Manufacture of general-purpose machinery</i>
						+ 28.2	<i>Manufacture of other general-purpose machinery</i>
					28B		Manufacture of agricultural and forestry machinery; Manufacture of metal forming machinery and machine tools; Manufacture of other special-purpose machinery
						28.3	<i>Manufacture of agricultural and forestry machinery</i>
						+ 28.4	<i>Manufacture of metal forming machinery and machine tools</i>
						+ 28.9	<i>Manufacture of other special-purpose machinery</i>
			CL	29	29A	29.1	Manufacture of motor vehicles
					29B		Manufacture of bodies (coachwork) for motor vehicles; manufacture of trailers and semi-trailers; Manufacture of parts and accessories for motor vehicles

A3	A10	A21	A38	A64	SUT	NACE-BEL	Name of industry	
						29.2	<i>Manufacture of bodies (coachwork) for motor vehicles; manufacture of trailers and semi-trailers</i>	
						+ 29.3	<i>Manufacture of parts and accessories for motor vehicles</i>	
				30	30A	30.1	Building of ships and boats	
					30B	30.2	Manufacture of railway locomotives and rolling stock	
					30C	30.3	Manufacture of air and spacecraft and related machinery	
					30D	30.4	Manufacture of military fighting vehicles; Manufacture of transport equipment n.e.c.	
						+ 30.9	<i>Manufacture of military fighting vehicles</i> <i>Manufacture of transport equipment n.e.c.</i>	
			CM	31-32	31A	31.0	Manufacture of furniture	
					32A	32.1	Manufacture of jewellery, bijouterie and related articles	
					32B	32.2	Manufacture of musical instruments; Manufacture of sports goods; Manufacture of games and toys; Manufacture of medical and dental instruments and supplies; Manufacturing n.e.c.	
						+ 32.3	<i>Manufacture of musical instruments</i>	
						+ 32.4	<i>Manufacture of sports goods</i>	
						+ 32.5	<i>Manufacture of games and toys</i>	
						+ 32.9	<i>Manufacture of medical and dental instruments and supplies</i> <i>Manufacturing n.e.c.</i>	
				33	33A	33.1	Repair and installation of machinery and equipment	
						+ 33.2	<i>Repair of fabricated metal products, machinery and equipment</i> <i>Installation of industrial machinery and equipment</i>	
			D	DD	35	35A	Electric power generation, transmission and distribution; Steam and air conditioning supply	
						35.1	<i>Electric power generation, transmission and distribution</i>	
						+ 35.3	<i>Steam and air conditioning supply</i>	
					35B	35.2	Manufacture of gas; distribution of gaseous fuels through mains	
			E	EE	36	36A	36.0	Water collection, treatment and supply
				37-39	37A	37.0	Sewerage	
					38A	38.1	Waste collection; Waste treatment and disposal <i>Waste collection</i>	

A3	A10	A21	A38	A64	SUT	NACE-BEL	Name of industry
						+ 38.2	<i>Waste treatment and disposal</i>
					38B	38.3	Materials recovery
					39A	39.0	Remediation activities and other waste management services
	3	F	FF	41-43	41A	41.1 + 41.2	Construction of buildings <i>Development of building projects</i> <i>Construction of residential and non-residential buildings</i>
					42A	42.1 + 42.2 + 42.9	Civil engineering <i>Construction of roads and railways</i> <i>Construction of utility projects</i> <i>Construction of other civil engineering projects</i>
					43A	43.1	Demolition and site preparation
					43B	43.2	Electrical, plumbing and other construction installation activities
					43C	43.3	Building completion and finishing
					43D	43.9	Other specialised construction activities
3	4	G	GG	45	45A	45.1 + 45.2 + 45.3 + 45.4	Wholesale and retail trade and repair of motor vehicles and motorcycles <i>Sale of motor vehicles</i> <i>Maintenance and repair of motor vehicles</i> <i>Sale of motor vehicle parts and accessories</i> <i>Sale, maintenance and repair of motorcycles and related parts and accessories</i>
				46	46A	46.1 + 46.2 + 46.3 + 46.4 + 46.5 + 46.6 + 46.7 excl. 46.71	Wholesale trade, except of motor vehicles and motorcycles and of solid, liquid and gaseous fuels and related products <i>Wholesale on a fee or contract basis</i> <i>Wholesale of agricultural raw materials and live animals</i> <i>Wholesale of food, beverages and tobacco</i> <i>Wholesale of household goods</i> <i>Wholesale of information and communication equipment</i> <i>Wholesale of other machinery, equipment and supplies</i> <i>Other specialised wholesale</i>

A3	A10	A21	A38	A64	SUT	NACE-BEL	Name of industry
						+ 46.9	<i>Non-specialised wholesale trade</i>
					46B	46.71	Wholesale of solid, liquid and gaseous fuels and related products
				47	47A		Retail trade, except of motor vehicles and motorcycles and of automotive fuel in specialised stores
						47.1	<i>Retail sale in non-specialised stores</i>
						+ 47.2	<i>Retail sale of food, beverages and tobacco in specialised stores</i>
						+ 47.4	<i>Retail sale of information and communication equipment in specialised stores</i>
						+ 47.5	<i>Retail sale of other household equipment in specialised stores</i>
						+ 47.6	<i>Retail sale of cultural and recreation goods in specialised stores</i>
						+ 47.7	<i>Retail sale of other goods in specialised stores</i>
						+ 47.8	<i>Retail sale via stalls and markets</i>
						+ 47.9	<i>Retail trade not in stores, stalls or markets</i>
					47B	47.3	Retail sale of automotive fuel in specialised stores
		H	HH	49	49A		Rail transport
						49.1	<i>Passenger rail transport, interurban</i>
						+ 49.2	<i>Freight rail transport</i>
					49B	49.3	Other passenger land transport
					49C		Freight transport by road and removal services; Transport via pipeline
						49.4	<i>Freight transport by road and removal services</i>
						+ 49.5	<i>Transport via pipeline</i>
				50	50A		Sea and coastal water transport
						50.1	<i>Sea and coastal passenger water transport</i>
						+ 50.2	<i>Sea and coastal freight water transport</i>
					50B		Inland water transport
						50.3	<i>Inland passenger water transport</i>
						+ 50.4	<i>Inland freight water transport</i>
				51	51A		Air transport
						51.1	<i>Passenger air transport</i>
						+ 51.2	<i>Freight air transport and space transport</i>

A3	A10	A21	A38	A64	SUT	NACE-BEL	Name of industry
				52	52A	52.1 + 52.2	Warehousing and support activities for transportation <i>Warehousing and storage</i> <i>Support activities for transportation</i>
				53	53A	53.1 + 53.2	Postal and courier activities <i>Postal activities under universal service obligation</i> <i>Other postal and courier activities</i>
		I	II	55-56	55A	55.1 + 55.2 + 55.3 + 55.9	Accommodation <i>Hotels and similar accommodation</i> <i>Holiday and other short-stay accommodation</i> <i>Camping grounds, recreational vehicle parks and trailer parks</i> <i>Other accommodation</i>
					56A	56.1 + 56.2 + 56.3	Food and beverage service activities <i>Restaurants and mobile food service activities</i> <i>Event catering and other food service activities</i> <i>Beverage serving activities</i>
	5	J	JA	58	58A	58.1 + 58.2	Publishing activities <i>Publishing of books, periodicals and other publishing activities</i> <i>Software publishing</i>
				59-60	59A	59.1 + 59.2	Motion picture, video and television programme production, sound recording and music publishing activities <i>Motion picture, video and television programme activities</i> <i>Sound recording and music publishing activities</i>
					60A	60.1 + 60.2	Programming and broadcasting activities <i>Radio broadcasting</i> <i>Television programming and broadcasting activities</i>
			JB	61	61A	61.1 + 61.2 + 61.3	Telecommunications <i>Wired telecommunications activities</i> <i>Wireless telecommunications activities</i> <i>Satellite telecommunications activities</i>

A3	A10	A21	A38	A64	SUT	NACE-BEL	Name of industry
						+ 61.9	<i>Other telecommunications activities</i>
			JC	62-63	62A	62.0	Computer programming, consultancy and related activities
					63A		Information service activities
						63.1	<i>Data processing, hosting and related activities; web portals</i>
						+ 63.9	<i>Other information service activities</i>
	6	K	KK	64	64A	64.1	Monetary intermediation
					64B	64.2	Activities of holding companies
					64C	64.3	Trusts, funds and similar financial entities
					64D	64.9	Other financial service activities, except insurance and pension funding
				65	65A		Insurance, reinsurance and pension funding, except compulsory social security
						65.1	<i>Insurance</i>
						+ 65.2	<i>Reinsurance</i>
						+ 65.3	<i>Pension funding</i>
				66	66A	66.1	Activities auxiliary to financial services, except insurance and pension funding
					66B	66.2	Activities auxiliary to insurance and pension funding
					66C	66.3	Fund management activities
	7	L	LL	68	68A		Buying and selling of own real estate; Real estate activities on a fee or contract basis
						68.1	<i>Buying and selling of own real estate</i>
						68.2	<i>Renting and operating of own or leased real estate</i>
						+ 68.3	<i>Real estate activities on a fee or contract basis</i>
					68B	xxx	Imputed rents
	8	M	MA	69-70	69A		Legal and accounting activities
						69.1	<i>Legal activities</i>
						+ 69.2	<i>Accounting, bookkeeping and auditing activities; tax consultancy</i>
					70A		Activities of head offices; management consultancy activities
						70.1	<i>Activities of head offices</i>
						+ 70.2	<i>Management consultancy activities</i>
				71	71A		Architectural and engineering activities; technical testing and analysis
						71.1	<i>Architectural and engineering activities and related technical consultancy</i>

A3	A10	A21	A38	A64	SUT	NACE-BEL	Name of industry
						+ 71.2	<i>Technical testing and analysis</i>
			MB	72	72A	72.1 + 72.2	Scientific research and development <i>Research and experimental development on natural sciences and engineering</i> <i>Research and experimental development on social sciences and humanities</i>
			MC	73	73A	73.1 + 73.2	Advertising and market research <i>Advertising</i> <i>Market research and public opinion polling</i>
				74-75	74A	74.1 + 74.2 + 74.3 + 74.9	Other professional, scientific and technical activities <i>Specialised design activities</i> <i>Photographic activities</i> <i>Translation and interpretation activities</i> <i>Other professional, scientific and technical activities n.e.c.</i>
					75A	75.0	Veterinary activities
		N	NN	77	77A	77.1	Renting and leasing of motor vehicles
					77B	77.2	Renting and leasing of personal and household goods
					77C	77.3 + 77.4	Renting and leasing of other machinery, equipment and tangible goods; Leasing of intellectual property and similar products, except copyrighted works <i>Renting and leasing of other machinery, equipment and tangible goods</i> <i>Leasing of intellectual property and similar products, except copyrighted works</i>
				78	78A	78.1 + 78.2 + 78.3	Employment activities <i>Activities of employment placement agencies</i> <i>Temporary employment agency activities</i> <i>Other human resources provision</i>
				79	79A	79.1 + 79.9	Travel agency, tour operator reservation service and related activities <i>Travel agency and tour operator activities</i> <i>Other reservation service and related activities</i>
				80-82	80A	80.1 + 80.2	Security and investigation activities <i>Private security activities</i> <i>Security systems service activities</i>

A3	A10	A21	A38	A64	SUT	NACE-BEL	Name of industry
						+ 80.3	<i>Investigation activities</i>
					81A	81.1 + 81.3	Combined facilities support activities; <i>Combined facilities support activities</i> <i>Landscape service activities</i>
					81B	81.2	Cleaning activities
					82A	82.1 + 82.2 + 82.3 + 82.9	Office administrative, office support and other business support activities <i>Office administrative and support activities</i> <i>Activities of call centres</i> <i>Organisation of conventions and trade shows</i> <i>Business support service activities n.e.c.</i>
	9	O	OO	84	84A	84 excl. 84.22, 84.3	Public administration excl. defence and compulsory social security
					84B	84.22	Defence activities
					84C	84.3	Compulsory social security activities
		P	PP	85	85A	85.1 + 85.2 + 85.3 + 85.4 + 85.5 + 85.6	Education <i>Pre-primary education</i> <i>Primary education</i> <i>Secondary education</i> <i>Higher education</i> <i>Other education</i> <i>Educational support activities</i>
		Q	QA	86	86A	86.1	Hospital activities
					86B	86.21 + 86.22	Medical practice activities <i>General medical practice activities</i> <i>Specialist medical practice activities</i>
					86C	86.23	Dental practice activities
					86D	86.9	Other human health activities
		QB	87-88	87A	87.1	Residential care activities <i>Residential nursing care activities</i>	

A3	A10	A21	A38	A64	SUT	NACE-BEL	Name of industry
						+ 87.2 + 87.3 + 87.9	<i>Residential care activities for mental retardation, mental health and substance abuse</i> <i>Residential care activities for the elderly and disabled</i> <i>Other residential care activities</i>
					88A	88.1 + 88.9	Social work activities without accommodation <i>Social work activities without accommodation for the elderly and disabled</i> <i>Other social work activities without accommodation</i>
	10	R	RR	90-92	90A	90.01 + 90.02 + 90.03 + 90.04	Creative, arts and entertainment activities <i>Performing arts</i> <i>Support activities to performing arts</i> <i>Artistic creation</i> <i>Operation of arts facilities</i>
					91A	91.01 + 91.02 + 91.03 + 91.04	Libraries, archives, museums and other cultural activities <i>Library and archives activities</i> <i>Museums activities</i> <i>Operation of historical sites and buildings and similar visitor attractions</i> <i>Botanical and zoological gardens and nature reserves activities</i>
					92A	92.0	Gambling and betting activities
				93	93A	93.1 + 93.2	Sports activities and amusement and recreation activities <i>Sports activities</i> <i>Amusement and recreation activities</i>
		S	SS	94	94A	94.1 + 94.2 + 94.9	Activities of membership organisations <i>Activities of business, employers and professional membership organisations</i> <i>Activities of trade unions</i> <i>Activities of other membership organisations</i>
				95	95A	95.1 + 95.2	Repair of computers and personal and household goods <i>Repair of computers and communication equipment</i> <i>Repair of personal and household goods</i>
				96	96A	96.01	Other personal service activities <i>Washing and (dry-)cleaning of textile and fur products</i>

A3	A10	A21	A38	A64	SUT	NACE-BEL	Name of industry
						+ 96.02	<i>Hairdressing and other beauty treatment</i>
						+ 96.03	<i>Funeral and related activities</i>
						+ 96.04	<i>Physical well-being activities</i>
						+ 96.09	<i>Other personal service activities n.e.c.</i>
		T	TT	97-98	97A	97.0	Activities of households as employers of domestic personnel
						98	Undifferentiated goods- and services-producing activities of private households for own use
		U	UU	99		99	Activities of extraterritorial organisations and bodies

Product classification (SUT)

SUT product	CPA 2015						Name of SUT product		
	01.11.00	01.12.00	01.14.00	01.15.00	01.16.00				
01A01								Cereals (except rice), leguminous crops and oil seeds; rice, not husked; sugar cane; unmanufactured tobacco; fibre crops	
01A02								Vegetables and melons, roots and tubers; Other non-perennial crops; plantmateriaal: Planting material: live plants, bulbs, tubers and roots, cuttings and slips; mushroom spawn	
01A03								Perennial crops	
01A04								Dairy cattle, live; other cattle and buffaloes, live and their semen	
01A05								Raw milk from dairy cattle	
01A06								Swine, live	
01A07								Poultry, live	
01A08								Eggs, in shell, fresh	
01A09								Other farmed animals and animal products	
01A10								Agricultural and animal husbandry services (except veterinary services); hunting and trapping and related services	
02A01								Products of forestry, logging and related services	
03A01								Fish and other fishing products; aquaculture products; support services to fishing	

05A01	05.00.00								Coal and lignite
06A01	06.00.00								Crude petroleum and natural gas
07A01	07.00.00								Metal ores
08A01	08.11.00								Ornamental and building stone, limestone, gypsum, chalk and slate
08A02	08.12.00								Gravel, sand, clays and kaolin
08A03	08.90.00								Mining and quarrying products n.e.c.
09A01	09.00.00								Mining support services
10A01	10.11.11	10.11.31							Meat of bovine animals, fresh or chilled or frozen
10A02	10.11.12	10.11.32							Meat of swine, fresh or chilled or frozen
10A03	10.11.13	10.11.14	10.11.15	10.11.20	10.11.33	10.11.34	10.11.35	10.11.39	Other meat, fresh or chilled (except poultry, rabbit or game)
10A04	10.11.40	10.11.50	10.11.60	10.11.90					Pulled wool and raw hides and skins of bovine or equine animals, sheep and goats; fats of bovine animals, sheep, goats or pigs; raw offal, inedible; sub-contracted operations as part of manufacturing of processed and preserved meat
10A05	10.12.00								Meat and poultry meat products
10A06	10.13.00								Processed and preserved meat
10B01	10.20.00								Processed and preserved fish, crustaceans and molluscs
10C01	10.31.00								Processed and preserved potatoes
10C02	10.32.00								Fruit and vegetable juices
10C03	10.39.00								Other processed and preserved fruit and vegetables
10D01	10.41.00								Oils and fats
10D02	10.42.00								Margarine and similar edible fats
10E01	10.51.30								Butter and dairy spreads
10E02	10.51.40	10.51.50	10.51.90						Cheese and curd; other dairy products; sub-contracted operations as part of manufacturing of dairy and cheese products
10E03	10.51.10	10.51.20							Processed liquid milk and cream; milk in solid forms
10E04	10.52.00								Ice cream
10F01	10.61.00								Grain mill products
10F02	10.62.00								Starches and starch products
10G01	10.71.00								Bread; fresh pastry goods and cakes
10G02	10.72.00								Rusks and biscuits; preserved pastry goods and cakes
10G03	10.73.00								Macaroni, noodles, couscous and similar farinaceous products
10H01	10.81.00								Sugar

10H02	10.82.10	10.82.30	10.82.90						Cocoa paste, whether or not defatted, cocoa butter, fat and oil, cocoa powder; cocoa shells, husks, skins and other cocoa waste; sub-contracted operations as part of manufacturing of cocoa, chocolate and sugar confectionery
10H03	10.82.21	10.82.22							Chocolate and food preparations containing cocoa (except sweetened cocoa powder), in bulk forms
10H04	10.82.23	10.82.24							Sugar confectionery, not containing cocoa; fruit, nuts, and other, preserved by sugar
10I01	10.83.00								Processed tea and coffee
10I02	10.84.00								Condiments and seasonings
10I03	10.85.00								Prepared meals and dishes
10I04	10.86.00	10.89.00							Homogenised food preparations and dietetic food; other food products n.e.c.
10J01	10.91.00								Prepared feeds for farm animals
10J02	10.92.00								Prepared pet foods
11A01	11.01.00								Distilled alcoholic beverages
11A02	11.05.00								Beer
11A03	11.06.00								Malt
11A04	11.02.00	11.03.00	11.04.00						Wine from grape; cider and other fruit wines; other non-distilled fermented beverages
11B01	11.07.00								Soft drinks; mineral waters and other bottled waters
12A01	12.00.00								Tobacco products
12A02	12.00.00?								Drugs
13A01	13.10.00								Textile yarn and thread
13A02	13.20.00								Woven textiles
13A03	13.30.00								Textile finishing services
13B01	13.91.00								Knitted and crocheted fabrics
13B02	13.92.00								Made-up textile articles, except apparel
13B03	13.93.00								Carpets and rugs
13B04	13.94.00	13.95.00	13.96.00	13.99.00					Other textiles n.e.c.
14A01	14.11.00	14.20.00							Leather clothes; articles of fur
14A02	14.12.00								Workwear
14A03	14.13.00	14.14.00	14.19.00						Other outerwear; underwear; other wearing apparel and accessories
14A04	14.30.00								Knitted and crocheted apparel
15A01	15.11.00								Tanned and dressed leather; dressed and dyed fur

15A02	15.12.00							Luggage, handbags and the like, saddlery and harness
15A03	15.20.00							Footwear
16A01	16.10.00							Wood, sawn and planed
16A02	16.21.00							Veneer sheets and wood-based panels
16A03	16.22.00	16.23.00						Assembled parquet floors; other builders' carpentry and joinery
16A04	16.24.00							Wooden containers
16A05	16.29.00							Other products of wood; articles of cork, straw and plaiting materials
17A01	17.11.00							Pulp
17A02	17.12.00							Paper and paperboard
17A03	17.21.00							Corrugated paper and paperboard and containers of paper and paperboard
17A04	17.22.00							Household and sanitary goods and toilet requisites
17A05	17.23.00							Paper stationery
17A06	17.24.00	17.29.00						Wallpaper; other articles of paper and paperboard
18A01	18.11.00							Newspaper printing services
18A02	18.12.00							Other printing services
18A03	18.13.00							Pre-press and pre-media services
18A04	18.14.00							Binding and related services
18A05	18.20.00							Reproduction services of recorded media
19A01	19.10.00	19.20.10						Coke oven products, briquettes, ovoids and similar solid fuels
19A02	19.20.21	19.20.22						Motor spirit (gasoline), including aviation spirit, spirit type (gasoline type) jet fuel
19A03	19.20.23	19.20.25						White spirit; naphta
19A04	19.20.24							Kerosene;
19A05	19.20.26							Gas oils
19A06	19.20.27	19.20.28	19.20.29					Medium petroleum oils; medium preparations n.e.c.; fuel oils n.e.c.; lubricating petroleum oils; heavy preparations n.e.c.
19A07	19.20.30							Petroleum gases and other gaseous hydrocarbons, except natural gas
19A08	19.20.40	19.20.90						Other petroleum products; sub-contracted operations as part of manufacturing of refined petroleum products
20A01	20.11.00							Industrial gases
20A02	20.12.00							Dyes and pigments
20A03	20.14.00	20.15.00						Other organic basic chemicals; fertilisers and nitrogen compounds
20A04	20.16.00	20.17.00						Plastics in primary forms; synthetic rubber in primary forms

23D01	23.61.00	23.62.00						Concrete products for construction purposes; plaster products for construction purposes
23D02	23.63.00	23.64.00						Ready-mixed concrete; mortars
23D03	23.65.00	23.69.00						Fibre cement; other articles of concrete, plaster and cement
23D04	23.70.00							Cut, shaped and finished stone
23D05	23.90.00							Other non-metallic mineral products
24A01	24.10.10	24.10.90						Primary materials of iron and steel; sub-contracted operations as part of manufacturing of basic iron and steel and of ferroalloys
24A02	24.10.20							Crude steel
24A03	24.10.30	24.10.40	24.10.50	24.10.60	24.10.70			Flat rolled products of steel, clad, plated or coated and flat rolled products of high speed steel and of silicon-electrical steel, bars and rods of steel, and railway or tramway track material, of steel
24A04	24.20.00							Tubes, pipes, hollow profiles and related fittings, of steel
24B01	24.31.00	24.32.00	24.33.00					Cold drawn bars; Cold rolled narrow strip; Cold formed or folded products
24B02	24.34.00							Cold drawn wire
24B03	24.41.00							Precious metals
24B04	24.42.00	24.43.00	24.44.00	24.45.00				Aluminium, lead, zinc and tin; copper; other non-ferrous metal
24B05	24.46.00							Processed nuclear fuel
24B06	24.51.00	24.52.00						Casting services of iron and steel
24B07	24.53.00	24.54.00						Casting services of light metals and other non-ferrous metals
25A01	25.11.00	25.12.00						Metal structures and parts of structures; doors and windows of metal
25A02	25.21.00							Central heating radiators and boilers
25A03	25.29.00							Other tanks, reservoirs and containers of metal
25A04	25.30.00							Steam generators, except central heating hot water boilers
25A05	25.40.00							Weapons and ammunition
25A06	25.50.00							Forging, pressing, stamping and roll-forming services of metal; powder metallurgy
25B01	25.60.00							Treatment and coating services of metals; machining
25C01	25.70.00							Cutlery, tools and general hardware
25C02	25.91.00	25.92.00						Steel drums and similar containers; light metal packaging
25C03	25.93.00	25.94.00	25.99.00					Wire products, chain and springs; fasteners and screw machine products; other fabricated metal products n.e.c.
26A01	26.10.00							Electronic components and boards

29A03	29.10.30							Motor vehicles for the transport of 10 or more persons
29A04	29.10.40	29.10.50	29.10.90					Motor vehicles for the transport of goods; special-purpose motor vehicles; sub-contracted operations as part of manufacturing of motor vehicles
29B01	29.20.00							Bodies (coachwork) for motor vehicles; trailers and semi-trailers
29B02	29.30.00							Parts and accessories for motor vehicles
30A01	30.10.00							Ships and boats
30B01	30.20.00							Railway locomotives and rolling stock
30C01	30.30.00							Air and spacecraft and related machinery
30D01	30.40.00							Military fighting vehicles
30D02	30.90.00							Transport equipment n.e.c.
31A01	31.00.00	31.01.00	31.02.00	31.09.00				Seats and parts thereof; parts of furniture; office and shop furniture; kitchen furniture; other furniture
31A02	31.03.00							Mattresses
32A01	32.12.12							Industrial diamonds, worked
32A02	32.11.00	32.12.11	32.12.13	32.12.14	32.12.90	32.13.00		Coins; cultured pearls, precious or semi-precious stones, including synthetic or reconstructed, worked but not set; articles of jewellery and parts thereof; articles of goldsmiths' or silversmiths' wares and parts thereof; other articles of precious metal; articles of natural or cultured pearls, precious or semi-precious stones; sub-contracted operations as part of manufacturing of jewellery and related articles; Imitation jewellery and related articles
32B01	32.20.00							Musical instruments
32B02	32.30.00							Sports goods
32B03	32.40.00	32.90.00						Games and toys; manufactured goods n.e.c.
32B04	32.50.00							Medical and dental instruments and supplies
33A01	33.11.00							Repair services of fabricated metal products
33A02	33.12.00							Repair services of machinery
33A03	33.13.00							Repair services of electronic and optical equipment
33A04	33.14.00							Repair services of electrical equipment
33A05	33.15.00							Repair and maintenance services of ships and boats
33A06	33.16.00							Repair and maintenance services of aircraft and spacecraft
33A07	33.17.00							Repair and maintenance services of other transport equipment
33A08	33.19.00							Repair services of other equipment
33A09	33.20.00							Installation services of industrial machinery and equipment

35A01	35.10.00								Electricity, transmission and distribution services
35A02	35.30.00								Steam and air conditioning supply services
35B01	35.20.00								Manufactured gas; distribution services of gaseous fuels through mains
36A01	36.00.00								Natural water; water treatment and supply services
37A01	37.00.00								Sewerage services; sewage sludge; market
37A91	37.00.00								<i>Sewerage services; sewage sludge; non-market</i>
38A01	38.11.10	38.11.20	38.11.60	38.12.10	38.12.30	38.21.10	38.21.20	38.22.00	Waste; waste collection services
38A02	38.11.30	38.11.40	38.11.50	38.12.20	38.21.30	38.21.40	38.21.50		Waste (products)
38B01	38.30.00								Materials recovery services; secondary raw materials
39A01	39.00.00								Remediation services and other waste management services
41A01	41.00.10	41.00.30							Residential buildings; Construction works for residential buildings (new works, additions, alterations and renovation works)
41A02	41.00.20	41.00.40							Non-residential buildings; construction works for non-residential buildings (new works, additions, alterations and renovation works)
42A01	42.11.00	42.12.00							Roads and railways; construction works for roads and railways
42A02	42.13.00								Bridges and tunnels; construction works for bridges and tunnels
42A03	42.21.00	42.22.00	42.99.00						Constructions and construction works for utility projects for fluids; constructions and construction works for utility projects for electricity and telecommunications; constructions and construction works for other civil engineering projects n.e.c.
42A04	42.91.00								Constructions and construction works for water projects
43A01	43.10.00								Demolition and site preparation works
43B01	43.21.00								Electrical installation works
43B02	43.22.00								Plumbing, heat and air-conditioning installation works
43B03	43.29.00								Other construction installation works
43C01	43.31.00								Plastering works
43C02	43.32.00								Joinery installation works
43C03	43.33.00								Floor and wall covering works
43C04	43.34.10								Painting works
43C05	43.34.20								Glazing works
43C06	43.39.00								Other building completion and finishing works
43D01	43.91.00	43.99.10							Roofing works; waterproofing works
43D02	43.99.20	43.99.30	43.99.40	43.99.50	43.99.60	43.99.70	43.99.90		Other specialised construction works n.e.c.

45A01	45.20.00	45.40.50						Maintenance and repair services of motor vehicles and motorcycles
46A01	46.10.00	45.11.40	45.19.40	45.31.20	45.40.40			Wholesale trade services on a fee or contract basis (motor vehicles, motorcycles, motor vehicles and motorcycles parts and accessoires)
X								
49A01	49.10.00							Passenger rail transport services, interurban
49A02	49.20.00							Freight rail transport services
49B01	49.31.00							Urban and suburban passenger land transport services, market
49B91	49.31.00							<i>Urban and suburban passenger land transport services, non-market</i>
49B02	49.32.00							Taxi operation services
49B03	49.39.00							Other passenger land transport services n.e.c.
49C01	49.41.10	49.42.00						Freight transport services by road and Removal services
49C02	49.41.20							Rental services of trucks with operator
49C03	49.50.00							Transport services via pipeline
50A01	50.10.00							Sea and coastal passenger water transport services
50A02	50.20.00							Sea and coastal freight water transport services
50B01	50.30.00							Inland passenger water transport services
50B02	50.40.00							Inland freight water transport services
51A01	51.10.00							Passenger air transport services
51A02	51.20.00							Freight air transport and space transport services
52A01	52.10.00							Warehousing and storage services
52A02	52.21.00							Services incidental to land transportation, market
52A92	52.21.00							<i>Services incidental to land transportation, non-market</i>
52A03	52.22.00							Services incidental to water transportation, market
52A93	52.22.00							<i>Services incidental to water transportation, non-market</i>
52A04	52.23.00							Services incidental to air transportation
52A05	52.24.00							Cargo handling services
52A06	52.29.00							Other transportation support services
53A01	53.10.00							Postal services under universal service obligation
53A02	53.20.00							Other postal and courier services
55A01	55.10.00							Hotel and similar accommodation services
55A02	55.20.00	55.30.00	55.90.00					Camping ground and other short stay accommodation services
56A01	56.10.00							Restaurant and mobile food serving services

56A02	56.20.00							Event catering services and other food serving services
56A03	56.30.00							Beverage serving services
58A01	58.11.00	58.12.00						Book publishing services; publishing directories and mailing lists
58A02	58.13.00	58.14.00						Publishing services of newspapers; publishing services of journals and periodicals
58A03	58.19.00							Other publishing services
58A04	58.20.00							Software publishing services
59A01	59.10.00							Motion picture, video and television programme services
59A02	59.20.00							Sound recording and music publishing services
60A01	60.00.00							Programming and broadcasting services; market
60A91	60.00.00							<i>Programming and broadcasting services; non-market</i>
61A01	61.00.00							Telecommunications services
62A01	62.00.00							Computer programming, consultancy and related services
63A01	63.00.00							Information services
64A01	64.11.00	64.19.00						Central banking services; other monetary intermediation services
64A02	64.20.00	64.30.00	64.90.00					Services of holding companies; services of trusts, funds and similar financial entities; other financial services, except insurance and pension funding
64A03	64.00.00							FISIM
65A01	65.11.00							Life insurance services
65A02	65.12.00							Non-life insurance services
65A03	65.20.00							Reinsurance services
65A04	65.30.00							Pension funding services
66A01	66.10.00	66.30.00						Services auxiliary to financial services, except insurance and pension funding; fund management services
66A02	66.20.00							Services auxiliary to insurance and pension funding
68A01	68.10.00							Buying and selling services of own real estate
68A02	68.30.00							Real estate services on a fee or contract basis
68B01	68.20.11							Rental and operating services of own or leased residential real estate, owners
68B02	68.20.11							Rental and operating services of own or leased residential real estate, renters
68B03	68.20.12							Rental and operating services of own or leased non-residential real estate
69A01	69.10.00							Legal services
69A02	69.20.00							Accounting, bookkeeping and auditing services; tax consulting services

70A01	70.00.00								Services of head offices; management consulting services
71A01	71.00.00								Architectural and engineering services; technical testing and analysis services
72A01	72.00.00								Scientific research and development services; market
72A91	72.00.00								<i>Scientific research and development services; non-market</i>
73A01	73.10.00								Advertising services
73A02	73.20.00								Market research and public opinion polling services
74A01	74.20.00								Photographic services
74A02	74.10.00	74.30.00	74.90.00						Specialised design services; translation and interpretation services; other professional, scientific and technical services n.e.c.
75A01	75.00.00								Veterinary services
77A01	77.10.00								Rental and leasing services of motor vehicles
77B01	77.20.00								Rental and leasing services of personal and household goods
77C01	77.30.00								Rental and leasing services of other machinery, equipment and tangible goods
77C02	77.40.00								Licensing services for the right to use intellectual property and similar products, except copyrighted works
78A01	78.00.00								Employment services
79A01	79.00.00								Travel agency, tour operator and other reservation services and related services
80A01	80.00.00								Security and investigation services
81A01	81.10.00	81.30.00							Combined facilities support services; landscape services
81B01	81.20.00								Cleaning services
82A01	82.00.00								Office administrative, office support and other business support services
84A91	84.10.00	84.21.00	84.23.00	84.24.00	84.25.00				<i>Administration services, except Defence services and Compulsory social security services</i>
84B91	84.22.00								<i>Defence services</i>
84C91	84.30.00								<i>Compulsory social security services</i>
85A01	85.53.00								Driving school services, flying and sailing school services
85A02	85.51.00	85.52.00	85.59.00	85.60.00					Sports and recreation education services; cultural education services; other education services n.e.c.; educational support services; market
85A92	85.52.00	85.59.00	85.60.00						<i>Sports and recreation education services; cultural education services; other education services n.e.c.; educational support services; non-market</i>
85A03	85.10.00	85.20.00	85.30.00	85.40.00					Pre-primary, primary, secondary, higher education services; market
85A93	85.10.00	85.20.00	85.30.00	85.40.00					<i>Pre-primary, primary, secondary, higher education services; non-market</i>

86A01	86.10.11	86.10.12	86.10.15					Hospital surgical services (except rehabilitation, psychiatry and geriatrics)
86A02	86.10.13	86.10.14	86.10.19					Hospital rehabilitation services; ospital psychiatric services; other hospital services
86B01	86.21.00	86.22.00						General medical and specialist medical practice services
86C01	86.23.00							Dental practice services
86D01	86.90.15	86.90.16	86.90.17					Medical laboratory, blood, sperm and transplant organ bank services; diagnostic imaging services
86D02	86.90.11	86.90.12	86.90.13	86.90.14	86.90.18	86.90.19		Nursing and physiotherapeutic services and other human health services n.e.c.
87A01	87.10.00	87.30.11						Residential nursing care and welfare services delivered through residential institutions to elderly persons
87A02	87.20.00	87.30.12	87.30.13	87.90.00				Residential care services (except residential nursing care and welfare services delivered through residential institutions); market
87A92	87.20.00	87.30.12	87.30.13	87.90.00				<i>Residential care services (except residential nursing care and welfare services delivered through residential institutions); non-market</i>
88A01	88.91.00							Child day-care services
88A02	88.10.00	88.99.00						Social work services without accommodation (except child day-care services) , market
88A92	88.10.00	88.99.00						<i>Social work services without accommodation (except child day-care services) , non-market</i>
90A01	90.00.00							Creative, arts and entertainment services; market
90A91	90.00.00							<i>Creative, arts and entertainment services; non-market</i>
91A01	91.00.00							Library, archive, museum and other cultural services; market
91A91	91.00.00							<i>Library, archive, museum and other cultural services; non-market</i>
92A01	92.00.00							Gambling and betting services
93A01	93.00.00							Sporting services and amusement and recreation services, market
93A91	93.00.00							<i>Sporting services and amusement and recreation services, non-market</i>
94A01	94.10.00	94.90.00						Services furnished by business, employers and professional membership organisations; market
94A91	94.20.00	94.90.00						<i>Services furnished by trade unions and other membership organisations, non-market</i>
95A01	95.00.00							Repair services of computers and personal and household goods
96A01	96.01.00							Washing and (dry-)cleaning services of textile and fur products
96A02	96.02.00							Hairdressing and other beauty treatment services

International trade in services classification

Y200	Services
Y150	Manufacturing services on physical inputs owned by others
Y152	Goods for processing in reporting economy – Goods returned , Goods received
Y151	Goods for processing abroad – Goods sent , Goods returned
Y160	Maintenance and repair services n.i.e.
Y205	Transport
Y206	Sea transport
Y207	Passenger transport by sea
Y208	Freight transport by sea
Y209	Other
Y210	Air transport
Y211	Passenger transport by air
Y212	Freight transport by air
Y213	Other
Y214	Other modes of transport
Y215	Passenger
Y216	Freight
Y217	Other
Y246	Postal and courier services
Y218	Space transport
Y219	Rail transport
Y220	Passenger transport on rail
Y221	Freight transport on rail
Y222	Other
Y223	Road transport
Y224	Passenger transport on road
Y225	Freight transport on road
Y226	Other
Y227	Inland waterway transport
Y228	Passenger transport on inland waterway
Y229	Freight transport on inland waterway
Y230	Other
Y2311	Pipeline transport
Y2312	Electricity transmission
Y232	Other supporting and auxiliary transport services
Y205P	All modes of transport; Passenger
Y205F	All modes of transport; Freight
Y205O	All modes of transport; Other than passenger and freight
Y20500	All modes of transport; Other than passenger and freight; Other than Postal and courier services
Y236	Travel
Y237	Business travel
Y238	Acquisition of goods and services by border,seasonal and other short-term workers Other than acquisition of goods and services by border, seasonal, and other short-term
Y239	workers
Y240	Personal travel
Y241	Health-related expenditure
Y242	Education-related expenditure
Y243	Other personal travel

Y249	Construction
Y250	Construction abroad
Y251	Construction in the reporting economy
Y253	Insurance and pension services
Y2531	Direct insurance
Y254	Life insurance
Y255	Freight insurance
Y256	Other direct insurance
Y257	Reinsurance
Y258	Auxiliary insurance services
Y2532	Pension and standardised guarantee services
Y25321	Pension services
Y260	Financial services
Y2601	Explicitly charged and other financial services
Y2602	Financial intermediation services indirectly measured (FISIM)
Y266	Charges for the use of intellectual property n.ie.
Y891	Franchises and trademarks licensing fees
Y245	Telecommunications, computer and information services
Y247	Telecommunications services
Y263	Computer services
Y264	Information services
Y889	News agency services
Y890	Other information services
Y268	Other business services
Y279	Research and development services
Y2791	Work undertaken on a systematic basis to increase the stock of knowledge
Y27911	Provision of customised and non-customised R&D services
Y27912	Sale of proprietary rights arising from R&D
Y273	Professional and management consulting services
Y274	Legal, accounting, management consulting and public relations
Y275	Legal services
Y276	Accounting, auditing, bookkeeping and tax consulting services
Y277	Business and management consulting and public relations services
Y278	Advertising, market research and public opinion polling
Y2800	Technical, trade-related and other business services
Y2801	Architectural, engineering, scientific and other technical services
Y28011	Architectural services
Y28012	Engineering services
Y28013	Scientific and other technical services
Y281	Waste treatment and de-pollution, agricultural and mining services
Y282	Waste treatment and de-pollution
Y283	Agricultural and mining services (sum of SJ322 and SJ323)
Y272	Operating leasing services
Y271	Trade-related services
Y284	Other business services n.i.e.
Y287	Personal, cultural and recreational services
Y288	Audiovisual and related services
Y289	Other personal, cultural and recreational services
Y896	Health services
Y895	Education services
Y898	Heritage and recreational services

Y897	Other personal services
Y291	Government goods and services n.i.e.
Y292	Embassies and consulates
Y293	Military units and agencies
Y294	Other government goods and services
Y982	Services not allocated

CHAPTER 10

Main data sources used

10.1 STATISTICAL SURVEYS AND OTHER DATA SOURCES USED FOR THE PRODUCTION APPROACH

10.1.1 THE REPERTORY/BUSINESS REGISTER

Identification

Name of source:	Repertory of economically active units
Supervisory body:	National Bank of Belgium
Purpose of data collection:	Identification and classification of economically active units in Belgium

Basic characteristics of source

Definition

The national accounts directory of production units covers all the enterprises in the DBRIS register of statistical information providers compiled by the DGS. It is a consistent and exhaustive basis for compiling the national accounts.

The directory currently contains two types of units: legal units and enterprises.

"Legal unit" within the meaning of section II - A.3 of the Annex to Regulation (EEC) No 696/93:

Legal units comprise:

- *legal persons whose existence is recognized by law independently of the individuals or institutions which own or are members of them,*
- *natural persons who engage in an economic activity in their own right.*

A legal unit always constitutes, either by itself or sometimes in combination with other legal units, the legal basis for the statistical unit known as the "enterprise".

"Enterprise" within the meaning of section III - of the Annex to the above-mentioned Regulation:

"An enterprise is the smallest combination of legal units that constitutes an organizational unit for production of goods or services, with a certain degree of autonomy in decision-making, especially for the allocation of its current resources. An enterprise engages in one or more activities at one or more locations. An enterprise may be a single legal unit."

A legal unit, unlike an enterprise, is not a production unit for national accounts purposes.

Legal units appear in DBRIS if they are recorded in one of the administrative source files.

The legal units in DBRIS comprise:

- legal persons appearing in KBO
- legal persons appearing in the National Register of Legal Persons (NRLP)
- units which are subject to VAT
- NSSO employers
- employers registered with the NSSOPLA.

A newly created legal entity or new legal person subject to VAT is regarded as an enterprise. NSSO/NSSOPLA units are enterprises only if they are not in the file of legal and other persons subject to VAT.

Most enterprises are a single legal unit, an NSSO/NSSOPLA employer and/or subject to VAT. However, an enterprise may be attached to one or more legal units.

Role of the directory in the calculation of national accounts

The primary role of the repertory is to ensure **exhaustiveness** and **consistency** of results. It contains all production units except self-employed persons not subject to VAT and without personnel. All individual data on production units are aggregated according to the **unique characteristics** of the directory, thereby ensuring

consistency of results. The repertory is therefore used on a systematic basis for calculating national accounts aggregates.

Creation of a repertory

The national accounts repertory is based on the DBRIS register of enterprises and is renewed annually. On the basis of DBRIS data (characteristics of legal units and links between each legal unit and an enterprise), the directory is created by attributing to each enterprise a number of unique characteristics and unique links with one or more of its legal units.

Which variables are we trying to measure?

The repertory distinguishes two types of data:

Enterprise identifiers and the link between them

The various identifiers of an enterprise are as follows:

- RIS number: unique identifier assigned by the DGS
- VAT number or national number: identifier used for legal and other persons subject to VAT. (The NRLP identifier for legal persons is also used by the VAT authorities)
- NSSO number: identifier used by the NSSO for NSSO employers
- NSSOPLA number: identifier used by the NSSOPLA for NSSOPLA employers.

Characteristics of enterprises

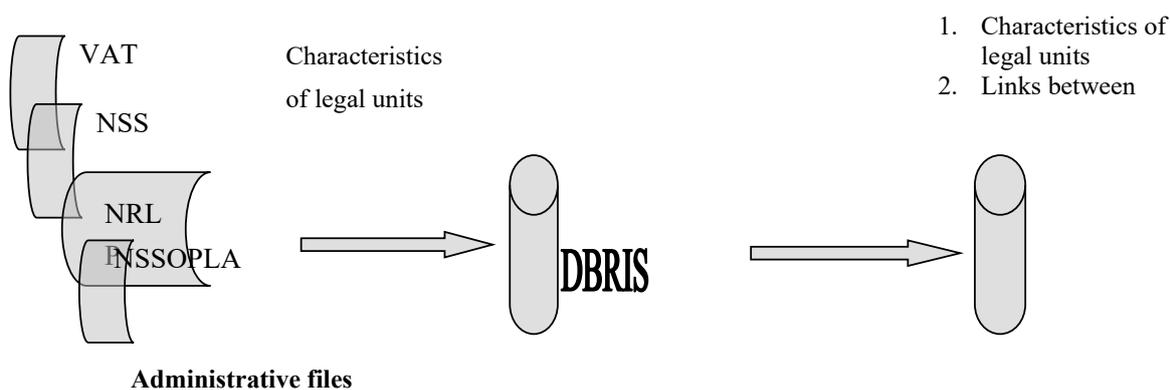
Each year, the following set of characteristics is defined for each enterprise:

- Activity code (NACE-BEL code), indicating the branch of activity to which the enterprise belongs
- Sector code, indicating the institutional sector²³⁹ to which the enterprise belongs
- Category of enterprise, indicating which basic data are preferred for calculation purposes
- Municipal code, the first two digits being the district (*arrondissement*) code
- Quality code, indicating whether the enterprise's annual accounts are usable for national accounts purposes
- 'Uni/multi-arrondissement' code, indicating whether all of the enterprise's local units are located in one or several districts.
- 'Uni/multi-legal units' code, indicating whether the enterprise is attached to one or several legal units.

The four most important characteristics are the NACE-BEL code, the sector code, the category and the district code. All aggregations of administrative data are done using the combination of NACE-BEL, sector, category and district at the most detailed level.

Diagram

²³⁹ Units belonging to S.12 and S.13 are allocated among subsectors according to the ESA2010 definitions.



The composition of the repertory of 2016 according to some criteria (employer or not, institutional sector, category) is given in the next table. The sources used to compile the “administrative aggregates” (phase 1) for the different sub-populations (category) are also mentioned.

Composition of active resident units in repertory for 2016								
Employer or not								
employers			259 336					
units without personnel			649 499					
total			908 835					
Repartition by sector and category								
	S11	S121_S124	S125_S127	S128_S129	S13	S14 (*)	S15	S1
A1	19 779	8	1 186	1	326			21 300
A2	180	19	5	24	700	8		936
B1	26 701		614		32			27 347
B2	294 115		7 298		195	2		301 610
B3	102 679	202	1 553	460	2 010	340 687		447 591
BC	8 204	1	987		9			9 201
BE	3 926	8	129	5	2			4 070
BL	859	22	71	31	35	153		1 171
C1	3 259		46		8			3 313
C2	48 955		1 197		54	2		50 208
E1	33		5					38
E2	199		4					203
H1	957		2	1	304		220	1 484
H2	1 451		6	1	184		855	2 497
H3	1 892		9	11	226		1 052	3 190
H4	16 554		8	7	1 278		7 041	24 888
RF	7 279		4			1 146		8 429
TV	1 357		1			1		1 359
	538 379	260	13 125	541	5 363	341 999	9 168	908 835

(*) excl. self-employed persons not liable to VAT.

Sources used for the different sub-populations							
	S11	S121_S124	S125_S127	S128_S129	S13	S14	S15
A1	AA_nfc		AA_nfc		AA_nfc		
A2	VAT/ONSS(APL)		ONSS			VAT/PIT	
B1	AA_nfc		AA_nfc		AA_nfc		
B2	AA_nfc		AA_nfc		AA_nfc		
B3	VAT/ONSS(APL)		ONSS			VAT/PIT	
BC	aa_nfc		aa_nfc		aa_nfc		
BE	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
BL	ONSS/APL		ONSS				
C1	AA_nfc		AA_nfc		AA_nfc		
C2	AA_nfc		AA_nfc		AA_nfc		
E1	SBS		SBS				
E2	SBS		SBS				
H1	AA_npi		AA_npi				AA_npi
H2	AA_npi		AA_npi				AA_npi
H3	AA_npi		AA_npi				AA_npi
H4	ONSS/APL		ONSS/APL				ONSS/APL
RF	ONSS/APL		ONSS/APL				0
TV	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Total	AA_nfc/VAT/O NSS/SBS	AA_fc	AA_nfc/ONSS /SBS	AA_fc	SS/AA_nfc	VAT/PIT	AA_npi/ONSS

10.1.2 STANDARDISED MINIMUM STATUTORY BUSINESS ACCOUNTS SYSTEM

Identification

Name of source:	Standardised statutory minimum accounts system
Supervisory body:	Accounting Standards Commission
Purpose of data collection:	To structure and organise statutory compulsory accounting records (Royal Decree of 7.03.1978, superseded by RD of 12.09.1983, RD of 6.11.1987, RD of 31.12.1991, RD of 18.12.2015 and RD of 29.04.2019)

Basic characteristics of source

The standardised minimum statutory system of accounts does not collect data but metadata. It is laid down by the Accounting Standards Commission. The purpose is to structure and organise statutory compulsory business accounting records. The existence of a standardised minimum statutory system of accounts permits detailed aggregates to be calculated for very different businesses, without thereby threatening the reliability or interpretation of the figures.

At the highest level all the accounts are broken down into 10 classes indicated with a single digit. The great majority of the data from the annual accounts which are used in the calculation of the national accounts belong to class 6 (input) or 7 (output). These two classes together form the profit and loss accounts of a corporation. Other items that are taken over from the annual accounts describe the state of the tangible and intangible assets.

Link: [Minimum chart of accounts for enterprises other than associations and foundations | CNC CBN \(cnc-cbn.be\)](#)

10.1.3 THE ANNUAL BUSINESS ACCOUNTS OF COMPANIES

Identification

Name of source:	Annual business accounts
Supervisory body:	Central Balance Sheets Office (National Bank of Belgium)
Purpose of data collection:	Compulsory publication under Royal Decree of 8.10.1976 in execution of the Accounting Act ²⁴⁰ .

Basic characteristics of source

Reporting units

Most corporations for which the responsibility of the shareholders or partners is limited to their contribution to the corporation, as well as some other corporations must each year file their annual accounts and/or their consolidated annual accounts with the Central Balance Sheets Office of the National Bank of Belgium.

A distinction is always made between full accounts (large corporations), abbreviated accounts (small and medium-sized corporations (SME's)) and micro accounts (SME's)²⁴¹. A corporation is regarded as large by the Accounting Act if it exceeds more than one of the following thresholds during two consecutive accounting years. If these requirements are not met, it is considered to be an SME.

- annual average of the workforce: 50
- annual turnover (excluding VAT): € 9.000.000
- balance sheet total: € 4.500.000

An SME has the obligation to publish an abbreviated model (though it may also publish full accounts) if more than one of the following thresholds are exceeded during two consecutive accounting years:

- annual average of the workforce: 10
- annual turnover (excluding VAT): € 700.000
- balance sheet total: € 350.000

If the above thresholds are not exceeded, the SME must publish the micro model. If an SME has a participation in the capital, the SME cannot use the micro model. In this case, the abbreviated model must be published.

For annual accounts starting from 1 January 2016 onwards, the above thresholds can be calculated on an individual basis instead of on a consolidated basis. The only exceptions to this rule are consortia and parent companies.

For the financial year 2016, 21.918 corporations filed a full accounting model, 235.641 an abbreviated accounting model and 154.560 corporations a micro accounting model, which brings the total number of annual accounting schedules filed to 412.119.

Frequency 1 x/year²⁴²

²⁴⁰ Modified by the Royal Decree of 18 December 2015 and by the Royal Decree of 29 April 2019.

²⁴¹ Corporations may file a micro model for financial years starting from 1 January 2016 onwards if they meet the necessary requirements. This is a direct consequence of the European directive 2013/334/EG which was incorporated in national legislation by the law of 18 December 2018 "Law incorporating the Directive 2013/34/EU of the European Parliament and of the Council of 26 June 2013 on the annual financial statements, consolidated financial statements and related reports of certain types of undertakings, amending Directive 2006/43/EC of the European Parliament and of the Council and repealing Council Directives 78/660/EEC and 83/349/EEC Text with EEA relevance" and the Royal Decree of 18 December "Royal Decree incorporating the Directive 2013/34/EU of the European Parliament and of the Council of 26 June 2013 on the annual financial statements, consolidated financial statements and related reports of certain types of undertakings, amending Directive 2006/43/EC of the European Parliament and of the Council and repealing Council Directives 78/660/EEC and 83/349/EEC Text with EEA relevance". The content of the models was revised for corporations by the same legislation.

²⁴² This is the standard frequency. The period can be shorter or longer (with a maximum of 24 months).

Which variables are we trying to measure?

Set out below is an overview of the sections of the annual accounts that are used within the framework of the national accounts as well as the specific variables that serve as a basis for the calculations. Only the headings used to estimate the production account, the primary generation of income account and the gross capital formation are indicated.

Full accounting model**Name of corporation**

- Name of firm
- Legal form
- Address
- National or VAT number

Profit and loss account*Operating results*

- 70: Turnover
- 71: Change in inventories of partly finished and finished goods and work-in-progress
- 72: Produced fixed assets
- 74: Other operating income
- 600/8: purchase of raw materials, consumables, and goods for resale
- 609: Changes in inventories of purchased goods
- 61: Services and other goods
- 62: Wages and salaries, social security contributions and pensions
- 640/8: Other operating costs

Allocation of results

- 695: Profit distributable to administrators

Statement of formation expenses

- 8002: new expenses incurred

Statement of intangible fixed assets

- 802: Acquisitions, including the produced fixed assets
8021: Costs of development

Statement of tangible fixed assets

- 816: Acquisitions, including the produced fixed assets
8161: Land and buildings
8162: Plant, machinery, and equipment
8163: Furniture and vehicles
8164: Leasing and similar rights
8165: Other tangible fixed assets
8166: Assets under construction and advance payments
- 817: Sales and disposals
- 827: Depreciation

Annex regarding operating results

- 624: pensions
- 640: Operating taxes and similar levies (other than income tax)
- 740: Operating subsidies and compensatory amounts received from the general government

Revenue and costs of exceptional magnitude or exceptional nature

- 7630: surplus value realised when disposing of immaterial and material fixed assets
- 7631: surplus value realised when disposing financial fixed assets
- 6630: loss realised when disposing of immaterial and material fixed assets

- 6631: loss realised when disposing of financial fixed assets
- 6690: infrequent operational charges capitalized as restructuring costs (-)
- 6691: infrequent financial charges capitalized as restructuring costs (-)

Annex regarding financial results

- 9126: Interest subsidies
- 6503: Capitalised interest

Social balance sheet

- 1023: compensation of employees in Belgian establishments
- 1033: advantages in addition to wages

Abbreviated accounting models

Name of corporation

- Name
- Legal form
- Address
- National or VAT number

Profit and loss account

Operational results

- 9900: Gross margin
- 70: Turnover (*)
- 76A: Infrequent operational results
- 60/61: raw materials, consumables, goods for resale and services and other goods (*)
- 62: Wages and salaries, social security contributions and pensions
- 640/8: Other operating costs

(*) These items are optional in the abbreviated schedule. Only a minority of companies mention them.

Financial results

- 753: Capital and interest subsidies

Allocation of results

- 695: Profit distributable to administrators

Statement of fixed assets

- 8029/8169: Acquisitions of intangible/tangible fixed assets
- 8039/8179: Sales and disposals of intangible/tangible fixed assets
- 8079/8279: Depreciation recorded on intangible/tangible fixed assets

Financial results

- 6503: Capitalised interest

Social balance sheet

- 1023: compensation of employees in Belgian establishments

Micro accounting models

Name of corporation

- Name
- Legal form
- Address
- National or VAT number

Profit and loss account

Operational results

- 9900: Gross margin

- 70: Turnover (*)
- 76A: Infrequent operational results
- 60/61: raw materials, consumables, goods for resale and services and other goods (*)
- 62: Wages and salaries, social security contributions and pensions
- 640/8: Other operating costs

(*) These items are optional in the abbreviated schedule. Only a minority of companies mention them.

Financial results

- 753: Capital and interest subsidies

Allocation of results

- 695: Profit distributable to administrators

Statement of fixed assets

- 8029/8169: Acquisitions of intangible/tangible fixed assets
- 8039/8179: Sales and disposals of intangible/tangible fixed assets
- 8079/8279: Depreciation recorded on intangible/tangible fixed assets

Social balance sheet

- 1023: compensation of employees in Belgian establishments

Adjustments

Production of pro rata administrative data as a proxy for calendar year flows

Not all corporations close their financial year on 31/12/N and the financial year does not always cover 12 months (may be more or less). Consequently, in addition to the original book year data, pro rata data are also calculated²⁴³. The latter are applied in the standard compilation process of the annual accounts (turnover, purchases, wages etc.).

Example 1: a corporation is set up in June N-1 and closes its first annual accounts in December N. All flows from the profit and loss account are recalculated for 12 months (pro rata turnover = turnover of financial year *12/18). In this way one gets figures that are more in line with calendar year data for N.

Example 2: a corporation closes its annual accounts on 31/03/N and 31/03/N+1. The pro rata flows for calendar year N are obtained by totalling 1/4 of the amounts for financial year N with 3/4 of the amounts for financial year N+1.

Annual accounts that close in September, October and November of year N and cover 12 months are not retreated because, in practice, this is not possible in most cases (the accounts of the following financial year are not yet available when starting the calculations in Q1N+2). In these cases, the original book year flows are assumed to be a good proxy for the calendar year flows.

Conversion of administrative aggregates into ESR2010 aggregates

Please refer for this to section 3.4.

Full model corporations (Modèle complet pour entreprises) :

https://www.nbb.be/doc/ba/models/ent/histo/2016_fr_c_modele_complet_20181112.pdf

Abbreviated model corporations (Modèle abrégé pour petites entreprises) :

https://www.nbb.be/doc/ba/models/ent/histo/2016_fr_a_modele_abrege_20181112.pdf

Micro model corporations (Modèle micro pour microsociétés) :

https://www.nbb.be/doc/ba/models/ent/histo/2016_fr_m_modele_micro_20181112.pdf

²⁴³ Please note that this method has been revised due to the impact of COVID-19 measures in 2021 starting from the year 2019.

10.1.4 ANNUAL BUSINESS ACCOUNTS OF NPI'S

Identification

Name of source:	Annual accounts (of NPI's)
Supervisory body:	Central Balance Sheets Office (National Bank of Belgium)
Purpose of data collection:	Specific accounting legislation for NPI's.

Basic characteristics of source

Reporting units

Very large and large NPI's and foundations must each year file their annual accounts with the Central Balance Sheets Office of the National Bank of Belgium. A distinction is made between full schemes (very large NPI's) and abbreviated schemes (large NPI's).

An NPI or foundation is regarded as very large if:

- its average workforce on an annual basis is more than 100 or
- it exceeds more than one of the following thresholds:
 - annual average of the workforce: 50
 - annual revenue (excluding exceptional revenue): € 6.250.000
 - balance sheet total: € 3.125.000

An NPI (which is not regarded as very large) is regarded as large if:

- it attains or exceeds more than one of the following thresholds:
 - annual average of the workforce: 5
 - annual revenue (excluding exceptional revenue): € 250.000
 - balance sheet total: € 1.000.000

Small and medium sized NPI's do not have to file annual accounts.

For the financial year 2016, 1 484 NPI's filed a full accounting schedule and 5 687 an abbreviated accounting one. The majority of small and medium sized NPI's did not file annual accounts (24 888 NPI).

Frequency 1 x/year²⁴⁴

Which variables are we trying to measure?

Set out below is an overview of the sections of the annual accounts that are used within the framework of the national accounts as well as the specific variables that serve as a basis for the calculations. Only the headings used to estimate the production account, the primary generation of income account and the gross capital formation are indicated. The most important difference between the schemes for non-financial corporations and NPI's is the existence of a specific operating revenue account for NPI's: 73 - membership fees, gifts, legacies and subsidies (which does not exist in the accounting schedules for companies) and the absence of the rubric 694/7 (distribution of profits) because by definition NPI cannot distribute profits.

Full accounting schedules

Name of corporation

- Name of NPI
- Legal form
- Address
- National or VAT number

Profit and loss account

Operating results

- 70: Turnover

²⁴⁴ This is the standard frequency. The period can be shorter or longer (with a maximum of 24 months).

- 71: Change in inventories of partly finished and finished goods and work-in-progress
- 72: Produced fixed assets
- 73: membership fees, gifts, legacies and subsidies
- 74: Other operating income
- 600/8: purchase of raw materials, consumables and goods for resale
- 609: Changes in inventories of purchased goods
- 61: Services and other goods
- 62: Wages and salaries, social security contributions and pensions
- 640/8: Other operating costs

Extraordinary results

- 763: gain on disposal of fixed assets
- 663: loss on disposal of fixed assets

Statement of formation expenses

- 8002: new expenses incurred

Statement of intangible fixed assets

- 802: Acquisitions, including the produced fixed assets
- 8021: Costs of research and development

Statement of tangible fixed assets

- 816: Acquisitions, including the produced fixed assets
 - 8161: Land and buildings
 - 8162: Plant, machinery and equipment
 - 8163: Furniture and vehicles
 - 8164: Leasing and similar rights
 - 8165: Other tangible fixed assets
 - 8166: Assets under construction and advance payments
- 817: Sales and disposals
- 827: Depreciation

Annex regarding operating results

- 624: pensions
- 640: Operating taxes and similar levies (other than income tax)
- 730/1: membership fees
- 732/3: gifts
- 734/5: legacies
- 736/8: subsidies

Annex regarding financial results

- 6503: Capitalised interest

Social balance sheet

- 1023: compensation of employees in Belgian establishments

Abbreviated accounting schedules

Name of corporation

- Name
- Legal form
- Address
- National or VAT number

Profit and loss account

- 9900 Gross margin
- 70/74 operating income (*)
- 70 Turnover (*)
- 73 membership fees, gifts, legacies, and subsidies (*)

- 60/61 raw materials, consumables, goods for resale and services and other goods (*)
- 62 Wages and salaries, social security contributions and pensions
- 640/8 Other operating costs

(*) These items are optional in the abbreviated schedule. Only a minority of NPI's mention them.

Statement of fixed assets

- 8029/8169: Acquisitions of intangible/tangible fixed assets
- 8039/8179: Sales and disposals of intangible/tangible fixed assets
- 8079/8279: Depreciation recorded on intangible/tangible fixed assets

Financial results

- 6503: Capitalised interest

Social balance sheet

- 1023: compensation of employees in Belgian establishments

Adjustments

Production of pro rata administrative data as a proxy for calendar year flows

The annual accounts of NPI's are treated in the same way as the accounts of corporations if the book year does not correspond to the calendar year (cf supra).

Conversion of administrative aggregates into ESA2010 aggregates

Please refer for this to section 3.3

Associations '*schéma complet*' :

https://www.nbb.be/doc/ba/models/npi/histo/2012_asbl_c_20121201.pdf

Associations '*schéma abrégé*' :

https://www.nbb.be/doc/ba/models/npi/histo/2012_asbl_a_20121201.pdf

10.1.5 ACCOUNTING SCHEDULE OF CREDIT INSTITUTIONS

Identification

Name of source:	Periodic information schedule filed by credit institutions regarding their financial situation (Schedule A) ²⁴⁵
Supervisory body:	National Bank of Belgium (NBB)
Purpose:	Prudential supervision of credit institutions and periodic information on the financial situation of credit institutions to be supplied to the NBB.

Basic characteristics

All credit institutions governed by Belgian law and Belgian branches of those established under foreign law must provide accounting information. Reporting by banks includes the balance sheet, off-balance-sheet items, the profit and loss account, the accumulation account and various annexes which provide information on inter-bank transactions, loan and deposit operations broken down by sector and instrument, share portfolio, geographical breakdown of assets, breakdown of assets and liabilities by duration, compliance with rules governing own resources, and situation regarding commercial and major risks.

The frequency for the components of Schedule A varies:

- monthly: balance sheet, off-balance-sheet items, summary of inter-bank transactions, summary of current volumes of loans and deposits

²⁴⁵ As opposed to schedule B, which covers the published annual accounts.

- quarterly: profit and loss account and full annexes
- annual: accumulation account.

There are three forms of schedule A reporting:

- reporting on corporate basis, covering the activities of Belgian credit institutions and their foreign branches (Schedule A - tables 00.10-00.60)
- reporting on territorial basis, covering the activities of institutions established on Belgian territory (Schedule A - tables 00.10b-00.50b)
- reporting on consolidated basis (Schedule A - tables 00.10c-00.50c)

Credit institutions covered by the Belgian law file their balance sheet on both corporate and territorial basis, but their profit and loss accounts are only available on corporate basis. Foreign credit institutions only report to the Belgian supervisory authorities on their transactions on Belgian territory. For national accounts purposes, the profit and loss account data (and details on some of their headings obtained from the SBS) of credit institutions governed by Belgian law have to be converted to territorial basis by applying a coefficient.



Adobe Acrobat
Document

Annex:

Link: [OneGate - XML MBS \(nbb.be\)](#)

10.1.6 ANNUAL BUSINESS ACCOUNTS OF INSURANCE COMPANIES

Identification

Name of source:	Annual business accounts/accounting schedule
Supervisory body:	NBB
Purpose of data collection:	Supervision of insurance enterprises

Basic characteristics of source

Reporting units

All insurance enterprises governed by Belgian law or by the law of a non-EEA country complete an accounting schedule and submit it to the NBB by 30 June of year t+1. The form of the schedule is laid down by Royal Decree of 17 November 1994 (copy hereto appended) and is very detailed and comprehensive.

Frequency Annual (filed on 30 June)

Which variables are we trying to measure?

The calculation of output and intermediate consumption of insurance enterprises which file an accounting schedule is based mainly on the following data:

- premiums
- investment income
- reserves, claims paid
- operating expenses.

For details of the headings used, cf. 3.17.2.

Adjustments

Various adjustments ESA2010, mainly based on the structure survey of insurance enterprises. These adjustments are described elsewhere (cf. 3.17.2).

Annex:

https://www.nbb.be/doc/cp/moniteur/2018/201809_kb_19941117.pdf

10.1.7 ANNUAL BUSINESS ACCOUNTS OF PENSION FUNDS

Identification

Name of source:	Annual accounts
Supervisory body:	FSMA
Purpose of data collection:	Supervision on institutions for occupational pensions

Basic characteristics of source

Reporting units

All pension funds operating in Belgium must obtain FSMA approval before they can conduct business. Pension funds are subject to FSMA supervision and have to file their annual accounts by 30 June of year t+1 in the form of a schedule defined by Royal Decree of 19 April 1991 (hereto appended). In 2016, there were 199 pension funds subject to BFIC supervision. This source of information is exhaustive.

Frequency	Annual (filed on 30 June)
------------------	---------------------------

Which variables are we trying to measure?

The output and intermediate consumption of pension funds are calculated mainly based on the following data from the accounting schedule:

- pension contributions
- investment income
- reserves
- benefits paid
- operating expenses.

For more detail on the headings used, cf. 3.17.2.

10.1.8 VAT RETURNS

Identification

Name of source:	VAT returns
Supervisory body:	FPS Finance
Purpose of data collection:	To determine the amount of value added tax due based on sales and purchases data contained in the returns

Basic characteristics of source

Reporting units

All enterprises liable to VAT except:

- farmers who as taxpayers are subject for all their work to the special scheme introduced by Article 57, §1, of the VAT code.
- small corporations subject to the exemption scheme referred to in Article 56, §2 of the VAT code (annual turnover without VAT of 25.000 € in 2016)
- certain enterprises subject to special schemes.
- Enterprises that are closely bound to each other by financial, economic, and organisational links, although legally independent, are regarded as a single taxable person (VAT-unit). The VAT-unit files a declaration which replaces the declarations of the individual members of the VAT-unit. This exemption was specified in article 11 of the European Guideline 2006/112/EG on the common system of value added tax, which was transferred into national regulation by article 4 of the VAT law code and by Royal decree n° 55.

- Holding companies that do not participate in management decisions in the companies they invest in
- Governmental institutions that act in their role as government

The VAT return includes full name and address details of the corporation or natural person:

- Name
- Legal form
- Address
- VAT number

Frequency²⁴⁶

- Monthly if annual turnover (excluding VAT) > € 2.500.000²⁴⁷
- Quarterly if annual turnover (excluding VAT) =< € 2.500.000

Exception 1: monthly declarations in case of annual turnover without VAT higher than € 250.000 for deliveries of fraud sensitive goods and services:

- Energy products (mineral oil or other products meant to be used as fuel)
- Appliances for mobile communication, computers, peripheral devices, accessories, and components
- Motorised land vehicles subject to the registration regulation

Exception 2: monthly declarations in case of annual intracommunal deliveries exceeding € 50.000 in the current or in one of the 4 preceding quarters.

Which variables are we trying to measure?

VAT returns are used for certain industries to estimate the output and intermediate consumption in an exhaustive way.

The layout of the monthly and quarterly returns is the same, so the note or explanation of the following codes and variables applies for both types of returns.

Estimate of OUTPUT (according to administrative concepts)

VAT return frame II:

- A. Transactions (sales, services, etc.), excluding VAT
 Box 00: subject to zero rate
 Box 01: subject to tax of 6 %
 Box 02: subject to tax of 12 %
 Box 03: subject to tax of 21 %
- B. Activities for which the co-contractor is liable
 Box 45: amount excluding VAT
- C. VAT exempted activities and related positive corrections.
 Box 44: intra-community supply of services
 Box 46: intra-community deliveries of goods and similar transactions. Delivery of goods including installation in another Member State and distance sales.
 Box 47: exports to non-EU Member States, transactions carried out abroad and other exempted transactions.
- D. Amount of credit notes issued and negative corrections (excluding taxes):
 Box 48: relating to the transactions referred to in box 44 and 46

²⁴⁶ Royal Decree n°1, article 18, §2

²⁴⁷ The threshold has been increased in 2014 from €1 million to €2,5 million. For enterprises conducting fraud sensitive activities, the threshold has been increased to €0,25 million.

Box 49: relating to transactions referred to in the other boxes of frame II

OUTPUT = 00 + 01 + 02 + 03 + 44 + 45 + 46 + 47 - 48 - 49

Estimate of INTERMEDIATE CONSUMPTION (according to administrative concepts)

VAT return Frame III

Amount of incoming transactions taking into account credit notes received and other corrections.

Box 81: Goods for resale, materials, and supplies

Box 82: Services, miscellaneous goods, and other costs

INTERMEDIATE CONSUMPTION = 81 + 82

Adjustments

The miscellaneous adjustments made to impute missing data are described in the section "Step 1 -Calculation of the administrative/business accounting aggregates by industry and sector" (cf. 3.4.1). The adjustments made to arrive at an ESA 2010 aggregates (P1 and P2) are described in the section "Transition from private accounting and administrative concepts to ESA 2010 aggregates" (cf. 3.4).

Estimate of Gross fixed capital formation

VAT return frame III:

Box 83: acquisition of fixed assets from €1000 onwards

GFCF = 83

Link : [Modèles des déclarations et notices | SPF Finances \(belgium.be\)](#)

10.1.9 PERSONAL INCOME TAX RETURNS

Identification

Name of source	Income tax returns by physical persons ²⁴⁸
Supervisory body	FPS Finance
Purpose of data collection	The purpose is to levy tax on the incomes of physical persons in Belgium, including the unincorporated businesses (part 2 of the return).
Reporting unit	Physical person

Basic characteristics of source

Variables collected:

Gross operating profit: A/B6000

Income from liberal professionals: A/B6500

Arrears of fees: A/B6520

Occupational expenses of industrial, commercial, and agricultural activities: A/B6060

Actual occupational expenses of liberal professionals: A/B6570

Depreciation: A/B9540

Wages: A/B9550

²⁴⁸ The income tax returns are based on the BELCOTAX declarations. BELCOTAX is the name of the database grouping all individual questionnaires '281' on revenues, commissions, professional expenses, etc. for fiscal purpose serving as base for the income tax declarations.

Remuneration: A/B4000

Remuneration in kind - rental income paid by the enterprise for the ultimate benefit of the company administrator: A/B4010

Remuneration from share options: (A/B4040) + (A/B4140)

Remuneration obtained as part of a labour contract: A/B4110

Remuneration declared by company administrators of associations, unincorporated entities, or entities not subject to corporate tax: A/B6500_{administrator}

Arrears of fees, declared by company administrators of associations, unincorporated entities, or entities not subject to corporate tax: A/B6520_{administrator}

Professional expenses: A/B4060

Professional expenses, declared by company administrators of associations, unincorporated entities, or entities not subject to corporate tax: A/B6570_{administrator}

Note: The first of each pair of codes (beginning with A) relates to an unmarried taxpayer or the head of family, the second (beginning with B) to a partner only.

Estimate of OUTPUT and INTERMEDIATE CONSUMPTION (administrative concepts)

A. Company executives

Calculation of output

In sum, the output for the company administrators is estimated by using the following formula:

$$\text{OUTPUT} = A4000 + B4000 + A4010 + B4010 + A4040 + B4040 + A4140 + B4140 - A4110 - B4110 + A6500_{\text{administrator}} + B6500_{\text{administrator}} + A6520_{\text{administrator}} + B6520_{\text{administrator}} - \text{wages in kind}_{\text{fixed value}} + \text{wages in kind}_{\text{market value}}$$

Where:

Wages in kind_{fixed value}: wages in kind on fixed value basis, as included in the income tax declarations (source: Belcotax)

Wages in kind_{market value}: wages in kind on market value basis, as estimated based on P x Q-method (number of attributed benefits: source Belcotax, market value of attributed benefits: average final consumption expenditure of Belgian household in Belgium), the pension contributions paid by the firm are based on source data from the FSMA.

Calculation of intermediate consumption

The intermediate consumption is estimated as the sum of the following items:

$$\text{INTERMEDIATE CONSUMPTION} = A4060 + B4060 + \text{undeclared costs} + A6570_{\text{administrator}} + B6570_{\text{administrator}} + \text{professional use of benefits in kind (company car and pc-internet), not included in the estimated part of the undeclared professional expenses}$$

Where:

Undeclared costs: fixed percentage of the sum of the following headings: remunerations, share options, remuneration in kind – rental income paid by the enterprise for the ultimate benefit of the company administrator, reduced by the amount of the unretained personal social contributions

Professional use of benefits in kind: fixed percentage of market value attributed to the benefits in kind (company car and pc-internet)

B. Liberal professions

Calculation of output

Output is the sum of professional earnings, arrears of fees and supplementary income from commercial or agricultural activities.

OUTPUT = CODES A6000 + B6000 + A6500 + B6500 + A6520 + B6520

Calculation of intermediate consumption

Intermediate consumption comprises actual expenses and flat-rate expenses less depreciation and wages paid by the taxpayer. The last two items need to be excluded as they are not part of intermediate consumption according to ESA 2010.

INTERMEDIATE CONSUMPTION = CODES A6060 + B6060 + A6570 + B6570 - (A9540 + B9540 + A9550 + B9550 or D1)

Results available

t+18 months (for NA purposes t+36 months)

Link : [Document préparatoire de la déclaration – 2021 – Partie 2 | SPF Finances \(belgium.be\)](#)

10.1.10 STRUCTURAL BUSINESS SURVEY (SBS)

Identification

Name of source: Annual structural business survey

Supervisory body: Statbel

Aim: The aim of the European Regulation is to establish a common framework for the collection, transmission, and evaluation of Community statistics on the structure, activity, competitiveness and performance of enterprises in the Community.

A Royal Decree prescribing an annual survey on the structure of enterprises was published in the Belgian Official Gazette on 22 August 1996.

The survey is required according to the Royal Decree of 18 July 2008 and Regulation (EC) No. 295/2008 of 11 March 2008.

Basic characteristics

The survey examines the structure of companies. The survey population is therefore all companies located in Belgium. The data required cover business activity, employment, income, expenditure, and investments, and refer to the previous accounting year, which does not necessarily coincide with the calendar year. The survey data are intended to provide comparable, comprehensive, reliable, and recent statistics on the structure of enterprises at European level. The other EU Member States conduct similar surveys. The purpose of these statistics is to analyse:

- the structure and business trends of enterprises
- production factors used and other elements for measuring the activity, performance, and competitiveness of enterprises
- regional, national, and international trends in enterprises and markets
- business policy of enterprises
- small and medium-sized enterprises
- specific characteristics of enterprises in particular domains of activity.

This survey covers all the activities in sections B to N (section K only Nace 64.2, 64,3 64,9, 66) and sections P (only Nace 85.5), Q (except Nace 86.1), R and S (except Nace 94.2, 94.91, 94.92) of the Standard Classification

of Economic Activities in the European Community (**NACE Rev.2**)²⁴⁹. Sections A (agriculture forestry and fishing) and O (public administration and defence) are not surveyed. Collecting method is done through a web survey.

²⁴⁹ The nomenclature used in the Belgian national accounts is NACE-BEL 2008 (cf. 10.1).

Description of questionnaires

As not all enterprises are under the same legal obligations as regards accounting, three types of questionnaires had to be developed: a simplified questionnaire for small unincorporated businesses (self-employed), a detailed one for corporations which compile a complete set of accounts (using the Minimum Standard Chart of Accounts) and a specific survey for NPI's.

The questionnaires are composed of two parts:

- general data for identifying each enterprise as regards personnel and activities,
- accounting data: information on various elements of the enterprise's accounts (turnover, purchases, investments etc).

The detailed questionnaire is closely related to the standardised minimum accounting plan which serves as the basis for all the accounts of large enterprises. A reference in the questionnaire establishes the link with their accounts.

For the simplified questionnaire, the approach is quite different and is based on the data required in the tax return.

The questionnaire for associations is used to gather specific information on NPI's which is important in the compilation of the S.15-account (and partly S.11).

Sampling frame

An enterprise is part of the population of SBS if it meets at least one of the following criteria during the reference period:

- a positive turnover declared to VAT
- employment/wages declared to NSSO
- annual accounts filed with the CBSO of the NBB
- for natural persons not liable to VAT income declared in the income tax declaration

The universe of the enterprises is stratified by two criteria: the economic sector (Nace Rev. 2 classification) and the size. This is based on two factors: the level of employment and turnover according to VAT.

Statbel distinguishes 6 size classes as shown in the table below.

Class	Number of employees	Class NSSO	And/or	Turnover (€ million)
0	0	-	and	< 1
1	1 - 4	1	or	1 - 2,50
2	5 - 9	2	or	2,50 – 5,00
3	10 - 19	3	or	5,00 – 10,00
4	20 - 49	4	or	> 10,00
5	+ 50	>4	-	-

The total sample consists of an exhaustive part and a part selected by sampling. All enterprises with more than 50 employees (class 5) are surveyed each year.

When companies at NACE four-digit level do not represent 50 % of total turnover of the whole industry, one should add enterprises with 20-49 employees or with a turnover of over € 10 million (class 4).

Other companies (belonging to classes 0, 1, 2, 3 and part of class 4) are interrogated randomly by means of a rotating sample. These companies are divided into three groups according to their economic activity: 1) the industry and construction, 2) trade and catering and 3) services.

Enterprises of all three groups are included in the sample, but each year, only companies from one of these industries receive a survey form.

So only large enterprises are surveyed annually, and the survey of smaller businesses (classes 0-3 and part of class 4) is significantly reduced; thanks to the rotation system, these enterprises receive a survey form once every three years (if they are sampled of course).

Type of documents and response rate

Here is the response rate for the general section at the end of the SSE 2015:

Type doc	Number of questionnaires	Response rate
P26GDTRA	2.288	58,6 %
P26BNBVOL	7.711	91,9 %
P26BNBVKT	11.948	80,6 %
P26041	1.750	91,4 %
P26011	3.059	68,7 %

Where:

P26GDTRA: General document and forms sent to newly created companies where the general part has not been pre-filled; it may be enterprises type "full format" without annual accounts, or type "non-profit associations".

P26BNBVOL: Enterprise filing a full annual account

P26BNBVKT: Enterprise filing an abbreviated annual account

P26041: NPI's

P26011: for small self-employed persons

Apart from the main questionnaire, an enterprise receives one or more annexes (most of them are quinquennial).

The annexes give more (product) detail for certain headings in the detailed questionnaire:

- IE form: annual annex on investment outlays for environmental protection (not used by the national accounts). Only for sections B to E.
- CE form: quinquennial annex on current expenditure for environmental protection (not used by the national accounts). Only for sections B to E
- OC form: quinquennial annex on the turnover by product: Industrial activities (procom data), construction activities, commercial activities, service activities.
- AI or AS form: quinquennial annex on the purchases of goods and services by product: some of the variables of the general part are found within this framework: e.g., raw materials, energy, subcontracting, custom work, purchase of goods, purchase of buildings for sale, discounts, rent of land, buildings, plants, machinery, equipment, furniture and vehicles, rental miscellaneous articles, purchased software, etc.
- IM form: quinquennial annex on the breakdown of investment in tangible fixed assets by type of asset/product.

The information from annexes OC, AI/AS and IM is used to calculate distribution keys by product for P1, P2 and P51 in the SUT by industry.

Here is the response rate for the annexes "purchases of goods and services", "turnover" and "investment" of the SBS 2015:

Type doc	Number of questionnaires	Response rate
AS - AI	4.582	86,2 %
OC	4.995	88,7 %
IM	4.582	89,1 %

Validation of SBS data

Checks are necessary in order to verify the consistency and accuracy of the collected data. The basic aim is to automate (i.e., computerise) these checks. They include logical tests and checks on consistency between variables, total or subtotal calculations, arithmetical sign checks, comparisons and the plausibility of certain values.

Depending on the source of data used for checks, a distinction is made between external checks (using data not obtained from the survey: e.g., annual accounts or NSSO) and internal checks (using only data obtained via the survey). Plausibility checks for certain values (unit values of products, average hours worked per person, etc.) are also regarded as a separate category.

The choice of checks also depends on the questionnaires and whether they are accompanied by annexes.

Deadline for transmission of results and reference

All results are transmitted within 18 months of the end of the reference calendar year. For some business statistics, preliminary national results or estimates are transmitted within 10 months of the end of the reference calendar year.

Use of the SBS in the national accounts:

These surveys are used:

- To estimate P.1, P.2 and B.1g for units for which annual accounts are lacking
- To extract supplementary information (not available in the annual accounts) in order to convert administrative aggregates into national accounts aggregates (in S.11, S.12, S.14, S.15)
- To distribute output, intermediate consumption and investments over products in the SUT via the annexes on turnover, purchasing and investments.

SBS model:



5.ASSOC.pdf



2.VOLNEW.pdf



1.DETAILLE.pdf



3.VKT.pdf



4.MICROSCHEMA.pdf

10.1.11 STRUCTURAL SURVEY OF CREDIT INSTITUTIONS

Identification

Name of survey Structure survey of insurance enterprises subject to NBB supervision

Basic characteristics

Main variables The structure survey (survey form for 1999 and explanatory notes hereto annexed) provides detail for some headings in schedule A that are necessary for compiling the national accounts for sector S122. The survey variables used to determine output and intermediate consumption are set out in the table on the use of schedule A data for national accounts purposes.

Frequency Annual

Results available t+9 months

Is the survey compulsory? Yes

Main survey characteristics – method whole population - Online reporting via Onegate

Sample and population

Units covered All banks active during the year

Sample/population Whole population.

Response 96 out of 99 banks responded to the 2016 survey, i.e., 97 % of the population.

Adjustment methods

How are missing data estimated? None

Variables used for extrapolation? None

Other adjustments? As the questionnaire is directly related to the annual accounts of enterprises, checks to ensure consistency between the annual accounts and the survey. In the (rare) event of a problem, the enterprise is contacted.

Annex:

Adobe Acrobat
Document

10.1.12 STRUCTURAL SURVEY OF INSURANCE ENTERPRISES SUBJECT TO NATIONAL BANK SUPERVISION

Identification

Name of survey Structure survey of insurance enterprises subject to NBB supervision

Basic characteristics**Main variables**

- detail between turnover realised abroad directly and via an establishment abroad
- breakdown of reinsurance accepted and ceded between Belgium and rest of world
- breakdown of non-life insurance premiums by sector
- detail of intermediate consumption by product
- investments and disinvestments
- various other details.

Frequency

Annual

Results available

t+12 months

Is the survey compulsory?

Yes

Main characteristics of survey method

- limited population
- On-line reporting via Onegate

Sample and population**Units covered**

Insurance enterprises subject to NBB supervision

Sample/population

Whole population

Response

67 of 71 insurance companies responded to the 2016 survey (94 % of the population)

Adjustment methods**How are missing data estimated?**

None

Variables used for extrapolation?

None

Other adjustments?

As the questionnaire is directly related to the annual accounts of enterprises, checks to ensure consistency between the annual accounts and the survey. In the (rare) event of a problem, the enterprise is contacted.

Annex:

Adobe Acrobat
Document

10.1.13 STRUCTURAL SURVEY OF INSURANCE ENTERPRISES NOT SUBJECT TO NBB SUPERVISION

Identification**Name of survey**

Structure survey of Belgian branches of other EEA foreign insurance enterprises.

Basic characteristics**Main variables**

Belgian branches of insurance and reinsurance enterprises governed by the law of other EEA Member States are not subject to NBB supervision and do not file annual accounts with the CBSO. The survey is the only source of information on them. In practice, it follows the simplified annual accounts schedule filed by insurance enterprises covered by the Royal Decree of 27 November 1994 (see annex).

Frequency

Annual

Results available

t+12 months

Is the survey compulsory?

Yes

Main characteristics of survey method

- limited population
- On-line reporting via One gate.

Sample and population**Units covered**

Insurance enterprises not subject to NBB supervision

Sample/population

Whole population

Response

24 of 33 enterprises responded to the 2016 survey i.e., 72 % of the total population.

Adjustment methods**How are missing data estimated?**

None

Variables used for extrapolation?

None

Other adjustments?

The form incorporates some internal electronic checks. In cases of flagrant inconsistency, the enterprise is contacted.

Annex:

Adobe Acrobat
Document

10.1.14 STATISTICS ON BUILDING PERMITS

Identification**Name of survey**

Statistics on building permits

Basic characteristics**Organisation collecting data**

Statistics Belgium

Main variables

- Type of construction (new dwelling, public sector, etc.)
- Date of issue of permit

Frequency

Continuous survey; monthly statistics

Sample and population**Units covered**

All new construction in Belgium for which building permits are issued:
totally exhaustive source

Adjustment methods**How are missing data estimated?**

None

Variables used for extrapolation?

No extrapolation needed

Other adjustments?

None

10.1.15 STATISTICS ON HOUSING STARTS

Identification**Name of survey**

Statistics on housing starts

Organisation collecting data

Statistics Belgium

Basic characteristics**Main variables**

Type of construction (new dwelling, public sector, etc.)
Date of issue of building permit
Date of start of work

Frequency

Continuous survey; monthly statistics

Sample and population**Units covered**

All building starts in Belgium

Adjustment methods

As a result of a decreasing response rate over the years, Statbel stopped producing the monthly statistics on the number of started dwellings as well as on the number of started renovations works (requiring a permit) from 2016 onwards.

Given the importance of this statistic for estimating investments in dwellings, an alternative method was developed by the NBB and Statbel (in the framework of the NAI) to estimate the number of dwellings/transformations started from the year 2016 onwards. This alternative method is described in section 5.10.3.4.1.

10.1.16 QUESTIONNAIRE FOR GENERAL BUILDING CONTRACTORS

Identification

Name of survey	Questionnaire for general building contractors
Organisation collecting the data	NBB

Basic characteristics

Main variables	<ul style="list-style-type: none"> • Breakdown of turnover by type of construction (new dwelling, renovation, public sector) • Duration of construction of private dwellings (in weeks) • Spread of monthly payments
Frequency	Every two years
Results available	t+8 months
Is the survey compulsory?	No
Main characteristics of survey method	<ul style="list-style-type: none"> • Same form for every contractor • Paper form sent by e-mail • Respondents may give approximate or average data on duration of construction (in weeks) and spread of monthly payments (proportion of total invoice paid per month) • Durations of construction and spread of payments are used as averages. Results from sample are applied to whole population.

Sample and population

Units covered	Construction enterprises
Sample	90-100 (among the largest construction enterprises)
Response	About 25 %

Adjustment methods

How are missing data estimated?	None
Variables used for extrapolation?	None
Other adjustments?	Adjustments are made in the case of inconsistencies in replies. They may be based on replies from previous years or on contact with contractors concerned or be made by ignoring maverick data.

10.1.17 ECONOMIC ACCOUNTS FOR AGRICULTURE

Identification

Name of survey	Economic Accounts for Agriculture
Organisation collecting the data	Statistics Belgium

Basic characteristics

Main variables	Production in nace codes 011 to 015 Intermediate consumption in nace codes 011 to 015
Frequency	Yearly
Is the survey compulsory?	Yes

Sample and population

Units covered	Farmers (physical or legal person)
Sample/population	Whole population
Response	100 %

10.1.18 PRODCOM

Identification

Name of survey	« Prodcom » or « PRODUcts of the European COMmunity »– Monthly survey of industrial output.
Organisation collecting the data	This survey is required according the Royal Decree of 20 February 2008 and Regulation EC 3924/91, Council Decision of 19 December 1991 on the creation of a Community survey on industrial production. Statistics Belgium (StatBel)

Basic characteristics

Main variables	<p><u>Part 1</u></p> <ul style="list-style-type: none"> ✓ Processing and industrial services: provided to third parties (not including industrial services declared in the ProdCom list) ✓ Commercial deliveries: when the purchased goods are sold in the same condition in a purely commercial purpose. ✓ Custom work provided by the business to companies located in Belgium <p><u>Part 2</u></p> <ul style="list-style-type: none"> ✓ Production: for each product manufactured by the enterprise ✓ Total production in volume ✓ Deliveries to third parties in volume and value ✓ Custom work provided by the company to businesses located abroad in volume and value
Frequency	Monthly
Is the survey compulsory?	Yes
Main characteristics of survey method	Survey done at local unit level. For any local unit engaging in two or more activities, a return for each activity, i.e., by NACE rev. 2 division (2 digits).

Sample and population

Units covered	Enterprises that produce goods which occur on the ProdCom list (a list containing all products - mainly commodities, but also a number of industrial services - resulting from industrial activity). The ProdCom list is detailed up to an 8-digit level. The four first refer to the corresponding class of the statistical classification of activities in the European Community (NACE). The next two refer to the subcategories Statistical Classification of Activity-Related Products (CPA). Most of the entries in the Prodcom list correspond to one or more codes of the Combined Nomenclature (CN). This survey covers all the activities of section B (Mining and Quarrying) and C (Manufacturing) from NACE rev 2, except division 05 (Mining of coal and lignite), 06 (Extraction of crude petroleum and natural gas) and 19 (Manufacture of coke and refined petroleum products)
Sample	The Survey only covers enterprises above a certain threshold: industrial enterprises employing at least 20 persons and/or with an annual turnover of at least € 4.200.000. Selection of enterprises is based on the DBRIS register, which covers the previous year's returns to the NSSO (for employment) and VAT data (for turnover) of the previous year.
Response	General coverage of about 90 %
Confidentiality	Only the publication of anonymous aggregate data is authorized. All hierarchical levels of Prodcom codes (2,3,4 and 6) are published. Therefore, it's necessary to consider certain aggregates as confidential secondary in order not to be able to disclose confidential primary aggregates.
<u>Adjustment methods</u>	
Variables used for extrapolation?	Total industrial output is estimated as the sum of output defined according to Prodcom and the VAT turnover of all enterprises that are involved in industrial activity but are below the survey thresholds. Within the framework of the SUT table, the breakdown of industrial output by branch of activity is applied to the whole population.
Other adjustments?	None

10.1.19 THE ECONOMIC GROUPINGS

Identification

Name of source:	Economic groupings
Supervisory body:	General Documentary Base
Purpose of data collection:	Basic information of the compilation of the non-financial government accounts

Basic characteristics of source

For the compilation of the general government non-financial accounts, the main data source used by the NAI is the [Regroupement économique \(budgetfederal.be\)](http://budgetfederal.be), which is a report according to a codification based on the economic nature of revenues and expenditures (consumption, transfers, investment, etc) in the Budget. The Economic Grouping is compiled by the budget authorities of each of the entities concerned and are then

sent to the secretariat of the *Base documentaire générale/Algemene Gegevensbank*²⁵⁰ (General Documentary Base), set up by a cooperation agreement between the State, the Communities, the Regions and the Community Commissions. All federated entities use the same economic classification for the reporting. The Economic grouping of State Authorities covers the budgetary transactions of the Main state and the transactions of several units consolidated with the state authorities. All entities use the same economic classification for the reporting.

The purpose of the General Documentary Base is to manage public finance (revenue and expenditure) statistics, establish criteria enabling these statistics to be compiled uniformly for each entity and transmit the data it receives to the National Accounts Institute to allow it to incorporate them in the macro-economic framework of the national accounts.

The Economic grouping is transmitted for the first time before 15 February (data t-1 year), an update is sent 15 May and if necessary, an update can be transmitted in April of T+2 year.

10.2 STATISTICAL SURVEYS AND OTHER DATA SOURCES USED FOR THE INCOME APPROACH

10.2.1 NATIONAL SOCIAL SECURITY OFFICE

Identification

Name of source:	Quarterly Multi-Functional declaration (Dmfa)
Supervisory body:	NSSO
Purpose of data collection:	Collection of social security contributions

Basic characteristics of source

Reporting units

Nearly all of employers active in Belgium.

The NSSO is charged with managing social security for most employees and officials employed in Belgium. NSSO data are the most important source for the income approach in the Belgian national accounts. These data are exhaustive and are highly detailed.

All incorporated and unincorporated enterprises, NPI's etc. employing personnel with a labour agreement (employment contract) are subject to the social security system and are required to pay social security contributions. In this sense, the NSSO data are exhaustive.

Data on the compensation of employees are available at the level of individual enterprises/employers. With a view to calculating social security contributions, enterprises are required to complete an electronic form (Multi-Functional declaration)

What variables are we trying to measure?

The following table gives an overview of the variables taken from the Multifunctional Declaration.

<i>No</i>	<i>ABBREVIATED NAME</i>	<i>TITLE</i>
IDENTIFICATION OF QUARTER		
1	ANTRIM	SURVEY QUARTER
2	VERSION	VERSION (*)
EMPLOYER DESCRIPTORS		

²⁵⁰ The secretariat of the General Documentary Base is provided by the Service Macrobudgétaire du Service Public Fédéral Budget et Contrôle de Gestion/Macrobudgettaire Dienst van het Federal Overheidsdienst Budget en Beheerscontrole (Macro-budgetary Department of the Federal Budget and Corporate Governance Office).

No	ABBREVIATED NAME	TITLE
3	MATRIC	NSSO MEMBERSHIP NUMBER
4	CODNAC	NACE CODE – EMPLOYEES' ACTIVITY CODE ACCORDING NSSO
5	CODIMP	SIZE CODE
6	INSEMP	CODE OF MUNICIPALITY WHERE DE COMPANY IS LOCATED
7	SECEMP	SECTOR (1-PRIVATE 2-PUBLIC)
ACCOUNTING DATA (EMPLOYER)		
8	REDTOT	VALUE OF TOTAL REDUCTIONS IN EMPLOYER CONTRIBUTIONS
9	COTPAT	VALUE OF EMPLOYERS' CONTRIBUTIONS
10	COTTOT	VALUE OF TOTAL CONTRIBUTIONS
11	COTSPE	VALUE OF SPECIAL CONTRIBUTIONS
12	COTAUT	VALUE OF OTHER CONTRIBUTIONS
13	MNTAEL	VALUE OF THE AMOUNT OF EXTRALEGAL ADVANTAGE
14	COTAEL	VALUE OF CONTRIBUTIONS ON EXTRALEGAL ADVANTAGE
15	COTONS	VALUE OF NSSO CONTRIBUTIONS
16	COTVEH	VALUE OF CONTRIBUTIONS FOR PRIVATE USE OF COMPANY CARS
17	MNTVEH	VALUE OF BENEFIT (COMPANY CARS)
18	COTPPC	VALUE OF CONTRIBUTIONS BY WORKERS IN CONTRACTUAL EARLY RETIREMENT
19	COTFSE	VALUE OF SOCIAL PROTECTION FUND CONTRIBUTIONS
20	COTVO-C	CONTRIBUTIONS TO WORKERS' HOLIDAYS (BUILDING INDUSTRY)
21	COTVO-NC	CONTRIBUTIONS TO WORKERS' HOLIDAYS (NOT CAT. 024)
STUDENTS		
22	STUEFF	STUDENTS: NUMBER DECLARED
23	STUCOT	VALUE OF EMPLOYERS' SOCIAL CONTRIBUTIONS FOR STUDENT
24	STUSAL	STUDENT WAGES
(*) T+4 MONTHS OR T+7 MONTHS		
VARIABLE PART		
(GROUP OF WORKERS BROKEN DOWN BY CLASS, SEX, TYPE)		
25	NB-ELEM	NUMBER OF COMBINATIONS OF VARIABLE PART (MAX .400) (CLASS OF WORKER X SEX X CATEGORY X (1 SALARY + 19 REDUCTIONS))
26	CLATRA	CLASS OF WORKER: 1=BLUE COLLAR, 2=WHITE COLLAR, 3= OFFICIAL, 4=APPRENTICE BLUE COLLAR., 5=TRAINEE WHITE COLLAR
27	SEXTRA	WORKERS' GENDER CODE 1=MALE, 2=FEMALE
28	NOTION	CATEGORY OF WORKER 1=FRONTIER WORKER, 2=OTHER
GENERAL DATA (GROUP OF WORKERS)		
29	JRSREM	STANDARD NUMBER OF DAYS PAID
30	JRSVAC	NUMBER OF HOLIDAYS
31	EFF-FT	NUMBER OF FULLTIME WORKERS THE LAST DAY OF QUARTER
32	EFF-PT	PART-TIME WORKERS THE LAST DAY OF QUARTER
33	EFFVTE	FULL TIME EQUIVANLENT WORKFORCE
34	EFFREL	MAXIMUM WORKFORCE DURING THE QUARTER
36	EFFAPR	NUMBER OF EMPLOYEES IN MAIN PROFESSION
37	SAL100	SALARY 100 %
38	PREAVI	SALARY CODES 01,02,03
39	PRIMES	SALARY CODES 04
40	PECVAC	HOLIDAY ALLOWANCE
41	SALFOR	CONTRACTUAL FIXED WAGE (for certain industries)
42	SALATT	STAND-BY WAGES (code 05)
43	COTPER	VALUE OF EMPLOYEES' SOCIAL CONTRIBUTION
44	CODRED	SOCIAL CONTRIBUTION REDUCTION CODE
45	NBRRED	NUMBER OF SOCIAL CONTRIBUTION REDUCTION FOR EMPLOYEES
46	MNTRED	AMOUNT OF SOCIAL CONTRIBUTION REDUCTION FOR EMPLOYEES

Adjustments

The various adjustments made to the basic data serve to ensure exhaustiveness (see chapter 4.7 and chapter 7)

Annex:



ONSS Q SIL 2016 4
307.xlsx

10.2.2 NATIONAL SOCIAL SECURITY OFFICE FOR PROVINCIAL AND LOCAL AUTHORITIES

Identification

Name of data source:	Quarterly multifunctional declaration (DmfAPPL)
Organisation collecting the data:	National Social Security Office for Provincial and Local Authorities ²⁵¹
Purpose of data collection:	Collection of social security contributions from local and provincial government officers

Basic characteristics of the source

Reporting units

As a social security institution, the National Social Security Office for Provincial and Local Authorities (NSSOPLA) is entrusted with the collection of social security contributions for the members of the staff of the provincial and local administrations. These administrations include municipal authorities and municipal public utilities, public centres for social welfare, local police zones, intermunicipal companies and provincial authorities.

The multifunctional declaration (DmfAPPL) means that the declaration is not confined simply to the calculation of applicable social security contributions. The data collected are also used by the institutions responsible for paying social security benefits (health insurance, unemployment, pensions, work-related accidents, occupational diseases and family allowances).

With a view to calculating social security contributions, provincial and local authorities are required to complete an electronic form (Multifunctional Declaration) where every employee is distinguished. Therefore, data on the remuneration and occupation of employees are available at the level of individual enterprises and by employee.

Periodicity

4x/year (quarterly)

Which variables are measured?

The data extracted from the Multifunctional Declaration are processed for NAI's statistical purposes and supplied in the form of specific quarterly files. The following table gives an overview of the variables taken from the NSSOPLA declaration. Those variables are used to estimate the compensation and the number of employees for the population of employers covered by this source.

This source has the particularity to provide information for each person occupied per employer and for each job per employee.

²⁵¹ Since 1st January 2015, the National Social Security Office for Provincial and Local Authorities is known as the Special Social Security Schemes Office (SSSSO) after its merger with the Overseas Social Security Office.

Main file (information available by employee and job)

Name	Description EN	Description FR
Antrim	quarter to which the declaration relates	Trimestre sur lequel porte les déclarations
Matric	NSSOPLA membership number	Matricule de l'entreprise
codtra	category of the employee (46 possible values)	code travailleur (46 valeurs possibles)
NaceOcc	employees' activity code according to NSSOPLA	Code de l'activité du travailleur selon l'ONSS-APL
COT_DPV	total social contributions on double vacation fee, except for local officers and police personnel	Cotisations sur le double pécule de vacances (DPV), à l'exception des mandataires et du personnel de la police
COT_DPV2	total social contributions on double vacation fee for local officers and police personnel	Cotisations sur le DPV des mandataires et du personnel de la police
Cot_301	total pension contributions – unified pension fund – former common pension plan	Cotisations de pension – fonds de pension solidarisé – ex-régime commun de pension
Cot_302	total pension contributions – unified pension fund – former pension plan for new affiliated members + members after 31/12/2011 at the higher rate	Cotisations de pension – fonds de pension solidarisé – ex-régime des nouveaux affiliés + adhérents après le 31-12-2011 au taux supérieur
Cot_303	total pension contributions – unified pension fund – local police	Cotisations de pension – fonds de pension solidarisé – police locale
Cot_304	total pension contributions – unified pension fund – affiliated after 31/12/2011 at the lower rate	Cotisations de pension – fonds de pension solidarisé – adhérents après le 31-12-2011 au taux inférieur
Cot_306	total pension contributions – unified pension fund – former pension institution with specific contribution rate	Cotisations de pension – fonds de pension solidarisé – ex-institution de prévoyance avec taux de cotisation spécifique
LMS_301	wages submitted to pension contributions– unified pension fund – former common pension plan	Masse salariale, soumise aux cotisations de pension – ex-régime commun de pension
LMS_302	wages submitted to pension contributions – unified pension fund – former pension plan for new affiliated members + members after 31/12/2011 at the higher rate	Masse salariale, soumise aux cotisations de pension – fonds de pension solidarisé – ex-régime des nouveaux affiliés + adhérents après le 31-12-2011 au taux supérieur

Name	Description EN	Description FR
LMS_303	wages submitted to pension contributions – unified pension fund – local police	Masse salariale, soumise aux cotisations de pension – fonds de pension solidarisé – police locale
LMS_304	wages submitted to pension contributions – unified pension fund – affiliated after 31/12/2011 at the lower rate	Masse salariale, soumise aux cotisations de pension – fonds de pension solidarisé – adhérents après le 31-12-2011 au taux inférieur
LMS_306	wages submitted to pension contributions – unified pension fund – former pension institution with specific contribution rate	Masse salariale, soumise aux cotisations de pension – fonds de pension solidarisé – ex-institution de prévoyance avec taux de cotisation spécifique
LMS_DPV	amount of the double vacation fee, except for local officers and police personnel	Montant du DPV, à l'exception des mandataires et du personnel de la police
LMS_DPV2	amount of the double vacation fee for local officers and police personnel	Montant du DPV des mandataires et du personnel de la police
LMS_IX	wages not submitted to social security contributions	Masse salariale exonérée des cotisations de sécurité sociale
STctrAmt	total social security contributions – students	Cotisations de sécurité sociales – Etudiants
STremAmt	wages submitted to social security contributions – students	Masse salariale soumise aux cotisations de sécurité sociale – Etudiants
cotpat	employers' social contributions	Cotisations patronales
cotper	employees' social contributions	Cotisations personnelles
mntdedocc	reductions to employers' social contributions	Réductions de cotisations patronales
mntdedwr	reductions to employees' social contributions	Réductions de cotisations personnelles
preavi	resignation fee	Indemnités de préavis
salcot	wages submitted to social security contributions	Masse salariale soumise aux cotisations de sécurité sociale
vehsoc	value of the advantage of receiving a company car	Avantage lié au véhicule de société
pp_rrn_onss	code indicating if, for the employee, this is the main job	Code indiquant que la ligne travailleur (= emploi) est ou non la plus importante.

Name	Description EN	Description FR
pp_rrnmc_onss	code indicating if the job is the most important or not for a given employer in the case that an employee has multiple jobs	Code indiquant que la ligne d'occupation (n') est (pas) la plus importante auprès d'un employeur donné.
r_exclus_onss	code indicating if the record has to be taken into account or not (indicates if the employee is still at work at the end of the quarter)	Code indiquant qu'un enregistrement doit être comptabilisé ou non

Supplementary file (information only available by employer)

Name	Description EN	Description FR
Antrim	quarter to which the declaration relates	Trimestre sur lequel porte les déclarations
Matric	NSSOPLA membership number	Matricule de l'entreprise
CuLMS_PX_WG	wages on which a special social contribution has to be paid by the employer for the constitution of an extralegal pension within an overall business plan	Masse salariale sur laquelle une cotisation spéciale est due par l'employeur pour la constitution d'une pension extralégale dans le cadre d'un plan d'entreprise
CuLMS_PX_WN	wages on which a special social contribution has to be paid in case of direct payments of an extralegal pension to former employees	Masse salariale sur laquelle une cotisation spéciale est due dans le cadre de versements directs d'une pension extralégale à des anciens travailleurs
CuCOT_PX_WG	special social contribution paid by the employer for the constitution of an extra-legal pension within an overall business plan	Cotisation spéciale due par l'employeur pour la constitution d'une pension extralégale dans le cadre d'un plan d'entreprise
CuCOT_PX_WN	special social contribution on the direct payments of an extra-legal pension to former employees	Cotisation spéciale sur les versements directs d'une pension extralégale à des anciens travailleurs
CuLMS_CS	wages on which an employer's solidarity contribution has to be paid for the use of a company car for private purposes or for home-work trips	Masse salariale sur laquelle une cotisation patronale de solidarité est due pour l'usage d'un véhicule à des fins privées ou pour le déplacement domicile-travail
CuCOT_CS	employers' solidarity contribution for the use of a company car for private purposes or for home-work trips	Cotisation de solidarité pour l'usage d'un véhicule à des fins privées ou pour le déplacement domicile-travail
CuCOT_DPV	employers' social contribution on the double vacation fee for employees not on duty anymore,	Cotisations patronales sur le DPV, à l'exception des

Name	Description EN	Description FR
	for as far it does not concern local officers and police personnel	mandataires et du personnel de la police
CuCOT_DPV2	employers' social contribution on the double vacation fee for local officers and police personnel not on duty any more	Cotisation patronale sur le DPV des mandataires et du personnel de la police
CuLMS_DPV	amount of the double vacation fee for employees not on duty anymore, for as far it does not concern local officers and police personnel	Masse salariale sur laquelle une cotisation est due sur le DPV, à l'exception des mandataires et du personnel de la police
CuLMS_DPV2	amount of the double vacation fee for local officers and police personnel not on duty any more	Masse salariale cotisation due sur le DPV des mandataires et du personnel de la police

Adjustments

Given the exhaustiveness of the NSSOPLA data, no adjustments are made.

10.3 STATISTICAL SURVEYS AND OTHER DATA SOURCES USED FOR THE EXPENDITURE APPROACH

The primary sources to estimate gross fixed capital formation are the annual accounts and the VAT-declarations (see 10.1). For estimating investment in R&D a specific R&D survey is used. The estimate of final consumption expenditure of household is based on the Household Budget Survey (HBS) (and other specific sources) and imports and exports are estimated using Extrastat²⁵² data and Intrastat²⁵³ surveys (goods) and specific balance of payments surveys (services).

10.3.1 BELSPO R&D SURVEY

Name of survey: Belspo ²⁵⁴ R&D survey
Link to surveys undertaken at the European level: R&D surveys in other European countries based on the Frascati Manual, OECD, 2015.
Reporting units: Units which carry out R&D on a regular or an occasional basis or that are likely to carry out R&D activities.
Periodicity: Biennial
Time of availability of results: t+18 months
Sampling frame (e.g., name of business register used/ population census): The Belspo register contains all enterprises involved in R&D activities. All enterprises in this register are asked to participate to the survey.
Survey is compulsory or voluntary? Voluntary

²⁵² Covering imports and exports of goods with non-EU-member countries.

²⁵³ Covering imports and exports of goods with EU-member countries.

²⁵⁴ Belgian Science Policy Office.

<p>Main features of survey methodology (e.g., PPS sampling/ panel of respondents/ use of a size threshold for sampling/ postal questionnaire/ telephone interview):</p> <ul style="list-style-type: none"> • The forms are different whether the unit is market or non-market. • The forms are sent by post and follow-up reminders are sent by post and email
<p>Population size: 23,523 units</p>
<p>Sample size: 7,654 units</p>
<p>Survey response rate: 63 %</p>
<p>Method used to impute for missing data: In general, three methods are used:</p> <p>Enterprises that completed the survey partially (1) Enterprises for which Belspo experts have data from previous surveys (2) Enterprises that never participated to the Belspo survey (3)</p> <p>For (1) Belspo experts try to impute with the help of ratio's based on the available information For (2) Belspo experts calculate growth rates based on the available information from previous surveys. For (3) Belspo experts calculate historical sectorial trends</p>
<p>Variable used for grossing-up to the population (e.g., turnover/ employment):</p> <p>Total expenditure on R&D</p>
<p>Sample coverage, as % in terms of variable used for grossing-up (e.g., sample covers 60 % of employment recorded on the sampling frame):</p> <p>Grossing-up is only done for enterprises in the sample on the intramural R&D expenditure. The weight of an enterprise in the sample is based on the frequency of R&D active enterprises in certain sectors of the economy. Sampling covers approximately 5 %-10 % (differs from one survey to another) of the total expenditure on R&D.</p>
<p>Main variables collected:</p> <ul style="list-style-type: none"> • Intramural R&D expenditure by type of costs and source of funding • Extramural R&D expenditure by type of performer • Total R&D staff
<p>Further adjustments made to the survey data:</p> <p>Adjustments are sometimes necessary to integrate this information with the other sources used in national accounts (annual accounts and Bop)</p>



2018 RD
survey_BE.pdf

10.3.2 HOUSEHOLD BUDGET SURVEY

<p>Name of survey: Household Budget Survey</p>
<p>Link to surveys undertaken at the European level</p> <p>Household Budget Surveys in the EU: Methodology and recommendations for harmonisation (Eurostat)</p>
<p>Reporting units</p> <p>Private households</p>
<p>Periodicity</p> <p>The survey was conducted annually until 2010 and is biennial since 2012.</p>
<p>Time of availability of results</p> <p>Available between t+6 months and t+12 months.</p>
<p>Sampling frame</p>

<p>Before 2012 the sampling frame was based on the population registry. Since the second quarter of 2012, Labour Force Survey has been used. Since 2018, the sample is based on Labour Force Survey, HBS 2016 and population registry.</p>
<p>Survey is compulsory or voluntary? Voluntary</p>
<p>Main features of survey methodology Survey organised by DGS (FPS Economy- Statistics Belgium)</p> <ul style="list-style-type: none"> • Households are asked to state all expenditures and revenues during a reference period (2012-2016: one month; since 2018: half month) in a very detailed booklet (online or on paper). • A specific questionnaire is also filled in with questions about the composition of the household, the dwelling which it inhabits and periodic expenses such as energy, insurances, and durable goods (in possession and if bought in the last four months). • The results are verified by DGS enumerators who provide explanations to the households and check that the booklets and questionnaire are filled in properly.
<p>Population size In 2016, there were 4 848 184 private households in Belgium.</p>
<p>Sample size 2010: around 3 600 2012: 6 581 2016: 4 490 2018: 6 136</p>
<p>Survey response rate 2012: 15.1 % 2016: 9.1 % 2018: 9 % (based on sample LFS) 30 % (based on sample HBS 2016) 6 % (based on population registry)</p>
<p>Method used to impute for missing data Grouping of population strata and extrapolation</p>
<p>Variable used for grossing-up to the population Extrapolation based on detailed stratification of the sample. Criteria applied are:</p> <ul style="list-style-type: none"> • Region • Socio-economic status • Age • Number of persons in a household • Number of economically active persons in a household.
<p>Sample coverage</p>

Distribution par type de taille de ménage				
MS_Size	HBS 2016			
	Unweighted		Weighted	
	Freq.	%	Freq.	%
1	1239	27.59	1646832	33.94
2	1546	34.43	1516933	31.26
3	742	16.53	751574.2	15.49
4	682	15.19	658140.4	13.56
5	214	4.77	206393.2	4.25
6	52	1.16	55747.01	1.15
7	9	0.2	10986.88	0.23
8	3	0.07	2738.95	0.06
9	2	0.04	2838.752	0.06
10	1	0.02	302.8624	0.01
11 +	0	0	1646832	33.94
Total	4490	100	4852487	100

Main variables collected

- * Average expenditure per household for one year
- * Information on over 1 000 detailed consumer items.

Further adjustments made to the survey data:

Adjustments made to the survey data for use in national accounts are described in §5.7.

Example:

https://statbel.fgov.be/sites/default/files/files/documents/Huishoudens/10.1%20Huishoudbudget/Questionnaire_m%C3%A9nage_2018.pdf

10.3.3 RETAIL TRADE SURVEY

Name of survey: Retail trade survey
Link to surveys undertaken at the European level: Short term retail trade statistics
Reporting units (e.g., enterprise/ local KAU/ household): Enterprise
Periodicity (e.g., annual/quarterly/other- to be specified): Monthly
Time of availability of results: One month + 20 days after reference period
Sampling frame: All enterprises which have their principal activity in NACE 47 (retail trade) and all enterprises which have another principal activity but have at least five points of sale in retail trade.
Survey is compulsory or voluntary? The survey is compulsory, based on the following legal framework: <ul style="list-style-type: none"> • Council regulation (EC) No 1165/98 of 19 May 1998 • Royal Decree of 12 October 2015 (C – 2015/11393)
Main features of survey methodology: <ul style="list-style-type: none"> • Survey organised by the FPS Economy • Large enterprises are questioned exhaustively, and smaller enterprises are part of a three-year rotating panel. The size of an enterprise is defined based on turnover

<ul style="list-style-type: none"> • Online declaration questioning total turnover, with limited additional detail for larger enterprises (distinction of activities between food/textile/household equipment/others) • The aim of the survey is to compile a retail trade index which indicates the evolution of retail sales in Belgium.
Population size: companies of NACE 47 (Retail trade, except of motor vehicles and motorcycles)
Sample size: 2000
Survey response rate: 100 %
Method used to impute for missing data: /
Variable used for grossing-up to the population (e.g., turnover/ employment): /
Sample coverage, as % in terms of variable used for grossing-up (e.g., sample covers 60 % of employment recorded on the sampling frame): /
Main variables collected: Turnover
Further adjustments made to the survey data: /

10.3.4 EXTRASTAT

Name of data source	Extrastat
Organisation collecting the data	Customs Office. Between the Customs Office and the National Bank of Belgium (foreign trade department) a service level agreement is signed (in accordance with European regulations nr. 471/2009, 92/201, 113/2010) to obtain the data collected by the Customs Office.
Reporting units	Enterprise
Periodicity	Daily (via PLDA – <i>Paperless Douane en Accijnzen</i>)
Variables collected	All the information of the customs SAD (single administrative document). For an overview of the demanded information in the case of Belgium, see annexed pdf
Methods used to allow for missing data	The data are exhaustive
Adjustments made for conceptual differences from national accounts concepts	none
Further adjustments made to the data	Validation control of all the variables. In case of errors: correction.

Single administrative document:

https://www.nbb.be/doc/dq/onegate_help/handleidingextrastat2016frfull.pdf

10.3.5 INTRASTAT

Name of survey	Intrastat
Reporting units	Enterprise
Periodicity	Monthly
Time of availability of results	20 days after the end of the reference month
Sampling frame	VAT-declarations
Survey is compulsory or voluntary?	Compulsory

Main features of survey methodology
The Intrastat data are not exhaustive since a threshold value is used. An enterprise is required to declare its imports when the total annual arrivals are equal to or more than € 1 500 000. For the exports, a threshold value of € 1 000 000 is used.
Population size
Imports 397 100 ²⁵⁵ – Exports 76 800 – Total 473 900 in 2020
Sample size
Imports 9 200 – Exports 8 500 – Total +/- 12 900 in 2020
Survey response rate
95 % after 85 days
Method used to impute for missing data
To estimate non-response in the estimates, data for the same calendar month of the year t-1 are used and corrected for the trade cycle (i.e., multiplied by a growth factor calculated based on a constant sample of traders that have declared in both the reference month and the same month for the year-1). From the moment that the VAT declarations are available, the missing values are estimated based on these VAT-declarations, considering the specific corrections made above.
Variable used for grossing-up to the population
VAT-turnover
Sample coverage
Coverage rate: for imports 92 % - for exports 97 % The threshold can be reviewed if the target trade coverage is not reached.
Main variables collected:
<ul style="list-style-type: none"> • VAT Number • Value of the imported goods • Value of the exported goods • Nature of transaction code • Combined nomenclature code 8-digits (CN8-code) • Weight or supplementary units of the imported goods • Weight or supplementary units of the exported goods • Country of counterparty • Statistical regime
Further adjustments made to the survey data:
For national accounts, flows of P61 and P71 are derived in “national concept” (see 5.13)

10.3.6 BALANCE OF PAYMENTS SURVEYS

Name of survey
Balance of payments surveys
Reporting units
Enterprise
Periodicity
Monthly for major enterprises, quarterly for smaller enterprises

²⁵⁵ Among these 397100 companies, around 150000 declare imports for less than € 1000.

<p>Time of availability of results</p> <p>In principle 20 days after the end of the reference month or quarter</p>
<p>Sampling frame</p> <p>VAT-data, annual business account data, crossroad bank for enterprises</p>
<p>Survey is compulsory or voluntary?</p> <p>Surveys are compulsory</p>
<p>Main features of survey methodology</p> <p><u>Financial sector</u></p> <p>For the financial sector, different surveys are defined, each covering a specific subsector (F01PKI, F02INS, F02OFI, F02CCI). These surveys are addressed to the full population of the sub-sectors and are therefore exhaustive.</p> <p><u>Non-financial sector</u></p> <p>The full survey for the major enterprises (F01DGS) is sent to all the companies that exceed a certain threshold value concerning their imports and exports of services. This threshold value is defined based on VAT-information concerning the imports and exports of services. More specifically, the grids that indicate an ex- or import of services are considered (grids 44 (export), 47 (export), 56 (import), 87 (import), 88 (import)). Companies are considered as a 'major enterprise' if the following conditions are met:</p> <ul style="list-style-type: none"> • Activity code concerning services and VAT-grid 47 is annually greater than € 5 million • VAT-grid 56 is annually greater than € 1 million or grid 87 is annually greater than € 5 million • VAT-grid 44 or VAT-grid 88 is annually greater than € 5 million <p>The full survey is also used for coordination centres/head offices, audio-visual media companies, companies engaged in construction services or transport services or any other company for which there is an indication of import and export of services if the following condition is met: VAT-grid 44 and/ or 47 or 87 and/or 88 is annually greater than € 1 million</p> <p>An exhaustive survey is also provided to:</p> <ul style="list-style-type: none"> • Insurance brokers (F02BRO) if they deliver a full scheme of the Belgian annual accounts or employ more than 10 persons. • Tour operators (specific survey F02TRA) if turnover is greater than € 10 million. The tour-operators must declare the import and export of travel services. <p>The population is checked yearly in an exhaustive way. Companies must declare their imports and exports concerning all the services listed in the balance of payments.</p> <p>The companies, which declare in box VAT 44 and/or 47 or 87 and/or 88 on an annual basis more than € 5 million during one of the three years preceding the last year before the one for which the data are collected, are required to submit monthly, the others are required to submit quarterly.</p> <p>Companies not considered 'major' in terms of imports and exports of services can be subject to a non-exhaustive survey (F02CMS). A random selection method is used to determine the sample of declarants.</p>
<p>Population size, sample size and response rate (2018):</p>

Survey	Population size	Sample size	Number of answers	Response rate
Non financial sector				
Exhaustive surveys with threshold value				
F01DGS	8018	8018	8004	99,83%
F02BRO	114	114	114	100%
F02TRA	67	67	67	100%
Non exhaustive survey with stratified selection method				
F02CMS	119021	1346	1341	99,62%
Financial sector				
F01PKI	87	87	87	100%
F02INS	102	102	102	100%
F02OFI	296	296	296	100%
F02CCI	6	6	6	100%
Method used to impute for missing data				
Estimations for the non-response for the exhaustive surveys are done based on a constant sample estimation method. The growth rate between two periods for companies having completed the survey is applied to companies that did not answer.				
Variable used for grossing-up to the population				
Extrapolations are made for the non-exhaustive survey F02CMS. These adjustments are based on the VAT grids 44, 46, 48 and 84, 86, 88. Small companies are extrapolated from the large companies, based on their contribution to VAT grids 44 and 88.				
Main variables collected				
<ul style="list-style-type: none"> - VAT-number - Name of survey - BOP-survey heading - Country of counterparty - Value of exported service (in EUR and original currency) - Value of imported service (in EUR and original currency) <p>For a description at the most detailed level of the headings used in the balance of payments/international trade in services, reference is made to section 9.5.3.</p>				
Further adjustments made to the survey data				
Data are checked and corrected in cooperation with the concerned enterprises.				

Manual: https://www.nbb.be/doc/dq/n_pdf_bb/f01dgs-f02cms_handleiding_nl.pdf

10.3.7 CARD PAYMENTS SURVEY (FROM 2022 ONWARDS)

Name of survey	Card payments survey
Reporting units	<p>All legal entities established in Belgium that issue payment cards or carry out payment transaction acquisition activities are concerned by the survey.</p> <p>The term 'payment cards' refers to all forms of cards used for making payments or withdrawing funds, regardless of the name of the card: credit cards, debit cards, deferred debit cards, cards for the purchase of fuel, etc.</p>
Periodicity	Monthly

<p>Time of availability of results</p> <p>20 days after the end of the reference month</p>
<p>Survey is compulsory or voluntary?</p> <p>Compulsory from 2022 onwards.</p>
<p>Population size</p> <p>Around 125 companies: all payment service providers. The composition therefore changes (slightly) from year to year depending on the granting and withdrawal of authorisations.</p>
<p>Variables collected:</p> <p>All transactions carried out in Belgium or abroad using cards issued by payment card companies are recorded. All transactions acquired in Belgium or abroad by companies engaged in payment transaction acquisition activities are recorded.</p> <p>From 2022 onwards, the data collection will be enlarged.</p> <p>For payment card companies, there are 9 information fields:</p> <ul style="list-style-type: none"> - an indication of whether the transaction was carried out remotely or not - the destination of the card (private or commercial) - the place of residence of the cardholder (country code) - the location of the point of sale (POS) or merchant (country code) - the place of residence of the company acquiring the payment transaction (country code) - the Merchant Category Code - the number of transactions sharing these characteristics - the total value of these transactions in units - the currency used for these transactions (currency code) <p>For companies engaged in payment transaction acquisition activities, there are 8 information fields:</p> <ul style="list-style-type: none"> - an indication of whether the transaction was carried out remotely or not - the destination of the card (private or commercial) - the location of the card issuer (country code) - the location of the point of sale (POS) or merchant (country code) - the Merchant Category Code - the number of transactions sharing these characteristics - the total value of these transactions in units - the currency used for these transactions (currency code)

Manual:

10.4 STATISTICAL SURVEYS AND OTHER SOURCES USED FOR THE TRANSITION FROM GDP TO GNI

The estimate of D.1, D.2 and D.3 paid to/received from the Row relies on administrative data and balance of payments information. We refer to chapters 8.1, 8.2 and 8.3 for more details.

The estimate of D.4 paid to/received from the RoW makes use of information collected by the financial accounts (different types of financial claims/assets of resident sectors on the RoW and financial liabilities of resident sectors to the Row and corresponding yield %), information derived from the annual business accounts (e.g. dividends and reinvested earning paid to the RoW) and information from the balance of payments derived from specific surveys (FDI-survey: dividends and reinvested earning received from the RoW).

A description of the sources and methods used in the compilation of the financial accounts in Belgium (according to ESA2010) can be found on the website of the NBB:

https://www.nbb.be/doc/dg/e_method/m1_seb07i.pdf

https://www.nbb.be/doc/dq/mip/en/be_mip_template_for_financial_accounts_update_2017.pdf

The contents of the FDI-survey can be consulted on the website of the NBB:

<https://www.nbb.be/en/statistics/balance-payments/methodology>

<https://www.nbb.be/en/statistics/balance-payments/declarations>

ANNEXES



ANNEX 1 : GNI PROCESS TABLE

1. PRODUCTION APPROACH

1.1. BASIS FOR NATIONAL ACCOUNTS FIGURES

Belgian national accounts heavily rely on **administrative sources** (annual business accounts of corporations and NPI's, VAT-declarations, social security declarations (SS), personal income tax declarations, budgetary information).

In all but a few branches (A, L, T), administrative data are predominant as basis for national accounts figures. If administrative sources are missing or deemed to be not fit for statistical use, other sources (surveys and censuses) are used, or aggregates are estimated via extrapolation and models. In practice the amounts for administrative records correspond to operating revenue (C_A), goods and services consumed (C_B) and value added (C_C) according to administrative/corporate accounting concepts for categories A1, B1, B2, C1, C2 (annual accounts of corporations), H1, H2, H3 (annual accounts of NPI's) and categories A2, BC and B3 (units without annual accounts and SBS estimated via other administrative sources)²⁵⁶.

For non-financial corporations for which annual accounts are missing although structural business surveys are available, direct survey information (**Surveys & Censuses: S&C**) is used (instead of indirectly extrapolated figures). In practice the amounts for category E1 and E2 in S.11 are considered as S&C. Surveys are also used to estimate a small part of the activity of the financial sector and to estimate value added in agriculture (via the economic accounts of agriculture).

The column 'consumption of fixed capital/perpetual inventory method' (**CFC/PIM**) contains the amounts of consumption of fixed capital estimated in S.13 via the PIM. P.51c is one item of the costs that determines the value of the production for non-market producers.

For S15-units, the transformation of operating revenue (after adjustments) to the sum of costs (for instance consumption of fixed capital estimated via the PIM-model) is recorded, for practical reasons, under 'other conceptual adjustments'.

Dwelling services are a specific topic in national accounts: the benchmark year figures for 2010 are recorded in the column **dwelling stratification method** and the extrapolated figures (till the year 2016) in the column **benchmark extrapolations**.

The column **FISIM** contains the amounts for the output of FISIM in section K.

The column **insurance** records the production of insurance services in section K.

The column **other extrapolation and models** contains the data for production (sales) intermediate consumption (purchases) and value added that have been extrapolated in an indirect way (based on ONSS/ONSSAPL wages). This extrapolation is done for categories BL (enterprises belonging to VAT-units not depositing annual accounts), H4 (very small NPI's not depositing annual accounts) and RF (fiscal representatives). The part of extrapolated value added in the total value added (before adjustments) is very low because it is very rare that nor accounting, nor VAT nor SBS information is available for financial and non-financial corporations. For self-employed persons (S.14), VAT or personal income tax information is always available. Only in industries where a lot of small NPI's (without annual accounts) are active, the relative importance of other extrapolations and models is no longer negligible (e.g., in section S, where other E&M account for 22 % of the total basis for NA figures in terms of value added).

²⁵⁶ VAT-declarations (turnover/purchases) or NSSO-declarations (wages) or personal income tax declaration for self-employed workers whose activity is not liable to VAT.

The allocation of basic sources and methods for output, consumption and value added is as follows (billion €)²⁵⁷:

	Basis for NA Figures												
	Surveys & Censuses	Administrative Records	Combined Data	Extrapolation and Models								Other	Total sources
				Benchmark extrapolations	Commodity Flow Model	CFC (PIM)	Dwellings - stratification method	FISIM	Insurance	Other E&M	Total Extrap+ Models		
GDP PRODUCTION APPROACH													
P1	17,4	1 206,0	0,0	6,9	0,0	9,8	26,9	12,8	9,6	11,4	77,4	0,1	1 300,8
P2	11,8	868,7	0,0	0,8	0,0	0,0	3,0	0,0	0,0	7,8	11,6	0,0	892,2
B1g	5,5	337,2	0,0	6,1	0,0	9,8	23,9	12,8	9,6	3,6	65,8	0,0	408,7

This table shows the importance of administrative data in the compilation of value added and GDP in Belgium: 82 % of total value added is estimated via administrative sources²⁵⁸. The direct use of surveys and censuses is limited (about 1 % in terms of value added). As in other countries model calculations are done for dwelling services, the estimation of consumption of fixed capital and the production (and allocation) of FISIM. The output of insurance services is also calculated based on administrative data sources. Other extrapolations and models (used in the absence of direct information) only represent a small part of total value added (less than 1 %).

1.2. DATA VALIDATION ADJUSTMENTS

Data validation adjustments are very rare for the most important administrative source (**annual business accounts**). The validation and correction of this source is done by the Central Balance Sheet office (CBSO), which is a separate service of the National Bank of Belgium. Annual accounts comply with a set of arithmetic and logical controls specified by law. Companies whose accounts do not comply with these controls are compelled to deposit a set of corrected accounts. The national accounts division processes validated (and corrected accounts where necessary) from the CBSO.

In most cases (85 % of the accounts) book year and calendar year coincide and the profit and loss account and corresponding information in the annexes can be used as such. If the book year does not correspond to the calendar year, the flows (sales, purchases, etc.) of the profit and loss account are 'recalculated' using two successive accounts, which implies that administrative aggregates are compiled based on 'prorated' flows. This correction could be considered as a data validation adjustment but could not be isolated in the process table.

The accounts of a limited number of large public companies (public railway company, postal service, National Lottery) are adjusted to reconcile them with counterpart information available in the government accounts and to bring them in line with ESA2010 valuation. These corrections are made on the basic administrative (accounting) data (by sector/NACE/district) to facilitate their treatment in the regional accounts. Although these corrections could be considered as conceptual corrections, they are (for practical reasons) labelled as data validation adjustments (because they are done in phase 1 of the compilation process).

Data validation adjustments are necessary for the **VAT- declarations** deposited by some large Belgian branches of foreign companies²⁵⁹. For these units, all the relevant administrative (VAT and NSSO

²⁵⁷ Due to rounding the sum of the sub-headings is not always equal to the total amount.

²⁵⁸ If we do not include dwelling services, consumption of fixed assets and FISIM, this percentage increases to 93 %.

²⁵⁹ These entities are not obliged to deposit annual accounts, so no other direct information than VAT is available if SBS is also lacking.

declarations, Extrastat) and statistical (SBS, Prodcum, Intrastat) datasets are collected and compared with each other. This exercise leads to the conclusion that in some cases, VAT turnover does not reflect sales in Belgium, but rather sales worldwide. Turnover, purchases, and value added are consequently corrected downwards. The balancing adjustments between the production and expenditure side estimates of GDP is also considerably lower after introducing these corrections in the value-added figures.

On total data validation adjustments for the year 2016 approximately account for - € 40 billion on turnover, - € 16 billion on purchases and - € 24 billion on value added.

1.3. CONCEPTUAL ADJUSTMENTS

This is the sum of all corrections done to convert administrative/business accounting variables into ESA2010-aggregates, not including the exhaustiveness adjustments and the balancing adjustment.

The conceptual adjustments with the highest positive impact on value added are:

- the activation of R&D costs: (g)²⁶⁰
- the activation of purchased and own account software: (i1)
- the reclassification of part of the insurance premiums paid as transfers: (l)

The conceptual adjustments with the highest negative impact on value added are:

- the transformation of producer into basic prices: (o1 to o3)
- the reclassification of financial costs as intermediate consumption: (k)
- the removing of operating subsidies from the output (n)
- the elimination of value added produced abroad for companies with foreign establishments: (v)
- the allocation of a part of produced FISIM as intermediate consumption.

1.4. THE TREATMENT OF FISIM IN THE PROCESS TABLE

The production of FISIM (€ 12827 million) is recorded in the column 'FISIM' of the part 'Extrapolation and Models' of the process table. Exports (€ 2705 million) and imports (€ 709 million) of FISIM are recorded in the same column, but in the expenditure part.

In the part 'Adjustments', intermediate consumption of FISIM is recorded in the column 'Allocation of FISIM' (by A21-industry). In industries including non-market units (S.13 and S.15), intermediate consumption of FISIM also gives rise to an increase in production (because production = sum of costs). This impact is also shown on the line 'Total P.1' in the 'Allocation of FISIM' column.

In the expenditure approach, the amount of intermediate consumption of FISIM by non-market producers resulting in an increase in production appears as P.3_S.13 (€ 942 million) and P.3_S.15 (€ 21 million). The amounts of P.3_S.14 (€ 883 million) is also recorded in the column 'Allocation of FISIM',

The allocation of FISIM thus increases GDP by € 1846 million, which is visible in the expenditure approach of the process table (amount on the line GDP and column 'Allocation of FISIM'). This corresponds to the sum of the amount of the production of FISIM (12827), the impact of the allocation of FISIM on value added in the production approach (-9016) and the difference between imports and exports of FISIM (-1966).

In the transition of GDP to GNI, the allocation of FISIM column contains a negative adjustment on interest received from ROW and a positive adjustment on interest paid to ROW. On balance net interest received from the ROW is adjusted downwards by -€ 1966 million, which compensates the figure for net export of FISIM. The impact of the allocation of FISIM on the GNI corresponds to the sum of the production of FISIM in the column FISIM (12827) and the amount in the column allocation of FISIM (-10982) on the line GNI of the process table. This corresponds to the impact of the allocation of FISIM on P.3 in the expenditure approach.

²⁶⁰ For companies not activating R&D costs in their accounts.

1.5. EXHAUSTIVENESS ADJUSTMENT

The exhaustiveness adjustments are the corrections made for:

- producers active in the legal economy that did not register (N1: households employing domestic personnel)
- illegal producers active in the production and trafficking of drugs, prostitution, and smuggling (N2)
- producers (households) involved in the production of (agricultural) goods for own final use and production of electricity by households for own final use (N3)
- black economy which leads to misreporting in the official administrative sources (adjustment y) (N6)
- wages and salaries in kind (adjustments p1 and p2) and tips (q) (N7)

1.6. BALANCING ADJUSTMENT

In 2016 the global balancing adjustment in the production approach was quite low (- € 146 million). This reflects the fact that the production approach is predominant (exhaustive and detailed sources) in the compilation of the Belgian GDP. Since the balancing procedure is applied through a supply/use approach, the balancing is allocated among all industries/products, except general government activities and other specific industries.

The allocation of the different types of adjustment for output, consumption and value added is as follows (billion €)²⁶¹:

Data validation	Adjustments													Balancing	Total adjustments	final	
	Conceptual				Exhaustiveness												
	Allocation of FISIM	Allocation of insurance	Other conceptual	Total conceptual	N1	N2	N3	N4	N5	N6	N7	Total exhaustiveness					
-40,4	1,0	0,1	-425,1	-424,0	0,5	2,2	0,2	0,0	0,0	25,6	0,7	29,2	0,0	-435,2	865,6		
-16,0	10,0	4,5	-418,4	-403,9	0,0	0,3	0,1	0,0	0,0	11,3	-2,5	9,1	0,2	-410,6	481,6		
-24,4	-9,0	-4,4	-6,7	-20,1	0,5	1,9	0,1	0,0	0,0	14,3	3,2	20,0	-0,1	-24,6	384,0		

In 2016, the data validation (- € 24 billion), conceptual (- € 20 billion) and balancing adjustments (- € 0,1 billion) more than compensate the exhaustiveness adjustments (+ € 20 billion).

The very large downward adjustment on sales and purchases is explained to a large extent by the correction for commercial goods in the trade activity. The sales are converted into trade margins and the purchases of commercial goods are excluded from the intermediate consumption.

1.7. SPECIFIC COMMENTS BY INDUSTRY

Agriculture forestry and fishing (A)

National accounts' aggregates in agriculture are based on the economic accounts for agriculture (surveys and censuses). For forestry and fishing, we rely on administrative data (annual business accounts and VAT-declarations).

²⁶¹ Due to rounding the sum of the sub-headings is not always equal to the total amount.

Mining and quarrying (B)

This is a very small industry in Belgium. Its value added is primarily estimated via administrative sources (annual accounts and VAT-files).

Manufacturing (C)

This branch of activity is described more in detail to illustrate the general approach.

	Basis for NA Figures												Total sources	
	Surveys & Census es	Administrative Records	Combined Data	Extrapolation and Models								Other		
				Benchmark extrapolation	Commodity Flow Model	CFC (PIM)	Dwellings - stratification	FISIM	Insurance	Other E&M	Total Extrapol+ Models			
C														
P1	0,5	249,8	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,4	0,4	0,0	250,8
P2	0,4	194,3	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,3	0,3	0,0	195,0
B1g	0,2	55,6	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,1	0,1	0,0	55,9

The *administrative records* are annual accounts (for corporations: cat A1, B1, B2, BC, C1, C2 and NPI's: H1, H2, H3) and VAT-declarations (for unincorporated enterprises and corporations for which annual accounts or SBS are lacking (cat A2 and B3). For some large units for which no annual accounts are available, the Structural Business Survey (SBS) (*survey*) is used to estimate aggregates in the production approach (cat E1 and E2). A limited number of units are estimated in an indirect way (*other extrapolations and models*): the value added of members of a VAT-unit not depositing annual accounts (cat BL), fiscal representatives (cat RF) and very small NPI's not depositing annual accounts (cat H4) are estimated via the wage bill.

The detailed composition of the basis for NA figures of value added in manufacturing is given in the next table:

Components of basis for NA figures - added value in manufacturing (2016 - € million)				
Category	Category	Basis NA	Source	
Large corporations with full accounts	A1	Adm. Rec.	Ann. Business acc.	48 755
SMS corporations with abridged accounts	B1+B2+C1+C2+BC	Adm. Rec.	Ann. Business acc.	5 529
NPI's with annual accounts	H1+H2+H3	Adm. Rec.	Ann. Business acc.	52
Corporations without AA and SBS	A2+B3	Adm. Rec.	VAT	1 253
	<i>of which S.11</i>			738
	<i>of which S.14</i>			515
Corporations without AA but with SBS	E1+E2	S&C	SBS	165
Others	BL+RF+H4	Other E&M	ONSS	122
	Total			55 875
	<i>of which S.11</i>			55 361
	<i>of which S.14</i>			515

Adjustments															final
Data validation	Conceptual				Exhaustiveness							Balancing	Total adjustments		
	Allocation of FISIM	Allocation of insurance	Other conceptual	Total conceptual	N1	N2	N3	N4	N5	N6	N7			Total exhaustiveness	
-2,3	0,0	0,0	-36,3	-36,3	0,0	0,8	0,0	0,0	0,0	1,0	0,0	1,8	0,0	-36,7	214,1
0,0	1,4	0,6	-36,0	-34,0	0,0	0,1	0,0	0,0	0,0	0,5	-0,5	0,1	0,0	-34,0	161,0
-2,3	-1,4	-0,6	-0,3	-2,2	0,0	0,7	0,0	0,0	0,0	0,5	0,6	1,7	0,1	-2,7	53,1

In total, the adjustments on the basis for national accounts figures are relatively small (in terms of value added): the exhaustiveness adjustments (+ € 1.7 billion) are offset by negative conceptual adjustments. The

other conceptual adjustments are the sum of adjustments with a positive and negative impact on value added as shown in the next table.

Other conceptual adjustments in manufacturing (in € million)				
Adjustment		C_A	C_B	C_C
		Output	Intermediate consumption	Added Value
Trade margin	(d)	-34 106	-34 106	0
Capitalisation of R&D costs	(g)	375	-357	731
Capitalisation of software costs	(i1) + (i2)	543	-209	752
Reclassification of some financial costs as P.2	(k)	0	300	-300
Adjustment insurance premiums	(l)	0	-198	198
Adjustment basis prices	(o1) to (o4)	-1 779	-460	-1 319
Adjustment for non-resident activities	(v)	-1 031	-815	-216
Other adjustments		-292	-168	-125
Total adjustment		-36 291	-36 014	-277

Energy (D) and Water (E)

The estimation process of these branches is analogous to the procedure followed in manufacturing industry. In industry D, a large data validation adjustment is necessary, on a structural basis. There is a recurrent adjustment on the data for one important unit without annual accounts (data validation adjustment). The other conceptual adjustments mainly reflect a correction on turnover and purchases to consider the trading activities (in gas and electricity) of some large companies.

Construction (F)

	Basis for NA Figures													Total sources
	Surveys & Census es	Administ rative Records	Combi ned Data	Extrapolation and Models								Other		
				Bench mark extrap olation	Comm odity Flow Model	CFC (PIM)	Dwelli ngs - stratifi cation	FISIM	Insura nce	Other E&M	Total Extrap+ Models			
F														
P1	0,1	62,9	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,1	0,1	0,0	63,1
P2	0,1	46,7	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,1	0,1	0,0	46,9
B1g	0,0	16,2	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	16,2

Adjustments														
Data validation	Conceptual				Exhaustiveness								Balanc ing	Total adjustm ents
	Allocation of FISIM	Allocatio n of insuranc e	Other conce ptual	Total concep tual	N1	N2	N3	N4	N5	N6	N7	Total exhaust iveness		
-1,3	0,0	0,0	-2,2	-2,2	0,0	0,0	0,0	0,0	0,0	10,3	0,0	10,3	-0,2	6,6
-1,4	0,5	0,3	-2,0	-1,2	0,0	0,0	0,0	0,0	0,0	5,9	-0,2	5,8	0,0	3,1
0,1	-0,5	-0,3	-0,2	-1,1	0,0	0,0	0,0	0,0	0,0	4,4	0,2	4,6	-0,2	3,5

Almost a third of the exhaustiveness adjustment for underreporting/fiscal fraud is done in construction (N6: € 4.4 billion out of € 14.3 billion for the total economy).

Trade and repair of motor vehicles (G), transportation and storage (H) and accommodation and food service activities (I)

	Basis for NA Figures													
	Surveys & Census es	Administrative Records	Combined Data	Extrapolation and Models								Other	Total sources	
				Benchmark extrapolation	Commodity Flow Model	CFC (PIM)	Dwellings - stratification	FISIM	Insurance	Other E&M	Total Extrapol+ Models			
G_I														
P1	5,3	511,7	0,0	0,0	0,0	3,4	0,0	0,0	0,0	0,0	0,8	4,1	0,0	521,1
P2	4,4	440,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,6	0,6	0,0	445,1
B1g	0,9	71,6	0,0	0,0	0,0	3,4	0,0	0,0	0,0	0,0	0,2	3,5	0,0	76,0

Adjustments															
Data validation	Conceptual				Exhaustiveness							Balancing	Total adjustments	final	
	Allocation of FISIM	Allocation of insurance	Other conceptual	Total conceptual	N1	N2	N3	N4	N5	N6	N7				Total exhaustiveness
-14,7	0,0	0,0	-349,8	-349,8	0,0	0,5	0,0	0,0	0,0	8,6	0,7	9,7	0,3	-354,5	166,6
-12,0	1,1	0,8	-346,6	-344,7	0,0	0,0	0,0	0,0	0,0	2,9	-0,7	2,2	0,2	-354,3	90,8
-2,7	-1,1	-0,8	-3,2	-5,1	0,0	0,4	0,0	0,0	0,0	5,7	1,4	7,5	0,1	-0,2	75,8

Public non-market units (S.13) are included in these industries – regional public transport companies and public infrastructure - which implies the occurrence of *CFC (PIM)* in the basis for NA figures. The impact of *data validation adjustments* on the basic sources are quite important and result of the corrections made on the business accounts data for the national postal service and the national railway company, to align them to counterpart information registered in the public accounts (S.13) and to comply with ESA2010 valuation. In wholesale and retail trade and repair of vehicles (G), total sales and purchases are decreased by the amount of the cost of commercial goods sold in to transform sales to trade margins and purchases to intermediate consumption (correction (d)). This is the reason why turnover and purchases are significantly adjusted downwards in these industries. Conceptual adjustments other than the one for trade margins and FISIM have, on balance, a negative impact on value added (- €5.1 billion). The exhaustiveness adjustments for underreporting/fiscal fraud (N6) and wages in kind and tips (N7) are also significant (resp. 40 % and 44 % of the amounts for the total economy).

Information and communication (J)

This industry does not demand any specific comments.

Financial intermediaries (K)

	Basis for NA Figures													
	Surveys & Census es	Administrative Records	Combined Data	Extrapolation and Models								Other	Total sources	
				Benchmark extrapolation	Commodity Flow Model	CFC (PIM)	Dwellings - stratification	FISIM	Insurance	Other E&M	Total Extrapol+ Models			
K														
P1	1,8	25,1	0,0	0,0	0,0	0,0	0,0	12,8	9,6	1,3	23,7	0,0	50,6	
P2	0,0	22,2	0,0	0,0	0,0	0,0	0,0	0,0	0,0	1,6	1,6	0,0	23,8	
B1g	1,8	2,9	0,0	0,0	0,0	0,0	0,0	12,8	9,6	-0,3	22,1	0,0	26,8	

Adjustments														Balancing	Total adjustments	final
Data validation	Conceptual				Exhaustiveness											
	Allocation of FISIM	Allocation of insurance	Other conceptual	Total conceptual	N1	N2	N3	N4	N5	N6	N7	Total exhaustiveness				
0,3	0,0	0,0	-1,9	-1,9	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	-0,1	-1,6	49,0
-0,2	0,6	0,8	-0,4	1,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	-0,1	-0,1	0,0	0,8	24,6
0,5	-0,6	-0,8	-1,5	-2,9	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,1	0,1	-0,1	-2,4	24,4

In the financial activities, the use of *administrative data* (accounting information of different types) is very important.

The intermediate consumption of Belgian branches of foreign insurance companies and of Belgian reinsurance companies is estimated via the structural business survey (*survey and censuses*). A few series of the SBS among credit institutions are used to estimate the added value for this subsector. SBS information is also used if annual accounts are lacking in subsectors S.125, S.126 and S.127.

The '*extrapolation and models*' column contains the production amount for FISIM, the estimation of the total production of insurance services, and small amounts in the column '*other extrapolations and models*' corresponding to estimates for categories BL, H4 and RF in subsectors S.125 to S.127.

Other Conceptual adjustments are made for instance to eliminate value added produced in foreign branches included in the annual accounts, to eliminate received non-life insurance claims from production and net non-life insurance premiums from intermediate consumption and to impute own account production of software/R&D. In 2016 a balancing adjustment was also made in the financial sector (- € 0.1 billion). The exhaustiveness adjustment concern only gratuities. On balance the impact of these adjustments on value added equals - € 2.4 billion.

Real estate activities (L)

	Basis for NA Figures												Other	Total sources
	Surveys & Censuses	Administrative Records	Combined Data	Extrapolation and Models										
				Benchmark extrapolation	Commodity Flow Model	CFC (PIM)	Dwellings - stratification	FISIM	Insurance	Other E&M	Total Extrap+ Models			
L														
P1	0,0	13,9	0,0	6,9	0,0	0,0	26,9	0,0	0,0	0,0	0,1	33,9	0,0	47,8
P2	0,0	5,2	0,0	0,8	0,0	0,0	3,0	0,0	0,0	0,0	0,0	3,8	0,0	9,1
B1g	0,0	8,6	0,0	6,1	0,0	0,0	23,9	0,0	0,0	0,0	0,0	30,1	0,0	38,7

Adjustments														Balancing	Total adjustments	final
Data validation	Conceptual				Exhaustiveness											
	Allocation of FISIM	Allocation of insurance	Other conceptual	Total conceptual	N1	N2	N3	N4	N5	N6	N7	Total exhaustiveness				
-0,1	0,0	0,0	-0,6	-0,6	0,0	0,0	0,0	0,0	0,0	0,5	0,0	0,5	0,0	-0,2	47,6	
0,0	3,4	0,9	-0,5	3,8	0,0	0,0	0,0	0,0	0,0	0,1	0,0	0,1	0,0	3,9	13,0	
0,0	-3,4	-0,9	-0,2	-4,5	0,0	0,0	0,0	0,0	0,0	0,4	0,0	0,4	0,0	-4,1	34,5	

Real estate activities in S.11 are estimated in the usual way via administrative sources.

Dwelling services for rented houses and for owner occupied houses in S.14 are derived from benchmark figures for the year 2010 (*dwelling stratification method*). The figures for the year 2016 also contain an extrapolation (for 6 years) from the benchmark year mentioned in the column "benchmark extrapolations"

FISIM calculated on mortgage loans enters as intermediate consumption in dwelling services for sector S.14. This explains the important amount in the column 'allocation of FISIM' for this activity.

Professional, scientific, and technical activities (M) and administrative and support activities (N)

	Basis for NA Figures													Other	Total sources
	Surveys & Census es	Administrative Records	Combined Data	Extrapolation and Models									Total Extrap+ Models		
				Benchmark extrapolation	Commodity Flow Model	CFC (PIM)	Dwellings - stratification	FISIM	Insurance	Other E&M					
M_N															
P1	0,7	118,1	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	2,4	2,4	0,0	121,1
P2	0,4	59,9	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	2,0	2,0	0,0	62,3
B1g	0,2	58,2	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,4	0,4	0,0	58,8

Adjustments															final
Data validation	Conceptual				Exhaustiveness							Balancing	Total adjustments		
	Allocation of FISIM	Allocation of insurance	Other conceptual	Total conceptual	N1	N2	N3	N4	N5	N6	N7			Total exhaustiveness	
-0,1	0,0	0,0	-8,9	-8,9	0,0	0,0	0,0	0,0	0,0	2,5	0,0	2,5	-0,1	-6,6	114,6
1,4	1,0	0,6	-8,1	-6,5	0,0	0,0	0,0	0,0	0,0	0,8	-0,5	0,4	0,0	-4,7	57,6
-1,5	-1,0	-0,6	-0,8	-2,4	0,0	0,0	0,0	0,0	0,0	1,6	0,5	2,1	-0,1	-1,9	56,9

These industries follow the general procedure and do not demand specific comments

Public administration (O), education (L) and human health and social work (Q)

	Basis for NA Figures													Other	Total sources
	Surveys & Census es	Administrative Records	Combined Data	Extrapolation and Models									Total Extrap+ Models		
				Benchmark extrapolation	Commodity Flow Model	CFC (PIM)	Dwellings - stratification	FISIM	Insurance	Other E&M					
O_Q															
P1	0,0	110,4	0,0	0,0	0,0	6,2	0,0	0,0	0,0	0,0	0,0	1,7	7,9	0,0	118,2
P2	0,0	33,9	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,6	0,6	0,0	34,5
B1g	0,0	76,5	0,0	0,0	0,0	6,2	0,0	0,0	0,0	0,0	0,0	1,0	7,2	0,0	83,8

Adjustments															final
Data validation	Conceptual				Exhaustiveness							Balancing	Total adjustments		
	Allocation of FISIM	Allocation of insurance	Other conceptual	Total conceptual	N1	N2	N3	N4	N5	N6	N7			Total exhaustiveness	
-0,5	1,0	0,1	-1,8	-0,7	0,0	0,0	0,0	0,0	0,0	1,5	0,0	1,5	0,1	0,2	118,5
-0,4	1,3	0,3	-0,5	1,1	0,0	0,0	0,0	0,0	0,0	1,5	0,0	1,5	0,0	1,1	35,6
-0,2	-0,3	-0,2	-1,3	-1,8	0,0	0,0	0,0	0,0	0,0	0,5	-0,1	0,5	0,1	-0,9	82,9

Government accounts (administrative records) are the main source used for the S13 portion of these activities. Consumption of fixed capital in the public sector is estimated via the PIM.

A significant part of the activity in health and social work is performed by NPI's. The activity of small NPI's not depositing annual accounts (cat H4) is estimated in an indirect way (via wages) which explains why "other extrapolations and models" is significant for these activities.

Arts, entertainment and recreation (R), other service activities (S) and households as employers of personnel (T)

	Basis for NA Figures													Total sources	
	Surveys & Census es	Administrative Records	Combined Data	Extrapolation and Models								Other			
				Benchmark extrapolation	Commodity Flow Model	CFC (PIM)	Dwellings - stratification	FISIM	Insurance	Other E&M	Total Extrap+ Models				
R_T															
P1	0,0	16,5	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	3,1	3,1	0,0	19,7
P2	0,0	10,6	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	1,8	1,8	0,0	12,4
B1g	0,0	6,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	1,3	1,3	0,0	7,3

Adjustments															final
Data validation	Conceptual				Exhaustiveness							Balancing	Total adjustments		
	Allocation of FISIM	Allocation of insurance	Other conceptual	Total conceptual	N1	N2	N3	N4	N5	N6	N7			Total exhaustiveness	
-2,9	0,0	0,0	-1,7	-1,7	0,5	0,9	0,0	0,0	0,0	0,7	0,0	2,1	0,0	-2,5	17,2
-2,5	0,1	0,0	-1,1	-0,9	0,0	0,2	0,0	0,0	0,0	0,2	0,0	0,3	0,0	-3,1	9,3
-0,4	-0,1	0,0	-0,6	-0,8	0,5	0,7	0,0	0,0	0,0	0,5	0,1	1,8	0,0	0,6	7,9

Other extrapolations and models are also quite important in these industries for the same reason as in health and social work (€ 1.3 billion of the total amount of € 7.9 billion).

The corrections of the annual accounts of the National Lottery and of the copyright companies (collecting and distributing royalties) are treated as data validation adjustments.

The wages (equals production and value added) paid to household personnel appear in N1 and the prostitution activity in N2.

Taxes and subsidies on products (D21-D31)

The sources for these transactions are administrative fiscal data.

A conceptual adjustment is applied to convert 'cash' data into '*transactionalised cash*' data (especially for VAT and excise duties).

2. EXPENDITURE APPROACH

2.1. FINAL CONSUMPTION EXPENDITURE OF HOUSEHOLDS (P.3_S.14)

The estimation of final consumption expenditure of households relies on a multitude of sources and methods, depending on the type of product estimated. The GNI inventory (Chapter 5) gives a description of sources and methods used by COICOP category.

The process table distinguishes different sources as basis for national accounts figures which are shown in the table below.

	Basis for NA Figures													Other	Total sources
	Surveys & Censuses	Administrative Records	Combined Data	Extrapolation and Models								Total Extrap+ Models			
				Benchmark extrapolation	Commodity Flow Model	CFC (PIM)	Dwellings - stratification	FISIM	Insurance	Other E&M					
P3S14	2,1	11,5	0,0	89,3	22,4	0,0	36,2	0,0	0,0	34,6	182,6	0,0	196,2		

Surveys and censuses cover the part of on-line purchases estimated based on the results of a survey on the use of bank- and credit cards (€ 2.1 billion).

Administrative records, equal to € 11.5 billion in 2016, correspond to the estimates derived from the annual business accounts, general government and NPISH business accounts.

Year 2016 is not a benchmark year for the introduction of the household budget survey (HBS) in final consumption expenditure of households. All estimates based on the HBS in benchmark year 2010 and extrapolated using various evolutions for the following years are considered as benchmark extrapolations. In total, the benchmark extrapolations were equal to € 89.3 billion in 2016.

The commodity flow method is used to estimate, among others, health services, social protection services and financial services and amount to € 22.4 billion in 2016.

Dwelling services are derived from the production-side estimates. They are equal to € 36.2 billion in 2016. Other extrapolations and models amounted to € 34.6 billion in 2016 and consist of various specific methods for expense categories such as alcoholic beverages and tobacco, energy, transport, the benefits in kind of self-employed company administrators and the transition to the national concept.

In total, the final consumption expenditure is equal to € 196.2 billion before adjustments.

Several adjustments are needed to finalise the estimation of total final consumption expenditure of households according to ESA 2010. The results of these estimates are shown in the table below.

Data validation	Adjustments													Balancing	Total adjustments	final
	Conceptual				Exhaustiveness											
	Allocation of FISIM	Allocation of insurance	Other conceptual	Total conceptual	N1	N2	N3	N4	N5	N6	N7	Total exhaustiveness				
0,0	0,9	7,1	0,0	8,0	0,5	1,5	0,0	7,3	0,0	0,0	1,9	11,2	0,6	19,8	216,1	

The production of **FISIM** is estimated in the production approach. A share of it is allocated to the final consumption expenditure in COICOP 12. In 2016, an amount of € 0.9 billion is allocated to households' final consumption expenditure. The same occurs for **insurance** services (€ 7.1 billion)

A third type of adjustments reported in the process table corresponds with exhaustiveness corrections.

- **(N1)**, ‘producer should have registered’, is equal to € 0.5 billion in 2016 and consists of consumption of domestic services not reported.
- The illegal economy, correction **(N2)**, increases the final consumption expenditure of households by € 1.5 billion in 2016. This amount corresponds to consumption of drugs, smuggled tobacco products and prostitution services. The intermediate consumption necessary to produce these services is included in the estimate and removed from final consumption expenditure of households.
- The exhaustiveness item **(N3)** is set to zero.
- The estimates extrapolated from the benchmark year 2010 and based on the HBS results are levelled up to consider collective households and disposable income of households as estimated in national accounts instead of disposable income of households as estimated in HBS. This correction was equal to € 7.3 billion in 2016. It is treated as **(N4)**.
- As all registered entrepreneurs are supposed to be included in the base estimate, **(N5)** is set to zero.
- Misreporting by producers **(N6)** is supposed to be zero.
- The last correction for exhaustiveness of data **(N7)** is a compensation for statistical deficiencies in the data, given experience of previous balancing processes. Before the 2019 benchmark revision, this amount was allocated by expenditure categories which use the HBS as main source. Now, we identify which product should be increased within a SUT analyse, instead of applying a proportional final arbitrage. Within 2019 benchmark revision, a balancing procedure via SUT was introduced from the reference year 2015 onwards. In 2016, the total amount added within this SUT procedure is equal to € 1.9 billion.

A final type of adjustment to the estimates is linked to the **balancing** between the GDP from the production and expenditure perspectives. Household final consumption is compared with the other GDP components, and analysed in the context of the income accounts of households. If considered necessary, an adjustment of the final consumption expenditure is then introduced to balance the production and expenditure approaches. The final arbitrage, which fluctuates over time, is equal to € 0.6 billion in 2016. It is allocated proportionally among the headings estimated from the HBS. COICOP groups estimates based on alternative methods, such as administrative data or commodity flow methods, are excluded from this allocation.

In total, the final consumption expenditure of households is equal to € 216.1 billion in 2016.

2.2. FINAL CONSUMPTION EXPENDITURE OF GOVERNMENT (P.3_S.13)

We find the same sources and estimation methods as explained in the production approach (see NACE sections O and P). Social transfers in kind (which represent production by market producers) are also recorded in P.3_S.13. Mainly administrative data sources are used to estimate the final consumption expenditure of the government.

The other conceptual adjustment is the amount produced but not consumed by the government (sum of P.11, P.12, and P.131).

(2016 € billion)

Final consumption expenditure of government	P.3_S.13
Administrative records	102.6
CFC (PIM)	9.8
Conceptual adjustments	-12.3
<i>Allocation of FISIM</i>	0.9
<i>Other conceptual adjustments</i>	-13.4
Final estimate	100.0

2.3. FINAL CONSUMPTION EXPENDITURE OF NPI SERVING HOUSEHOLDS (P.3_S.15)

The integration of P.3_S.15 in the process table follows the same logic as P.3_S.13 (cf supra). The other conceptual adjustments include the corrections applied on the production side through the standard estimation process for units classified in sector S.15 (see chapter 3).

2.4. GROSS FIXED CAPITAL FORMATION (P.51)

Basis for national accounts

Sources and methods used to estimate P51 are the following:

(2016 - € billion)	
Gross fixed capital formation	P.51
Administrative records	60.1
Surveys and censuses	1.1
Combined data	33.1
Other extrapolation and models	5.4
Total basis for national accounts (a)	99.7

The largest part of total GFCF relies on *administrative sources*: annual accounts, VAT-records, and budgetary information.

Surveys are the main sources used to estimate investments in purchased software, R&D and GFCF in the banking (S.122) and insurance (S.128) sectors. In 2016, there was a large disposal of existing fixed assets in the insurance sector.

GFCF in dwellings relies on different sources on volumes and prices (*combined data*)

Other extrapolation and models are used to estimate software produced for own account and investments of units for which business annual accounts or VAT-records are lacking (some activities in the household's sector and small NPI's which do not have to file any reporting).

Adjustments

The following adjustments are applied to the source data

(2016 - € billion)	
Gross fixed capital formation	P.51
Data validation	-1.0
Conceptual adjustments	0.9
Exhaustiveness adjustments (N4)	0.5
Balancing	0.1
Total adjustments (b)	0.4
Final estimate P51 (a)+(b)	100.1

Data validation adjustments are made for some large companies when source data (annual accounts, VAT, SBS) give contradictory information. In some cases, source material is also blurred due to restructuring operations (mergers and scissions).

Conceptual adjustments are made to adjust or complete administrative data to comply with ESA2010 concepts. It refers for instance to exclusion of transactions in land, corrections for valuation of disposals, corrections of misreported purchased software (reclassification from P.2 to P.51) and misreported real estate investments (reclassification from P.52 to P.51) or estimate of a mark-up for output for own final use of tangible fixed assets.

The *exhaustiveness adjustment* consists of extrapolation of purchased software for units that did not fill any SBS (N4).

2.5. CHANGES IN INVENTORIES (P.52)

Changes in inventories are estimated via annual accounts information (administrative records).

Adjustments are made in to eliminate holding gains or losses contained in the book value of the inventories (conceptual adjustments) or for arbitrage purposes (balancing adjustment).

The 2016 estimate contains a punctual and unprecedented correction (€ 14.4 billion) related to the in-depth analysis of the annual business account data of some large pharmaceutical companies.²⁶² These pharmaceutical companies were part of a distinct analysis within the future context of a Large Case Unit, highlighting the importance of these kind of analysis and necessity of continuous monitoring of their business operation model.

(2016 - € billion)

Basis for national accounts (a)	18.7
Data validation	-14.4
Conceptual adjustment	-0.1
Balancing adjustment	0
Total adjustments (b)	-14.5
final estimate (a)+(b)	4.2

2.6. EXPORTS AND IMPORTS OF GOODS AND SERVICES (P.6 AND P.7)

Basis for national accounts

(2016 - € billion)

	Basis for NA Figures												Total sources	
	Surveys & Census es	Administrative Records	Combined Data	Extrapolation and Models								Other		
				Benchmark extrapolation	Commodity Flow Model	CFC (PIM)	Dwellings - stratification	FISIM	Insurance	Other E&M	Total Extrapolation+ Models			
P6	248,4	80,0	0,0	0,0	0,0	0,0	0,0	0,0	2,7	1,1	11,6	15,4	0,0	343,7
goods	165,5	75,2	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	3,5	3,5	0,0	244,2
services	82,9	4,7	0,0	0,0	0,0	0,0	0,0	0,0	2,7	1,1	8,1	11,9	0,0	99,6
P7	241,9	76,4	0,0	0,0	0,0	0,0	0,0	0,0	0,7	1,0	20,8	22,6	0,0	340,9
goods	155,7	75,2	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	13,3	13,3	0,0	244,2
services	86,2	1,2	0,0	0,0	0,0	0,0	0,0	0,0	0,7	1,0	7,5	9,3	0,0	96,7

Adjustments

(2016 - € billion)

²⁶² The previous annual accounts of these firms did not contain any indication of stock assets, while a very sizeable amount of stock assets (see size of the 'data validation correction') was declared in heading 3 from 2016 onwards.

Data validation	Adjustments													Balancing	Total adjustments	final
	Conceptual				Exhaustiveness											
	Allocation of FISIM	Allocation of insurance	Other conceptual	Total conceptual	N1	N2	N3	N4	N5	N6	N7	Total exhaustiveness				
-2,9	0,0	0,0	0,0	0,0	0,0	0,8	0,0	0,0	0,0	0,0	0,0	0,0	0,8	0,0	-2,1	341,6
-1,8	0,0	0,0	0,0	0,0	0,0	0,7	0,0	0,0	0,0	0,0	0,0	0,0	0,7	0,0	-1,0	243,2
-1,1	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	-1,1	98,5
-4,8	0,0	0,0	0,0	0,0	0,0	0,3	0,0	0,0	0,0	0,0	0,0	0,0	0,3	0,0	-4,4	336,5
-3,1	0,0	0,0	0,0	0,0	0,0	0,3	0,0	0,0	0,0	0,0	0,0	0,0	0,3	0,0	-2,8	241,4
-1,7	0,0	0,0	0,0	0,0	0,0	0,1	0,0	0,0	0,0	0,0	0,0	0,0	0,1	0,0	-1,6	95,1

2.7. IMPORTS AND EXPORTS OF GOODS (P.61 AND P.71)

Basis for NA

The basis for the imports and exports of goods in the national accounts is the balance of payments. The estimations in this source are taken as reference/starting point for the process table. The imports and exports of goods in the balance of payments are based on the foreign trade figures, collected via Intrastat and Extrastat.

The heading '*surveys and censuses*' consists mainly of the data collected via the Intrastat survey for the Foreign trade statistics. These data are adjusted for the conceptual differences with balance of payments/national accounts. These adjustments include²⁶³:

- Removing of goods for processing and repair flows included in the Intrastat survey
- Removing of goods dispatched from Belgium to a foreign construction site and included in the total value of the construction project
- Addition of goods procured in ports by carriers
- Addition of goods under merchanting
- Addition of sales via internet, mail-order, direct marketing, and telemarketing
- Addition of sales of goods to foreign enterprises
- Addition of non-monetary gold
- Removing of transactions in goods which leave a country not with the goal to change economic ownership
- Addition of transactions between a resident and a non-resident on Belgian territory (without crossing the border)
- CIF-FOB adjustment and conversion to statistical value
- Transit of gas vis-à-vis EU countries

The above-mentioned corrections are collected via BOP-surveys and are therefore integrated under the heading '*surveys and censuses*'.

The part of the import and export of goods that is estimated on the basis of Extrastat data are included in the heading '*administrative records*'. These data are adjusted to comply with BoP definitions for the following reasons:

- Goods sent abroad for processing and repair included in the Extrastat data
- Goods which leave a country not with the goal to change economic ownership
- Transactions between a resident and a non-resident on Belgian territory (without crossing the border)
- Transit of gas vis-à-vis non EU countries

²⁶³ The removing of transit flows is already done in the Foreign trade statistics, since they deliver figures in national concept.

A second source which is integrated under the administrative records is the import and export to and from foreign enclaves.

The extrapolations for the Intrastat system and corrections for the non-response are integrated under the heading '*other extrapolations & models*'.

Adjustments

Two adjustments take place on the observed source data. The first adjustment is the **data validation**. This heading includes the data validation done by the balance of payments in cooperation with the national accounts' staff.

The **exhaustiveness correction** corresponds to the import and exports of smuggled tobacco and illegal drugs.

2.8. IMPORTS AND EXPORTS OF SERVICES (P.62 AND P.72)

Basis for national accounts

The basis for the imports and exports of services in the national accounts is the balance of payments. This source is taken as reference/starting point for the process table.

The category '**surveys and censuses**' includes first the data collected by the different BOP-surveys. These results include the CIF/FOB valuation. Second, it covers the part of the processing and repair services that is estimated based on foreign trade data. Finally, the credit/debit cards data used to estimate travel and tourism services are also included under this heading.

The category '**administrative records**' covers the following data sources:

- the balance of payments of the European Union institutions
- the National Bank of Belgium as State cashier
- the NATO (estimation of government services)
- Statec (Statistical office Luxembourg)
- Riziv/INAMI (national institute for sickness and disability)
- Services of managers/administrators, estimated based on their personal income tax

The extrapolations and corrections for the non-response for BoP surveys, as well as the estimation for the import and export of management costs by collective investment undertakings are included under the '**other extrapolations and models**'. Exports and imports of FISIM come from the general FISIM estimation matrix. As regards insurance services, exports are based on administrative domestic data sources, whereas imports are estimated mainly based on BoP data sources.

Adjustments

Two adjustments take place on the observed source data. The first adjustment is the **data validation**. This heading comprises the data validation done by the balance of payments in cooperation with the national accounts.

The **exhaustiveness adjustment** corresponds to the import and exports of prostitution services.

3. INCOME APPROACH

3.1. COMPENSATION OF EMPLOYEES (D1)

(2016 € billion)

Compensation of employees	D1
Administrative records (a)	205.6
Exhaustiveness adjustment (N1+N6+N7) (b)	6.2
<i>Domestic staff (N1)</i>	0.5
<i>Undeclared work (N6)</i>	2.7
<i>Wages in kind and tips</i>	3.1
final estimate (a)+(b)	211.8

Administrative records (annual accounts and social balance sheets, social security declarations, specific accounting schemes in the financial and public sector) are used to compile the compensation of employees.

Exhaustiveness adjustments are applied for wages paid to domestic staff (N1), undeclared work (N6) and wages in kind and tips (N7).

3.2. OPERATING SURPLUS/MIXED INCOME (B.2G/B.3G)

	Basis for NA Figures												Other	Total sources
	Surveys & Census es	Administrative Records	Combined Data	Extrapolation and Models								Total Extrapolation Models		
				Benchmark extrapolation	Commodity Flow Model	CFC (PIM)	Dwellings - stratification	FISIM	Insurance	Other E&M				
B2g	0,0	0,0	101,9	0,0	0,0	10,0	24,4	0,0	0,0	0,0	0,0	34,5	0,0	136,4
Non-Financial Corporations	0,0	0,0	89,2	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	89,2
Financial Corporations	0,0	0,0	12,6	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	12,6
General Government	0,0	0,0	0,1	0,0	0,0	9,8	0,0	0,0	0,0	0,0	0,0	9,8	0,0	9,9
Households	0,0	0,0	0,0	0,0	0,0	0,0	24,4	0,0	0,0	0,0	0,0	24,4	0,0	24,4
NPSH	0,0	0,0	0,0	0,0	0,0	0,3	0,0	0,0	0,0	0,0	0,0	0,3	0,0	0,3
B3g	0,0	0,0	25,2	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	25,2

In Belgium, no independent estimate for operating surplus or mixed income is made. Therefore, the gross operating surplus in S.11 and S.12 and the gross mixed income in S.14 are allocated to the column **combined data** (balance of transactions estimated based on different sources).

The gross operating surplus in S.13 and S.15 is equal to the consumption of fixed capital which is estimated via the PIM (CFC/PIM). The small amount for S.13 in 'combined data' is linked to the market activities of S.13. Operating surplus in S.14 is generated by renting and occupying dwellings. It is therefore registered in the column **dwellings-stratification method**.

Data validation	Adjustments													Balancing	Total adjustments	final
	Conceptual				Exhaustiveness											
	Allocation of FISIM	Allocation of insurance	Other conceptual	Total conceptual	N1	N2	N3	N4	N5	N6	N7	Total exhaustiveness				
0,0	0,0	0,0	0,0	0,0	0,0	0,7	0,0	0,0	0,0	0,0	8,0	0,0	8,7	0,0	8,7	145,1
0,0	0,0	0,0	0,0	0,0	0,0	0,7	0,0	0,0	0,0	0,0	8,0	0,0	8,7	0,1	8,8	97,9
0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	-0,1	-0,1	12,6
0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	9,9
0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	24,4
0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,3
0,0	0,0	0,0	0,0	0,0	0,0	1,2	0,1	0,0	0,0	0,0	3,7	0,1	5,1	-0,1	5,0	30,1

The exhaustiveness adjustments not allocated to wages are reflected in operating surplus (S.11) and in mixed income (S.14). The (negative) balancing adjustment in the production approach is also reflected in the income approach (partly in operating surplus and partly in mixed income).

3.3. TAXES ON PRODUCTION AND IMPORTS AND SUBSIDIES (D.2 AND D.3)

Administrative sources (public accounting information) are dominant for these items. Refer to the description in chapter 3 on D.21 and D.31.

4. NET PRIMARY INCOME PAID TO/RECEIVED FROM THE REST OF THE WORLD

	Basis for NA Figures													Total sources
	Surveys & Censuses	Administrative Records	Combined Data	Extrapolation and Models								Other		
				Benchmark extrapolation	Commodity Flow Model	CFC (PIM)	Dwellings - stratification	FISIM	Insurance	Other E&M	Total Extrap+ Models			
D1 received from ROW	0,3	7,2	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	2,1	2,1	0,0	9,6
D1 paid to ROW	0,5	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	2,6	2,6	0,0	3,1
D2 paid to ROW	0,0	0,8	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,8
D3 received from ROW	0,0	0,7	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,7
D4 received from ROW	32,4	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,9	22,0	22,9	0,0	55,3
D41	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	20,1	20,1	0,0	20,1
D42	19,6	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	19,6
D43	12,8	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	12,8
D44	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,9	2,0	2,9	0,0	2,9
D4 paid to ROW	0,0	37,5	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,1	17,0	17,1	0,0	54,6
D41	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	16,5	16,5	0,0	16,5
D42	0,0	33,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	33,0
D43	0,0	4,5	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	4,5
D44	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,1	0,4	0,5	0,0	0,5
	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0

4.1. COMPENSATION OF EMPLOYEES

Wages vis-à-vis non-cross-border workers are known via the balance of payments (**surveys & census**).

Administrative data are used for the cross-border workers in international organisations (EU, NATO, etc.) and in Luxembourg.

Wages paid to other Belgian cross-border workers working abroad and to foreign cross-border workers working in Belgium are estimated as number of border workers multiplied by their average compensation (**other extrapolation and models**)

4.2. TAXES ON PRODUCTION AND IMPORTS AND SUBSIDIES

We dispose of administrative data (general government budget) for these flows.

4.3. PROPERTY INCOME

Interest flows (D.41) with the ROW are mainly estimated by applying yield percentages on outstanding amounts (of interest generating financial assets and liabilities), in close cooperation with BoP compilers. The same approach is followed for the other investment income (D.44). These amounts are included in (**other extrapolations and models**).

Dividend flows (D.42) and reinvested earnings (D.43) received from the ROW are captured via specific **surveys** organised by the balance of payments. D.42 and D.43 paid to the ROW are estimated using annual accounts information (**administrative records**).

	Adjustments														final			
	Data validation	Conceptual				Exhaustiveness							Balancing	Total adjustments				
		Allocation of FISIM	Allocation of insurance	Other conceptual	Total conceptual	N1	N2	N3	N4	N5	N6	N7				Total exhaustiveness		
D1 received from ROW	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	9,6
D1 paid to ROW	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	3,1
D2 paid to ROW	0,0	0,0	0,0	1,0	1,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	1,0	1,8
D3 received from ROW	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,7
D4 received from ROW	0,0	-3,3	0,0	0,0	-3,3	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	-3,3	52,0
D41	0,0	-3,3	0,0	0,0	-3,3	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	-3,3	16,8
D42	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	19,6
D43	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	12,8
D44	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	2,9
D4 paid to ROW	0,0	-1,3	0,0	0,0	-1,3	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	-1,3	53,3
D41	0,0	-1,3	0,0	0,0	-1,3	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	-1,3	15,2
D42	0,0	0,0	0,0	-1,9	-1,9	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	-1,9	25,7
D43	0,0	0,0	0,0	1,9	1,9	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	1,9	11,7
D44	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,5
	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0

Interest flows with the ROW are adjusted due to the **allocation of FISIM**.

Dividends and reinvested earnings paid to the ROW are adjusted in to eliminate super dividends (which are treated as a financial transaction). This correction is treated as **another conceptual adjustment**.

No data validation or balancing adjustments are made to property income.

	Basis for NA Figures													Adjustments											final				
	Surveys & Censuses	Administrative Records	Combined Data	Extrapolation and Models								Other	Total sources	Data validation	Conceptual				Exhaustiveness							Balancing	Total adjustments		
				Benchmark extrapolations	Commodity Flow Model	CFC (PIM)	Dwellings stratification method	FISIM	Insurance	Other E&M	Total Extrap+ Models				Allocation of FISIM	Allocation of insurance	Other conceptual	Total conceptual	N1	N2	N3	N4	N5	N6				N7	Total exhaustiveness
P1	17.4	1 206.0	0.0	6.9	0.0	9.8	26.9	12.8	9.6	11.4	77.4	0.1	1 300.8	-40.4	1.0	0.1	-425.1	-424.0	0.5	2.2	0.2	0.0	0.0	25.6	0.7	29.2	0.0	-435.2	865.6
P2	11.8	868.7	0.0	0.8	0.0	0.0	3.0	0.0	0.0	7.8	11.6	0.0	892.2	-16.0	10.0	4.5	-418.4	-403.9	0.0	0.3	0.1	0.0	0.0	11.3	-2.5	9.1	0.2	-410.6	481.6
B1g	5.5	337.2	0.0	6.1	0.0	9.8	23.9	12.8	9.6	3.6	65.8	0.0	408.7	-24.4	-9.0	-4.4	-6.7	-20.1	0.5	1.9	0.1	0.0	0.0	14.3	3.2	20.0	-0.1	-24.6	384.0
D21	0.0	48.8	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	2.1	0.0	50.9	0.0	0.0	0.0	-0.7	-0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	50.1
D31 (-)	0.0	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.1
GDP_output	5.5	381.9	0.0	6.1	0.0	9.8	23.9	12.8	11.7	3.6	68.0	0.0	455.5	-24.4	-9.0	-4.4	-7.4	-20.8	0.5	1.9	0.1	0.0	0.0	14.3	3.2	20.0	-0.1	-25.4	430.1
P3	2.1	119.1	0.0	89.3	22.4	10.0	36.2	0.0	0.0	34.6	192.6	0.0	313.9	0.0	1.8	7.3	-14.2	-5.1	0.5	1.5	0.0	7.3	0.0	0.0	1.9	11.2	0.6	6.7	320.6
P3S14	2.1	11.5	0.0	89.3	22.4	0.0	36.2	0.0	0.0	34.6	182.6	0.0	196.2	0.0	0.9	7.1	0.0	8.0	0.5	1.5	0.0	7.3	0.0	0.0	1.9	11.2	0.6	19.8	216.1
P3S15	0.0	5.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.3	0.0	5.3	0.0	0.0	0.0	-0.8	-0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.8	4.5
P3S13	0.0	102.6	0.0	0.0	0.0	9.8	0.0	0.0	0.0	0.0	9.8	0.0	112.4	0.0	0.9	0.1	-13.4	-12.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-12.3	100.0
P5	1.1	78.8	33.1	0.0	0.0	0.0	0.0	0.0	0.0	5.5	5.5	0.0	118.4	-15.4	0.0	0.0	0.8	0.8	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.5	0.0	-14.1	104.3
P51	1.1	60.1	33.1	0.0	0.0	0.0	0.0	0.0	0.0	5.4	5.4	0.0	99.7	-1.0	0.0	0.0	0.9	0.9	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.5	0.1	0.4	100.1
P52	0.0	18.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.7	-14.4	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-14.5	4.2
P53	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
P6	248.4	80.0	0.0	0.0	0.0	0.0	0.0	2.7	1.1	11.6	15.4	0.0	343.7	-2.9	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.8	0.0	-2.1	341.6
P7	241.9	76.4	0.0	0.0	0.0	0.0	0.0	0.7	1.0	20.8	22.6	0.0	340.9	-4.8	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.3	0.0	-4.4	336.5
GDP_expenditure	9.7	201.5	33.1	89.3	22.4	10.0	36.2	2.0	0.0	30.9	190.9	0.0	435.1	-13.6	1.8	7.3	-13.4	-4.3	0.5	1.9	0.0	7.9	0.0	0.0	1.9	12.2	0.7	-5.1	430.1
D1	0.0	205.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	205.6	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	2.7	3.1	6.2	0.0	6.2	211.8
B2g	0.0	0.0	101.9	0.0	0.0	10.0	24.4	0.0	0.0	0.0	34.5	0.0	136.4	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	8.0	0.0	8.7	0.0	8.7	145.1
B3g	0.0	0.0	25.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.2	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.1	0.0	0.0	3.7	0.1	5.1	-0.1	5.0	30.1
D2	0.0	59.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	59.5	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	59.7
D3 (-)	0.0	16.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.7
GDP_income	0.0	248.4	127.1	0.0	0.0	10.0	24.4	0.0	0.0	0.0	34.5	0.0	410.0	0.0	0.0	0.0	0.2	0.2	0.5	1.9	0.1	0.0	0.0	14.3	3.2	20.0	-0.1	20.1	430.1
D1 received from ROW	0.3	7.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	2.1	0.0	9.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.6
D1 paid to ROW	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	2.6	0.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1
D2 paid to ROW	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.8
D3 received from ROW	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
D4 received from ROW	32.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	22.0	22.9	0.0	55.3	0.0	-3.3	0.0	0.0	-3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.3	52.0
D4 paid to ROW	0.0	37.5	0.0	0.0	0.0	0.0	0.0	0.0	0.1	17.0	17.1	0.0	54.6	0.0	-1.3	0.0	0.0	-1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	53.3
GNI	37.7	351.5	0.0	6.1	0.0	9.8	23.9	12.8	12.5	8.2	73.3	0.0	462.6	-24.4	-11.0	-4.4	-8.5	-23.8	0.5	1.9	0.1	0.0	0.0	14.3	3.2	20.0	-0.1	-28.3	434.2

ANNEX 2: LIST OF ABBREVIATIONS

AEC	Agricultural Economics Centre	EEA/CLE
BBA	Belgian Bureau of Automobile Assessors	BBEA
BCR	Brussels Capital Region	R B-C/BHG
BFIC	Banking, Finance and Insurance Commission	CBFA/CBFA
BIRO	Belgian Intervention and Refund Office	BIRB/BIRB
BLEU	Belgian-Luxembourg Economic Union	UEBL/BLEU
BNR	Belgian National Railways	SNCB/NMBS
CAP	Common Agricultural Policy	PAC/GLB
CBSO	Central Balance Sheets Office	CB/BC
c.i.f.	Cost insurance freight	CAF/CIF
CII	Collective Investment Institutions	OPC/ICB
COFOG	Classification of the Functions of Government	
COICOP	Classification of Individual Consumption by Purpose	
CSSR	Central Server for Statistical Reporting	
DBRIS	Database of those required to provide statistical information	
DFIPF	Deposits and Financial Instruments Protection Fund	FIF/BDFI
DGSEI	General Directorate of Statistics and Economic Information	DGSIE/ADSEI
EAGGF	European Agricultural Guidance and Guarantee Fund	FEOGA/EOGFL
ECB	European Central Bank	BCE/ECB
ECSS	European Coal and Steel Community	CECA/EGKS
EEA	European Economic Area	EEE/EER
EMU	European Monetary Union	UEM/EMU
ESA	European System of Accounts	SEC/ESR
EU	European Union	UE/EU
EUR	Euro	EUR/EUR
FEBIAC	Belgian Automotive and Cycle Industry Federation	FEBIAC
FISIM	Financial intermediation services indirectly measured	SIFIM/IGDFI
f.o.b.	Free on Board	
FPB	Federal Planning Bureau	BPF/FBP
FPS	Federal Public Service	SPF/FOD
FR	Flemish Region	RF/VG
GDB	General Documentary Base	BGD/GDB
GDP	Gross Domestic Product	PIB/BBP
GFCF	Gross fixed capital formation	FBCF/BIVA
GNI	Gross National Income	RNB/BNI
HBS	Household Budgets Survey	EBM/GBE
IMF	International Monetary Fund	FMI/IMF
HORECA	Hotels, restaurants, cafés	HORECA
INA	Institute for National Accounts	ICN/INA
JAGF	Joint Automobile Guarantee Fund	FCGA/GMWF
KAU	Kind-of-activity unit	UAE/EEA
LP	Limited partnership	SC/CV
Ltd	Private Limited Company	SPRL/BVBA
MGSA	Minimum classification of General System of Accounts	MAR
NBB	National Bank of Belgium	BNB/NBB
NOAH	National Office for Annual Holiday	ONVA/RJV
NPA	Non-profit association	ASBL/VZW
NPI	Non-profit institution	ISBL/IZW
NPISH	Non-profit institution serving households	ISBLSM/IZW t.b.v. huishoudens
NRFM	National Retirement Fund for Mineworkers	FNROM/NPM
NRLP	National Register of Legal Persons	RNPM/RRRP
NSDII	National Sickness and Disability Insurance Institute	INAMI/RIZIV
NSSO	National Social Security Office	ONSS/RSZ
NSSOPLA	National Social Security Office for Provincial and Local Authorities	ONSS-APL/RSZPPO

NTS	Nomenclature of Transport Statistics	NST/NVS
ONDRAF	Radioactive Waste Management Office	ONDRAF/NIRAS
ONEM	National Employment Office	ONEM/RVA
OSSO	Overseas Social Security Office	OSSOM/DOSZ
PIT	Personal Income Tax	IPP
PLC	Public Limited Company	SA/NV
PSWC	Public Social Welfare Centre	CPAS/OCMW
RD	Royal Decree	AR/KB
ROW	Rest of the world	S2
RPILM	Regional Projects for Integration into the Labour Market	PRIME
RTM	Marine Transport Authority	RTM/RMT
SFSHL	Sinking fund for social housing loans	FADELS/ALESH
SME	Small and medium-sized enterprise	EMS/KMO
SNA2008	System of National Accounts (UN, 2008)	SNC/NSR
SRCF	Seafarers' Relief and Contingency Fund	CSPM/HVKZ
SBS	Structure Business Survey	ESE/ESE
SUT	Supply and Use Table	
TAIE	Trade Association of Insurance Enterprises	UPEA/BVVO
TLC	Third Labour Circuit	TCT/DAC
TOB	Tax on stock exchange transactions	TOB/TOB
VAT	Value added tax	TVA/BTW
VKT	Abridged accounting schedule	
VOL	Full accounting schedule	
WR	Walloon Region	RW/WG

Internal codes

P.11/V	Market output (= P.11/V1+P.11/V2)
P.11/V1	Part of market output relating to annual account code 70
P.11/V2	Part of market output relating to annual account codes (74-740)
P.11/P.52S	Changes in inventories of finished goods and work in progress (component of P.1)
P.12	Output for own final use
P.2/A	Acquisitions for intermediate consumption (= P.2/A1+P.2/A2)
P.2/A1	Part of acquisitions for intermediate consumption relating to annual account codes 600/8+61
P.2/A2	Part of acquisitions for intermediate consumption relating to annual account codes 641/8
P.2/P.52U	Change in inventory materials and supplies (component of P.2)
P.33	Consumption expenditure by resident households in the rest of the world
P.34	Consumption expenditure by non-resident households in the economic area of Belgium
P.3_S.14	Consumption expenditure by households
P.3_S.15	Consumption expenditure by NPIs
P.31_S.13	Individual consumption expenditure by the general government
P.32_S.13	Collective consumption expenditure by the general government
P.52C	Change in inventory goods for resale
P.52U	Change in inventory materials and supplies
P.52S	Changes in inventories finished goods and work in progress