

# Services inflation : The Belgian exception

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## Introduction

At the request of the Minister of the Economy, a joint survey of services sector inflation was conducted by the FPS Economy (Price Observatory and Directorate General Statistics – Statistics Belgium), the National Bank of Belgium and the Federal Planning Bureau, under the aegis of the National Accounts Institute.

During periods of widening inflation differentials between Belgium and its three main neighbouring countries (France, Germany and the Netherlands), energy prices were often the cause of the higher inflation rates in Belgium. In 2015 and 2016, Belgium diverged again but this time the size of the inflation gap was attributable to services prices.

This article sets out the main findings of the report submitted to the Minister and published on 7 March 2017, going into certain aspects in more detail. The article is structured as follows: the first section assesses the extent of total inflation and services inflation rates in Belgium, comparing them with those in the three main neighbouring countries. The second part focuses on the breakdown of services sector inflation in order to identify the sub-components of services that have contributed the most to the inflation gap between Belgium and the three main neighbouring countries. The third “transversal” part examines various mainly cyclical and institutional factors (regulated prices, market functioning, etc.). Finally, the fourth and last part of the article sums up the detailed analysis of the “restaurants and cafés” and “telecommunications” branches conducted by the FPS Economy – i.e. the categories accounting for most of the inflation gap in services between Belgium and the three main neighbouring countries in recent years.

## 1. Inflation in Belgium and in the three main neighbouring countries

Inflation gaps between Belgium and the three main neighbouring countries – like inflation gaps between the other euro area countries, generally speaking – are nothing new and nothing exceptional. They have already been subjected to analysis by the Bank<sup>(1)</sup>.

The average of the three main neighbouring countries is calculated via weighting, i.e. taking account of the weight of each country in the harmonised index of consumer prices (HICP), based on the final consumption expenditure of households taken from the national accounts<sup>(2)</sup>.

Between 1998 and 2016 (i.e. the longest period available for calculating the inflation rate in the three main neighbouring countries on an aggregate basis), total inflation in Belgium averaged 1.9 %, with a standard deviation of 1.2 percentage points. In the three main neighbouring countries it averaged 1.5 % (1.4 % in Germany, 1.5 % in France and 1.9 % in the Netherlands) with a smaller standard deviation of around 0.8 point (0.9 point in Germany and France, but 1.3 points in the Netherlands).

During periods of widening inflation gaps (2000, 2008, 2010 and 2011), energy prices were often the cause of the higher inflation rates in Belgium. Following a period in which inflation rates were relatively similar (broadly speaking from mid-2012 to mid-2015), Belgium again diverged from its neighbours, but this time the size of the inflation gap was attributable to services prices.

(1) See for example Aucremanne *et al.* (2010).

(2) The relative weights of the three countries in the group in 2016 were 52 % for Germany, 39 % for France and almost 10 % for the Netherlands.

**TABLE 1** HISTORICAL TREND AND VARIABILITY OF INFLATION RATES

|                    | Annual average growth rate 1998-2016<br>(year-on-year change in the price index, in %) |                                   | Standard deviation January 1998-December 2016 <sup>(1)</sup> |                                   |
|--------------------|--|-----------------------------------|--|-----------------------------------|
|                    | Belgium  | Three main neighbouring countries | Belgium  | Three main neighbouring countries |
| <b>Total</b> ..... | <b>1.9</b>   | <b>1.5</b>                        | <b>1.2</b>   | <b>0.8</b>                        |
| Services .....     | 2.1  | 1.7                               | 0.5  | 0.5                               |
| Energy .....       | 2.7  | 2.9                               | 10.1   | 6.4                               |

Source: EC.

(1) On the basis of the year-on-year change in the monthly index.

In Belgium, the relative importance of the components making the biggest contribution to inflation has varied over time. However, (since the HICP index became available) services have always driven up inflation. For one thing, of the five main categories of goods and services making up the standard consumption basket, services have the highest weight. Moreover, that weight has steadily increased, representing 42.4% in 2016 (compared to 31.2% in 1998). Also, at no time during the period considered was there a year-on-year fall in services prices, and the inflation rate in services is much less variable than in other categories of the price index.

Over the period from 1998 to 2016, the annual average inflation rate in services in Belgium came to 2.1%, or 0.4 percentage point higher than the average in the three main neighbouring countries. Moreover, prices in this category display low volatility (historical standard deviation of 0.5 percentage point, in line with the average for neighbouring countries). In the detailed picture per country, the Netherlands stands out with an average inflation rate in services of 2.4% and a standard deviation that is bigger than elsewhere, at 1.2 percentage points.

In 2015 and 2016, the latest period with a widening differential between Belgium and the three main neighbouring countries, the inflation gap in services averaged 1.2 percentage points.

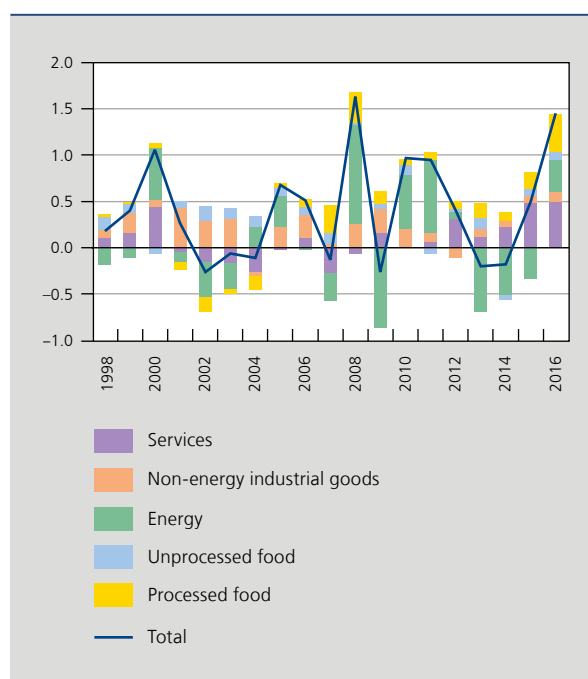
Inevitably, these findings require supplementary analysis in order to understand the low level of inflation in neighbouring countries and in the euro area. Although some of the factors are examined here, such a detailed study is beyond the scope of this article<sup>(1)</sup>.

## 2. Breakdown of the inflation gap in services

Calculation of the contribution of the goods and services categories composing the price index on the basis of their weightings reveals the ones that have the most influence on the inflation gap between Belgium and the neighbouring countries. In this regard, it should be noted that the share of services in Belgium's consumption basket is similar to the figure in the neighbouring countries,

**CHART 1** BREAKDOWN OF THE INFLATION GAP BETWEEN BELGIUM AND THE THREE MAIN NEIGHBOURING COUNTRIES

(contribution in percentage points)



Source: EC.

(1) Conversely, the Bank took part in a working group studying the causes of the low inflation in the euro area. See Ciccarelli and Osbat (2017).

and was in 2016, i.e. 42 %, even slightly lower (44 % in France, 45 % in the Netherlands and 46 % in Germany).

Since 2009, services have systematically made a positive contribution to the inflation gap, though without – in conjunction with food and non-energy industrial goods – always offsetting the sometimes strongly negative contributions made by energy. The inflation gap between Belgium and the three neighbouring countries was in fact negative in 2009, 2013 and 2014. In 2010, services made a very small positive contribution. In that year, services inflation in Belgium had been fairly weak from a historical perspective (averaging 1.4 % over the year), essentially owing to a fall in telecommunications prices which began at the end of 2009<sup>(1)</sup>.

Over the period 2009-2016, average annual services inflation came to 2.2 % in Belgium, against 1.4 % in the neighbouring countries.

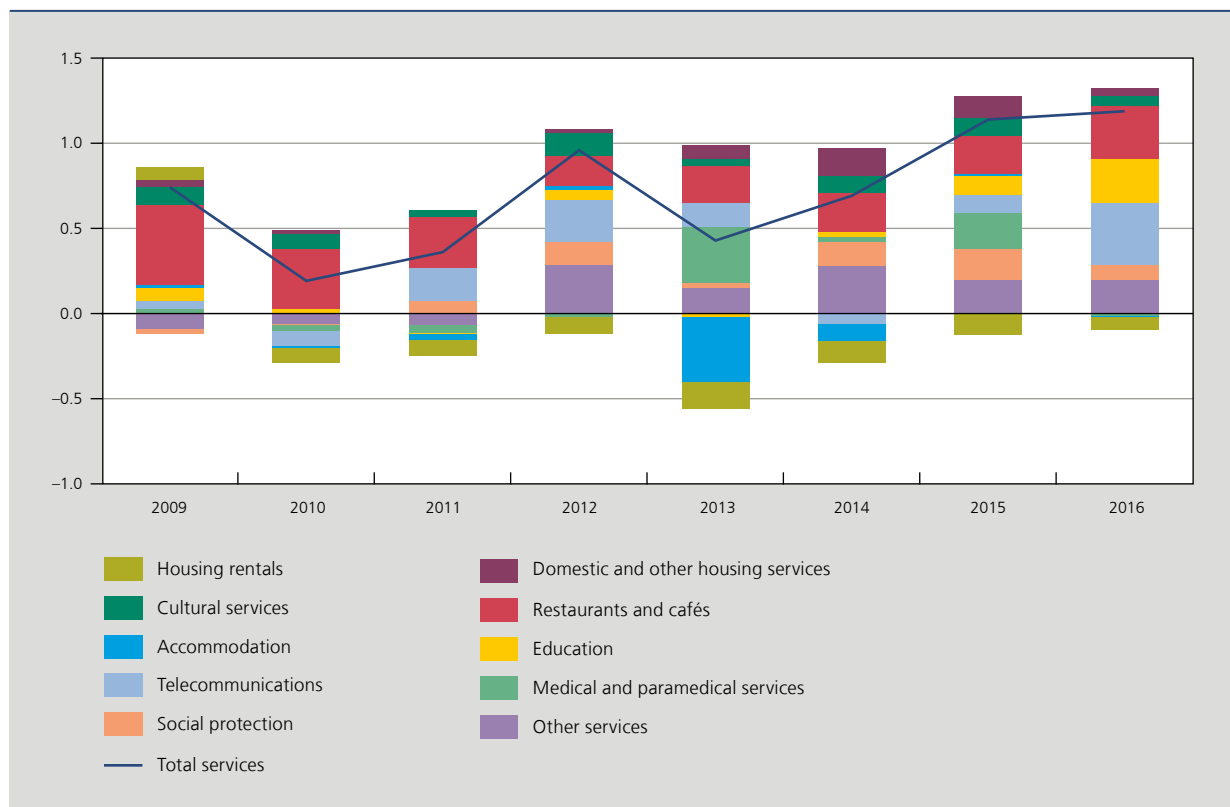
To identify the factors behind the services sector's substantial contribution to the inflation gap in recent years, services are broken down in more detail, giving nine main

categories and one residual category comprising "other services". It is evident that, in every year, the "restaurants and cafés" component made a positive contribution to the inflation gap in services between Belgium and the neighbouring countries (between 0.2 and 0.5 of a percentage point, depending on the year). The "telecommunications" component made a substantial positive contribution in 2011, 2012 and 2016 (between 0.2 and 0.4 of a percentage point).

In 2013 and in 2015, medical and paramedical services were an important factor in the services inflation gap (0.3 and 0.2 of a percentage point respectively). That is due to two specific events. January 2013 saw the abolition of a special medical fee in Germany (the *Praxisgebühr*, consisting of a quarterly € 10 payment per insured person towards the funding of sickness insurance). Abolition of that fee significantly reduced the inflation rate in medical services in Germany, and hence the average inflation rate of that component for the

(1) The decline in mobile telephone tariffs resulted from the significant price reduction offered by one of the major mobile telephony operators in November 2009.

**CHART 2** BREAKDOWN OF THE INFLATION GAP IN SERVICES BETWEEN BELGIUM AND THE THREE MAIN NEIGHBOURING COUNTRIES  
(in percentage points)



Sources: EC, FPS Economy.

average of the three neighbouring countries (taking account of Germany's weight), thus having an adverse impact on the inflation gap for Belgium in 2013. In 2015, the contribution of medical services to the inflation gap was due to a Belgian measure: harmonisation of the user charge for specialist consultations, which on average had the effect of increasing fees for medical services.

The "education" component stood out in 2016 on account of the steep rise in higher education registration fees in the Flemish Community, introduced in October 2015<sup>(1)</sup>, causing a jump in services inflation. In 2016, this measure contributed 0.3 of a percentage point to the inflation gap in services between Belgium and the neighbouring countries. We shall come back to that later in this article.

In the case of "restaurants and cafés" and "telecommunications", it is not possible to identify any specific event and we need to examine more structural factors, which will be analysed later<sup>(2)</sup>.

### 3. Factors explaining the continuing high inflation in services in Belgium

This part begins by illustrating the link between services inflation and the business cycle. The special character of the recent period is examined from various angles, including the importance of the regulations governing certain services prices. As that does not entirely account for the inflation gap in services between Belgium and the other countries analysed, certain aspects concerning how the market functions will be examined, such as the degree of regulation, the level of profitability and a set of aggregate measures of concentration in the "horizontal" screening of the services branches.

#### 3.1 Link between services inflation and the business cycle

In the services sector, unit labour costs represent a larger proportion of the production costs – and hence of the price formation process – than in industry. Calculations

based on the 2010 input-output tables show that labour costs in the sector make up 34 % of the total production cost, whereas in manufacturing industry the figure is just 13 %. In non-market services, labour costs actually account for over half of the total production costs, compared to 28 % in market services.

In recent years, wage restraint has influenced the rise in labour costs in all branches of activity. As regards the business sector as a whole, unit labour costs were rising at an annual average rate of 1.3 % between 1997 and 2008, compared to 0.4 % between 2009 and 2016. In market services, the figures were 2.3 % and 1.1 % respectively. While the pace has clearly slackened, the average annual growth rate has remained significantly higher in services. That difference is due to a considerably weaker increase in productivity.

However, the slower growth of labour costs does not appear to have been passed on in services prices, although account must be taken of a certain time lapse between wage adjustments and any price changes.

In fact, since 2014, other factors appear to have blurred the link between the business cycle and the prices charged in the service branches. To formalise that theoretical link, we model Phillips curves which reflect the relationship between various macroeconomic cyclical variables and prices<sup>(3)</sup>.

In each instance, services inflation is estimated on the basis of a model featuring a combination of three macroeconomic variables taken from a total of twelve variables<sup>(4)</sup>. The resulting conditional forecasts of services inflation from 2012 – i.e. the year when services inflation in Belgium began to diverge again from the rate in the neighbouring countries and in the euro area – indicate that, since the end of 2014, the actual inflation seen in the Belgian services sector has considerably exceeded the forecasts based on the macroeconomic context. The determinants which explained a major part of the services inflation in the past have therefore lost their predictive capability in the meantime. That conclusion is also valid if the conditional forecast begins in 2009, at the start of the wage moderation phase. Factors other than the macroeconomic context have therefore triggered a particularly sharp acceleration of services inflation in recent years: those factors include a range of government measures. The next section will examine that point in more detail.

The inflation gap in services between Belgium and the three neighbouring countries is not attributable solely to the "excessive" price rises recorded in Belgium. In fact, a similar analysis conducted for the neighbouring countries suggests that actual services inflation there

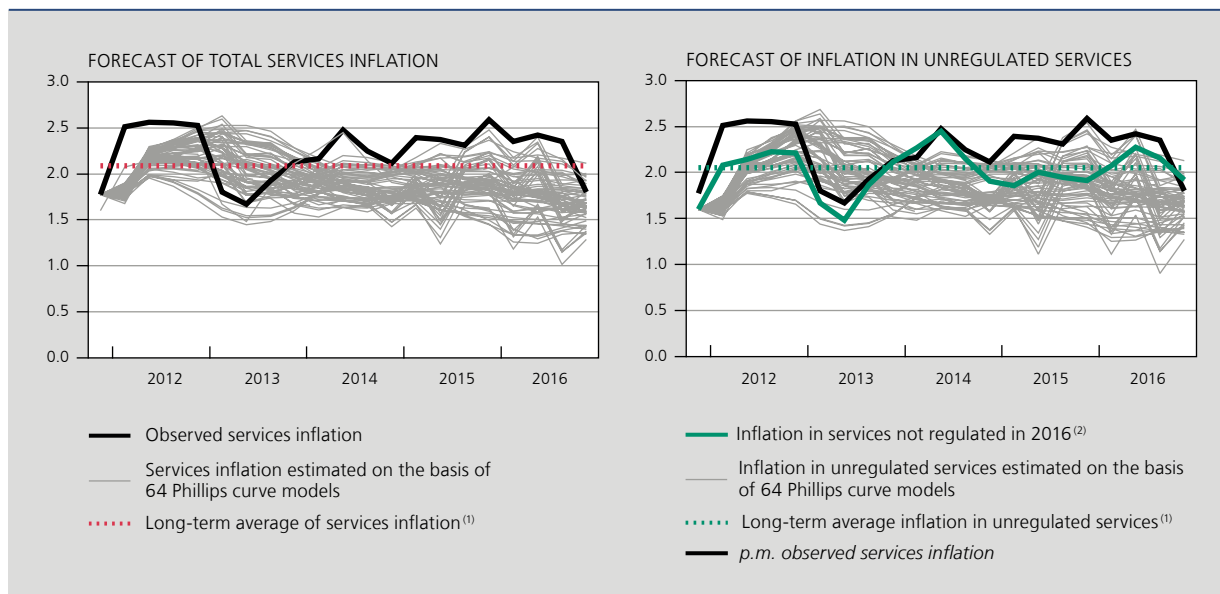
(1) Registration fees went up by € 270, to € 890.

(2) In view of the size of their contribution to the inflation gap in services between Belgium and the three main neighbouring countries, these branches of activity were analysed in depth by the FPS Economy in the report to the Minister.

(3) The Phillips curve is a macroeconomic model that generally describes an inverse relationship between the unemployment rate and inflation. In this case, other than the unemployment rate, more cyclical variables were added, such as real GDP, unit labour costs, competitors' import prices, oil prices, etc.

(4) The variables are unit labour costs (which, apart from hourly labour costs, also take account of productivity) in the service branches, real GDP, import prices of competitors inside and outside the euro area, past services inflation, oil prices, the unemployment rate, investment by volume, the interest rate for non-financial corporations, and from the narrow to the broad money supply. The data relate to the period from the first quarter of 1998 to the last quarter of 2016. In all, 64 combinations were estimated.

**CHART 3** FORECAST OF SERVICES INFLATION IN BELGIUM ON THE BASIS OF MACROECONOMIC VARIABLES  
(year-on-year change, in %)



Sources: EC, ECB, NBB.

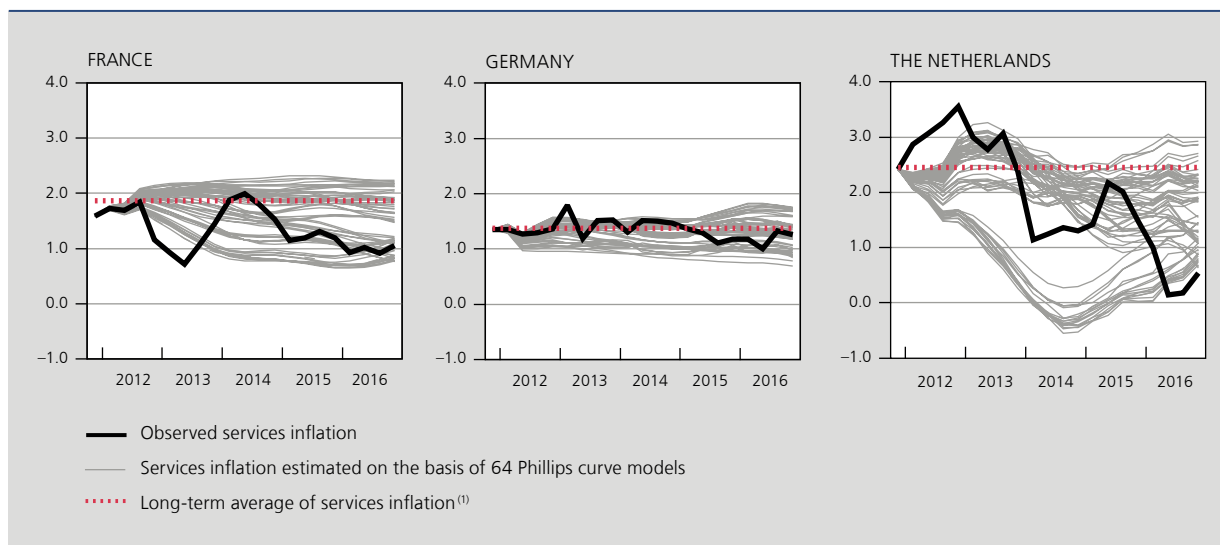
(1) Average year-on-year increase in prices over the period 1998-2016.

(2) Inflation in services excluding regulated services according to the Eurostat definition in 2016.

has been rather low recently, compared to the forecasts based on Phillips curves, especially in the past few years. That is the case in France from the end of 2014 and in

the Netherlands from 2016, where the downward trend in services inflation is not (entirely) explained by the usual macroeconomic determinants.

**CHART 4** FORECAST OF SERVICES INFLATION IN THE THREE MAIN NEIGHBOURING COUNTRIES ON THE BASIS OF MACROECONOMIC VARIABLES  
(year-on-year change, in %)



Sources: EC, ECB, NBB.

(1) Average year-on-year inflation over the period 1998-2016.

### 3.2 Government measures affecting services prices

If the government decides to implement a (parafiscal) measure or to influence or (partially) determine the prices of goods or services, that has an impact on final consumption prices and hence on the consumer price index. Prices of certain services may be subject to government regulation.

First, the government – at federal, regional or local level – may influence or even fix prices directly. For instance, in October 2015 there was a sharp rise in services inflation following the increase in higher education registration fees in the Flemish Community. Prices of certain service categories, such as waste water and household refuse collection, are also fixed by the government, i.e. by the local authorities. This form of regulation has had a major impact on services inflation in Belgium.

On the basis of a list obtained from the national statistical institutes, Eurostat publishes an “administered prices indicator” covering the goods and services which are either largely regulated or fully regulated<sup>(1)</sup>, i.e. their price is (partly) determined by the federal and regional authorities. In the remainder of this article, services will be referred to as “regulated” or “unregulated” according to whether or not they are on the Eurostat list of administered prices. According to this Eurostat indicator, regulated services represented 28 % of the total basket of services in Belgium in 2016, compared to 26 %, 22 % and 42 % respectively in Germany, France and the Netherlands<sup>(2)</sup>.

(1) It should be noted that the Eurostat list is therefore not confined to services but also includes certain non-energy industrial goods, food products and energy. For the purposes of this article, only regulated services are taken into account.

(2) Since 2016, regulated services in the Netherlands have included “telephone and telefax equipment and services” (COICOP 08.2/3). This group, with a considerable weight of 8 % in the basket of services in the Netherlands, was not considered to be regulated in the other countries in 2016. This category was considered to be regulated in Belgium until 2005, and in Germany until 2006.

**TABLE 2** SERVICES SUBJECT TO PRICE REGULATION

|   | Weight,<br>in % of services,<br>in 2016 | Services for which prices are<br>government-regulated, according<br>to Eurostat, in 2016<br>(28 % of services) | Services for which prices are<br>indexed, according to the NBB<br>and FPS economy<br>(24 % of services) |
|---|---|--|---|
| Rents .....                               | 14.5                                    |  | X   |
| Household refuse collection .....         | 1.0                                     | X  |   |
| Waste water collection .....              | 1.1                                     | X  |   |
| Medical and paramedical services .....    | 2.9                                     | X  |   |
| Dental services .....                     | 1.0                                     | X  |   |
| Hospital services .....                   | 8.9                                     | X  |   |
| Vehicle testing .....                     | 0.2                                     |  | X   |
| Road tax .....                            | 0.0                                     |  | X   |
| Passenger transport by rail .....         | 1.2                                     | X  | X   |
| Passenger transport by road .....         | 1.1                                     | X  |   |
| Passenger transport by bus or coach ..... | 0.9                                     | X  | X   |
| Passenger transport by taxi .....         | 0.2                                     | X  |   |
| Postal services .....                     | 0.2                                     | X  | X   |
| Education .....                           | 1.5                                     | X  | X   |
| Social protection .....                   | 5.3                                     | X  |   |
| Retirement homes .....                    | 3.6                                     | X  | X   |
| Home insurance .....                      | 0.8                                     |  | X   |
| Health insurance .....                    | 2.6                                     | X  |   |
| Other services .....                      | 1.5                                     | X  |   |
| Notaries' fees .....                      | 0.5                                     | X  | X   |

Sources: EC, FPS Economy, NBB.

Next, there is also a more indirect form of services price regulation, applicable mainly to public services, namely the option of formalised automatic price indexation. That form of regulation will be examined in detail later in the article.

### Direct form of regulation influencing services inflation

Before 2012, apart from a few exceptions, inflation in regulated services was consistently higher in the three neighbouring countries than in Belgium. Since 2012, the opposite has been the case: price rises for regulated services have accelerated in Belgium, whereas they have slowed down, on average, in the three main neighbouring countries.

In 2001, regulated services made a negative contribution to total services inflation in Belgium, partly as a result of the substantial reduction in telephony tariffs (a category considered regulated up to 2005) in October 2000<sup>(1)</sup>.

In 2002 and 2003, regulated services also made a negative contribution to services inflation which was due mainly to the abolition of the radio and television licence fee in Flanders and Brussels, and the 30 % reduction in that fee in Wallonia.

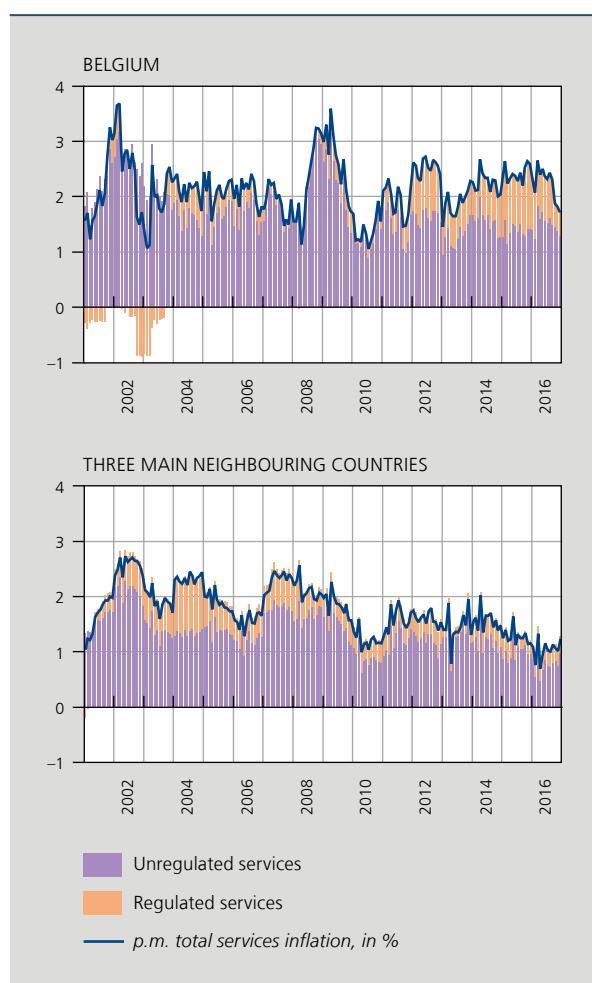
It was decided to impose 21 % VAT on notaries' services with effect from 1 January 2012. That move was part of the fiscal measures aimed at increasing certain indirect taxes<sup>(2)</sup>, adopted in 2012 in the wake of an EU Directive obliging the Member States to impose VAT on certain services.

Since 2015, the contribution of regulated services to total services inflation has increased again, mainly as a result of the price rises in the categories "waste water collection", "household refuse collection", "medical services", "hospital services", "social protection" and "education". In October 2016, inflation in regulated services declined sharply, owing to a base effect, as the previous year's increase in higher education registration fees in the Flemish Community ceased to have an impact on year-on-year inflation.

It should be noted that the increase in services inflation resulting from government measures led to an acceleration in the health index, and hence in the smoothed health index<sup>(3)</sup> forming the basis of wage indexation. Some firms can pass on this rise in labour costs in their final selling prices. Consequently, government measures may generate second-round effects, and the price-wage spiral may damage Belgium's competitiveness. Other firms which are more exposed to competition find it harder to pass on these pay increases in their final selling prices, so that their profit margins shrink.

Since 2012, the "social protection" category has also made a substantial contribution to services inflation (averaging 0.2 of a percentage point a year). That is attributable mainly to retirement homes (which represented 69 % of the category in 2016), but also nurseries (28 %) and home care services (3 %). Price increases in this sector beyond those resulting from indexation based

**CHART 5** CONTRIBUTION OF REGULATED AND UNREGULATED SERVICES TO TOTAL SERVICES INFLATION IN BELGIUM AND IN THE THREE MAIN NEIGHBOURING COUNTRIES  
(in percentage points, unless otherwise stated)



Sources: EC, NBB.

(1) In recent years, the price cuts in this category have often led to a negative contribution to total inflation (except in 2015-2016), but that was no longer apparent in regulated services.

(2) Another measure concerned increasing the rate of VAT on cable television subscriptions from 12 % to 21 %, but this only affected inflation in the cultural services category (COICOP 09.4.2), which ceased to be included in regulated services in 2006. The effect of the 2012 measure is therefore not apparent in this chart.

(3) The health index is calculated on the basis of the national consumer price index excluding products deemed harmful to health, namely alcohol, tobacco and road fuel. The smoothed health index was redefined by the Law of 23 April 2015 on employment promotion (*Moniteur belge/Belgisch Staatsblad* of 27/04/2015).

on the national consumer price index (NCPI) have to be approved by the regional governments<sup>(1)</sup>. It was mainly in 2015 that prices went up significantly, contributing 0.3 percentage point to service inflation, primarily in the “retirement homes” category. It should be noted that this category<sup>(2)</sup> helped to drive up inflation in regulated services, but the price adjustments were initiated by the service providers and were merely approved by the government.

Over the period from 2012 to 2016, inflation in regulated services according to the Eurostat definition averaged 2.9% in Belgium, compared to just 1.4% in the neighbouring countries. Regulated services contributed 0.8 percentage point to the average services inflation, which came to 2.3%. In the preceding period, from 2001 to 2011, services inflation averaged 2.1%, and regulated services contributed only 0.1 percentage point to that figure. The difference between these two periods is therefore considerable. In the neighbouring countries, over the period from 2012 to 2016, regulated services contributed 0.3 percentage point, on average, to total services inflation, which averaged 1.4%: from 2001 to 2011, they contributed 0.5 percentage point to the services inflation figure of 1.9%.

If we estimate inflation in unregulated services in 2016 on the basis of macroeconomic variables in a Phillips curve

(1) In regard to nurseries, this statement needs to be qualified: private nurseries are entirely free to set their own prices.

(2) In this connection, it should be noted that the weight of the retirement homes category is negligible in the NCPI in comparison with the HICP (1.1 against 15.4 %) and the same therefore applies to its influence on wage indexation. The divergence of the relative weights may be due to the use of a different primary source to determine those weights in the NCPI and the HICP (the household budget survey and the national accounts respectively). Following the Eurostat recommendations, institutional households are, by definition, excluded from the household budget survey and hence from the NCPI weighting scheme, whereas they are included in the national accounts and hence in the HICP weighting scheme in accordance with the European regulations.

setting, the observed inflation in those services is more similar to the estimates than the observed inflation for total services (see chart 3). However, since 2014, most specifications still generate estimates which are lower than inflation in unregulated services, particularly in 2014 and 2016. Inflation in unregulated services in Belgium appears to hover constantly around 2%.

### *Indirect form of regulation with an impact on services inflation*

Wage-setting in Belgium features automatic indexation. This mechanism allows wages to be adjusted relatively quickly and automatically to price rises: as a result, firms are confronted by higher production costs. That may lead them to raise their selling prices, thus creating a price-wage spiral. It is primarily in firms operating in the services sector, where wages account for a substantial share of production costs and where some firms are less exposed to competition, that upward pressure on prices may ensue if firms wish to preserve their profit margins. However, wage indexation is not the sole source of price changes resulting from the link to an index.

There is in fact a second – indirect – form of price regulation: the prices of certain services track the movement in an index. This mechanism is generally specified in a management contract. In the case of services regarded as index-linked, prices are linked in one way or another, once or several times a year, generally at fixed times, to the NCPI (e.g. bus fares in Flanders and Wallonia), the health index (e.g. train fares and rents) or the ABEX (e.g. notaries’ fees and fire insurance): this last index reflects the movement in construction costs. All other things being equal, that results in an additional automatic source of inflation owing to indexation rules, thus

**TABLE 3** AVERAGE ANNUAL INFLATION IN REGULATED AND UNREGULATED SERVICES IN BELGIUM AND IN THE THREE MAIN NEIGHBOURING COUNTRIES, AND CONTRIBUTION TO TOTAL SERVICES INFLATION  
(in % and percentage points respectively)

|  | Belgium    |            | Three main neighbouring countries |            |
|--|------------|------------|-----------------------------------|------------|
|  | 2001-2011  | 2012-2016  | 2001-2011                         | 2012-2016  |
| Inflation in unregulated services                          | 2.5        | 2.0        | 1.9                               | 1.4        |
| Inflation in regulated services                            | 1.0        | 2.9        | 2.1                               | 1.4        |
| Contribution of unregulated services to services inflation | 1.9        | 1.5        | 1.5                               | 1.1        |
| Contribution of regulated services to services inflation   | 0.1        | 0.8        | 0.5                               | 0.3        |
| <b>Average services inflation (in %)</b>                   | <b>2.1</b> | <b>2.3</b> | <b>1.9</b>                        | <b>1.4</b> |

Sources: EC, NBB.



reinforcing the price-wage spiral effect. Consequently, the pricing does not necessarily reflect the operating expenses of these service providers (labour costs, commodity prices, etc.) that dictate the price charged by firms exposed to competition. These mechanisms also form a source of inflation persistence. However, they need to be qualified slightly. Price increases based on indexation are hardly ever applied purely mechanically: in most cases, indexation is only one of the factors determining the price.

Owing to the heavy weighting of the “rents” category – 14.5% of services in Belgium in 2016 – and since the indexation of rents is clearly defined in legislation, it was decided to examine rents separately here. Before 2010, rent increases in Belgium outpaced the average increases in the three main neighbouring countries (2.1 compared to 1.6%), but since then the inflation figures have been similar. Between 2010 and 2016, the average year-on-year rent increase in the neighbouring countries (1.4%) was even slightly higher than in Belgium (1.3%). Taking account of this category’s weighting, which is considerably lower in Belgium in view of the relatively high number of owner-occupiers<sup>(1)</sup>, rents make a much smaller contribution to services inflation in Belgium than

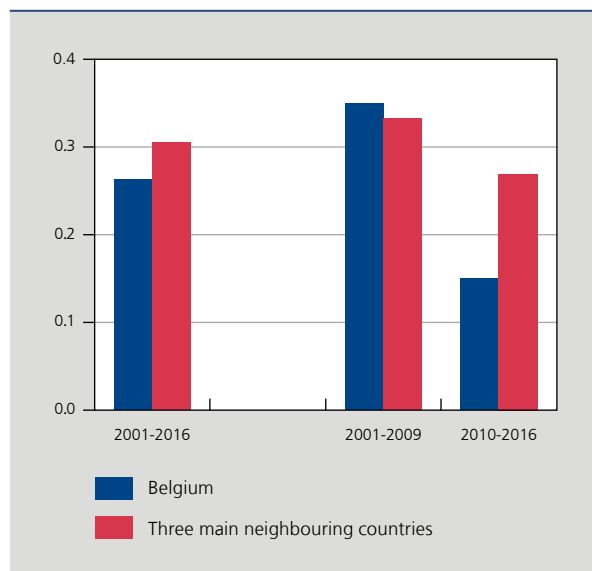
(1) In 2016, rents represented 15% of the basket of services consumed in Belgium, compared to 20% in the neighbouring countries.  
 (2) The theoretical indexation indicator reflects how index-linked services prices would move if they only followed their set indexation mechanism.

in the neighbouring countries. Consequently, despite rent indexation in Belgium, this category has not disadvantaged Belgium in terms of inflation compared to the three neighbouring countries since 2010.

In 2016, index-linked services excluding rents (see table 2) accounted for 9% of the basket of services. For the purpose of interpreting chart 7, the “notaries’ fees” and “education” categories, where price rises peaked in 2012 and 2015 respectively, were both excluded from the index-linked services. The imposition of VAT on notaries and the steep rise in higher education registration fees in the Flemish Community resulted from one-off government decisions and are therefore not due to the indexation mechanisms.

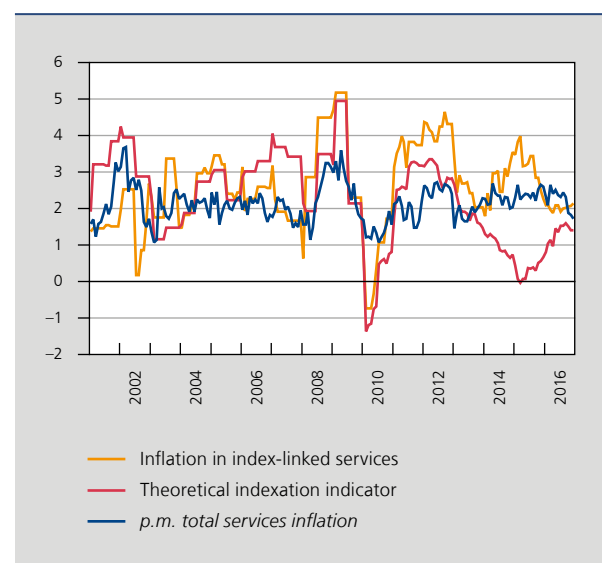
First, despite their low weight, index-linked services have often contributed to the persistence of services inflation. In the past, the observed prices of index-linked services and prices expected on the basis of their theoretical indexation mechanism<sup>(2)</sup> often increased faster than the prices of the total services package. Next, since 2014, the observed inflation in index-linked services has differed from that expected on the basis of the NCPI, the health index and the ABEX. In other words, the actual price movements were disconnected from the theoretical indexation mechanism. For example, retirement home charges rose faster, especially in 2015, than expected on the basis of the indexation mechanism.

**CHART 6** CONTRIBUTION OF RENTS TO SERVICES INFLATION IN BELGIUM AND IN THE THREE MAIN NEIGHBOURING COUNTRIES  
 (in percentage points)



Source: EC.

**CHART 7** INFLATION IN INDEX-LINKED SERVICES EXCLUDING RENTS, NOTARIES’ FEES AND EDUCATION  
 (year-on-year change, in %)



Sources: EC, NBB.

### 3.3 Market functioning

The services inflation differential between Belgium and the neighbouring countries cannot be attributed entirely to government measures, so that the question arises of the competitive environment in which Belgian service companies operate. According to the theory, firms operating in highly competitive markets adjust their prices more often in response to cost and demand factors. A lack of competition and/or over-burdensome regulation could be behind excessive price increases in some services, such as telecommunications. Conversely, in the case of restaurants and cafés, competition can be considered fierce at local level, particularly in view of the large number of establishments (1 per 245 residents in Belgium, representing a greater supply than in the neighbouring countries).

Various indicators can be used to assess market operating conditions. However, they are imperfect and should be taken as a guide for identifying problem sectors.

#### OECD indicators

One way of ascertaining the degree of regulation in an economy or sector is to refer to synthetic indicators such as those of the OECD. These aim to convert the main aspects of current regulations into “scores” for assessing the relative restrictiveness of the rules. Although the criteria used sometimes need refining, and the literature cannot link

the indicators beyond doubt to the quality of the market's functioning, they do have the merit of permitting international comparison, and possibly comparison over time. For the network services, the main components assessed are entry regulation, the proportion of public ownership, and the market structure. Belgium has the highest index compared to the neighbouring countries for telecommunications (indicating weaker competition). Since 2003, there has been hardly any change in Belgium's score. However, according to that indicator – for which the latest data relate to 2013 – it is not possible to show any change in the regulations which might explain the recent increased inflation in telecommunications. Belgium's position is due primarily to the size of the government's shareholding, which is measured in such things by the proportion of the shares held by the government in the main telecommunications company.

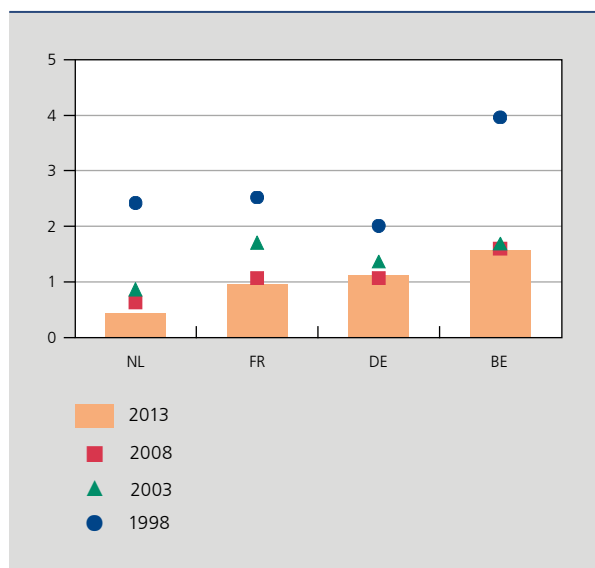
#### Profit margins

Other indicators for assessing a possible lack of competition concern profit margin. At microeconomic level, that amounts to estimating profitability in the branches of activity. For that purpose, the annual accounts of firms are the most direct source. In order to try to understand the inflation differentials between Belgium and the neighbouring countries, we use the BACH (Bank for the Accounts of Companies Harmonised) database<sup>(1)</sup>. Since the coverage is more limited for the neighbouring countries than for Belgium, comparisons between countries and over time need to be interpreted with caution.

The ratio between the net operating results and the turnover (also known as the net sales margin) expresses the commercial performance of an activity unit, independently of financial, exceptional and fiscal elements. The branches analysed correspond roughly to the market services mentioned earlier: hotels, restaurants and cafés<sup>(2)</sup>, information and communication<sup>(3)</sup>.

The hotels and catering branch features very low net margins which are usually below the average for the economy, at around 2.5% in Belgium. Conversely, the information and communication branch has relatively high profitability averaging around 9% over the period 2000-2014 in Belgium. Profitability remained fairly stable for a number of years (from 2004 to 2012). That was not the case in France and Germany.

**CHART 8** INDICATOR OF REGULATION IN TELECOMMUNICATIONS SERVICES  
(from 0 to 6, from the lowest to the highest degree of regulation)



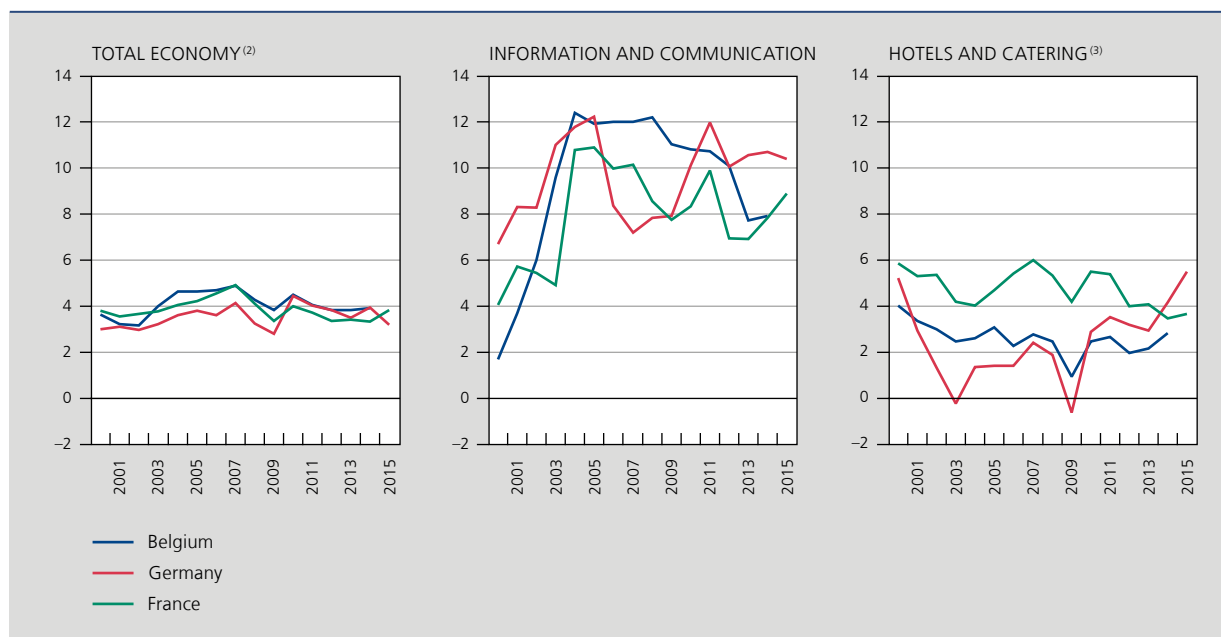
Source: OECD.

(1) As far as we know, this is the only databank available to the public free of charge. It currently covers ten European countries, including Belgium, Germany and France. However, the data are aggregated and available at the NACE 2-digit level over the period 2000-2014 (sometimes 2015). The proportion of firms covered varies greatly from one country to another: almost 100% of firms filing annual accounts in Belgium, compared to 28% in France (but 81% of turnover) and barely 9% in Germany (but 70% of turnover). The sample of firms may also vary from year to year.

(2) Details for restaurants and cafés only are not available for France.

(3) Details for telecommunications only are not available for France.

**CHART 9** NET OPERATING PROFIT<sup>(1)</sup>  
(in % of turnover)



Sources: BACH databank, Banque de France, Deutsche Bundesbank, ECCBSO, NBB.

(1) Ratio before tax. Data not available for the Netherlands. Data not available for Belgium in 2015.

(2) All non-financial branches of activity.

(3) We have information on the turnover figure for only a small number of firms in the hotels and catering sector (14% in 2015). The sector consists mainly of self-employed workers who do not have to submit annual accounts. Furthermore, among the companies that have to meet the obligation, only those that submit full-format accounts are obliged to state the turnover figure. In the hotels and catering sector, 99% of those submitting annual accounts use an abridged format.

However, high profitability is not automatically due to a lack of competition: it may also be attributable to the need to remunerate the capital in highly capital-intensive production processes, or to great efficiency in a competitive sector, leading to productivity gains which could ultimately benefit consumers.

Owing to the limitations of the indicators used so far (not only conceptual limitations but also those due to the sources used), those indicators cannot detect pricing behaviour which could be termed excessive in certain branches.

### Horizontal screening of the branches

The results of the “horizontal screening” of branches of activity conducted by the Price Observatory complete this analysis. Every year, over 600 market branches of activity (NACE nomenclature at a detailed level) are subjected to horizontal screening, which can detect the branches at greater risk of market dysfunction.

The horizontal screening is based on various dimensions of market functioning concerning both the structure and the dynamics. For instance, for the analysis of the service branches, eight indicators are used<sup>(1)</sup>:

- the Herfindahl-Hirschman index (sum of the squares of the market shares of all firms in a given branch)<sup>(2)</sup>;
- the number of firms;
- capital intensity (the ratio of the total capital stock to the total operating result);
- the price-cost margin (the ratio between the gross operating surplus and the turnover);
- the volatility of the market shares of various firms in the branch (which measures the market shares transferred from declining firms to expanding firms)<sup>(3)</sup>;
- the churn or the attrition rate of firms (which measures the market shares of incoming and outgoing firms in the branch)<sup>(4)</sup>;
- the survival rate (which assesses the proportion of firms already active in the branch for at least five years);
- the rotation rate of firms (which calculates the rotation of the eight firms with the largest turnover in a given branch between 2009 and 2013)<sup>(5)</sup>.

(1) Various data sources are used: the annual accounts, VAT returns, structural surveys of firms (from the DGS).

(2) The value of the HHI is between  $1/N$  and 1, where  $N$  is the number of firms in the branch. In the case of a monopoly, the value of HHI is 1.

(3) More specifically:  $Volatility_s^t = \frac{\sum_{i \in s} (m_i^t - m_i^{t-1})^2}{2}$ , where  $m$  is the market share of firm  $i$  at time  $t$  ( $s$  is the sector).

(4) Or more specifically the sum of the market shares in year  $t-1$  of firms leaving the market during year  $t$  and the market shares of firms entering the market during year  $t$ .

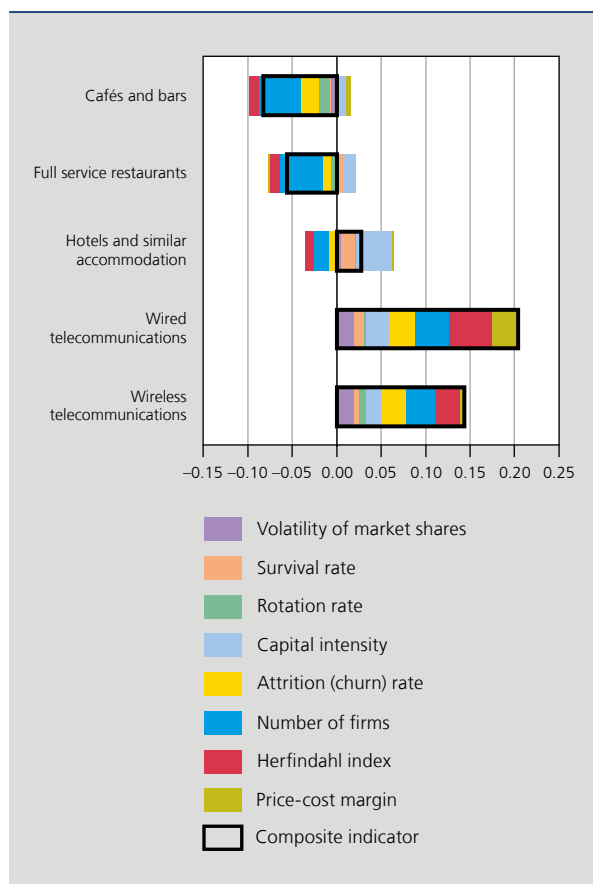
(5) If the branch comprises at least eight firms, the values of the indicator range between 8 (status quo, the same firms remain) and 40 (total change of firms in the “top 8”).

The reasons for using a particular indicator concern the increased risks of price cartels (e.g. the number of firms, the survival rate), the existence of entry barriers (such as low volatility of market shares, a low firm rotation rate) and, more generally, an environment less conducive to competition. In an attempt to be exhaustive, the indicators sometimes overlap. They are normalised<sup>(1)</sup> and aggregated to give a composite indicator of the market's functioning.

Chart 10 shows, for the main telecommunications and hotel and catering services, the contribution of each indicator to the gap between the final score for the branch and the average score for all services (outlined in black).

(1) Normalisation permits comparison of variables which may be measured on very different scales. Following normalisation, the values of each indicator range between 0 and 1, with a value close to 1 indicating a higher risk of dysfunction.

**CHART 10** SCREENING OF BRANCHES OF ACTIVITY IN BELGIUM: CONTRIBUTION OF THE INDICATORS TO THE DIFFERENCE IN RELATION TO THE AVERAGE FOR SERVICES<sup>(1)</sup>  
(2014)



Source: FPS Economy

(1) The contribution of each indicator corresponds to the difference between the (normalised) score of each indicator for the branch and the average score for all services. The area outlined in black indicates the difference between the composite indicator for the branch and the average of the composite indicators for services.

The indicators with a positive (negative) contribution are the ones for which the sector scores worse (better) than the average.

Wired telecommunications have a total score which is 0.2 above the average, of which 0.05 is due to the Herfindahl index (high degree of concentration of firms), 0.04 is due to the small number of firms and 0.03 respectively to the capital intensity, the attrition rate and the price-cost margin. Wireless telecommunications also record for all the indicators more problematic values than the average for services. Those branches comprise a small number of firms with a high degree of concentration and a very stable distribution of market shares. Conversely, the scores for cafés, bars and restaurants are below the average for all services, the main reason being the large number of establishments.

## 4. Analysis of restaurants and cafés and telecommunications

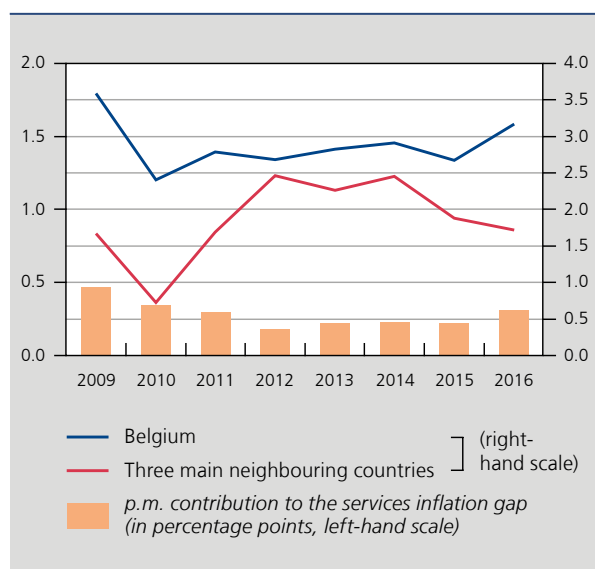
This part is based largely on the analysis conducted by the FPS Economy. First, it analyses the movement in consumer prices in restaurants and cafés and the characteristics of this branch of activity as regards supply costs and labour costs in particular. After that, it examines the detailed movement in telecommunications prices in Belgium and in the neighbouring countries, and a number of factors which may influence pricing on this market.

### 4.1 Restaurants and cafés

During the analysis period (2009-2016), inflation averaged 2.9% in restaurants and cafés in Belgium and 1.9% in the neighbouring countries. That steeper rise also had a greater impact on inflation in Belgium owing to the larger weight of restaurants and cafés in the consumption basket. In 2016, the weight of this category in services came to 15.2% in Belgium, compared to 8.1% in Germany, 11.6% in France and 14.2% in the Netherlands, or 10% on average in the neighbouring countries. That is due not only to local consumption patterns but also to methodological differences in the determination of the weight. In Belgium, the Netherlands and France, the national accounts are the primary source used for the HICP weightings. Only Germany uses the household budget survey as the principal source, and makes an adjustment to take account of tourists' expenditure. In addition, since the rental market is larger in Germany than in the other neighbouring countries, the relative weights of all other service categories in the index are smaller in Germany.

**CHART 11** PRICE MOVEMENTS IN RESTAURANTS AND CAFÉS

(year-on-year change in the price index, in %, unless otherwise stated)



Source: EC.

According to the FPS Economy, the steeper increase in prices in restaurants and cafés in Belgium between 2009 and 2016 is attributable to the adverse movement in their two main cost items, which together account for 90 % of the total costs, namely purchase costs for food and beverages, and labour costs. Between 2008 and 2016, purchase costs for restaurants and cafés increased faster in Belgium than in the neighbouring countries (by 11.7 %, compared to 11 % in the Netherlands, 8.1 % in Germany and 6.3 % in France). It also appears that unit staff costs in restaurants and cafés increased faster than in the neighbouring countries between 2008 and 2014<sup>(1)</sup>, rising by 15.9 %, compared to figures of between –0.2 % and +7 % in the neighbouring countries.

Together with the decline in consumer spending since 2008<sup>(2)</sup>, the relatively ample supply of restaurants and cafés in Belgium could have a negative influence on profit margins which, as we have already seen, are very small. Consequently, the margins cannot absorb the increase in costs, or only to a very meagre extent. Market players

(1) Cumulative growth of unit staff costs on the basis of the EC's structural business survey; restaurants only.

(2) Between 2008 and 2014, average expenditure per household in Belgian restaurants and cafés increased by only 11.1 %, while consumer prices in restaurants and cafés rose by 18.5 % (in cumulative terms).

(3) This cash register was introduced in response to the measure in favour of this sector, which is susceptible to fraud, namely the reduction in VAT from 21 % to 12 % on 1 January 2010. This VAT reduction resulted in increased income for the sector, since the cut was not passed on to consumers, whereas the State's revenues declined at a time of crisis.

(4) Not only for alcohol but also for other beverages and biscuits.

(5) Packages have been included in the consumption basket since 2014 in Belgium, 2015 in Germany and the Netherlands and 2016 in France.

in the sector therefore consider that the only way to maintain profitability is to make systematic adjustments to selling prices.

Apart from purchase costs and labour costs, some government measures have also had an impact on consumer prices. For instance, excise duties on beverages have risen more steeply in Belgium than in the neighbouring countries since 2008 (except for the excise duty on beer). However, owing to the relatively low weight of alcoholic beverages in the "restaurants and cafés" category, that rise had a limited effect over the period considered as a whole. In addition, the NAI estimated the proportion of undeclared business at 15 % in the hotels and catering trade. Thus, it is assumed that the compulsory introduction of the "white box" electronic cash register in 2016 – with a system for monitoring sales and the presence of staff – is influencing consumer prices, to make up for the lost profit margins<sup>(3)</sup>.

On 21 December 2015, the brewers, hotels and catering federations and the Belgian federation of beverage suppliers signed a code of conduct ending "brewery contracts". Many of those contracts specified a minimum quantity to be purchased at fixed prices<sup>(4)</sup>. This new code includes a rule prohibiting brewers or beverage suppliers from imposing selling prices, among other things. They can also no longer stipulate that selling prices must be approved. This could boost competition between establishments.

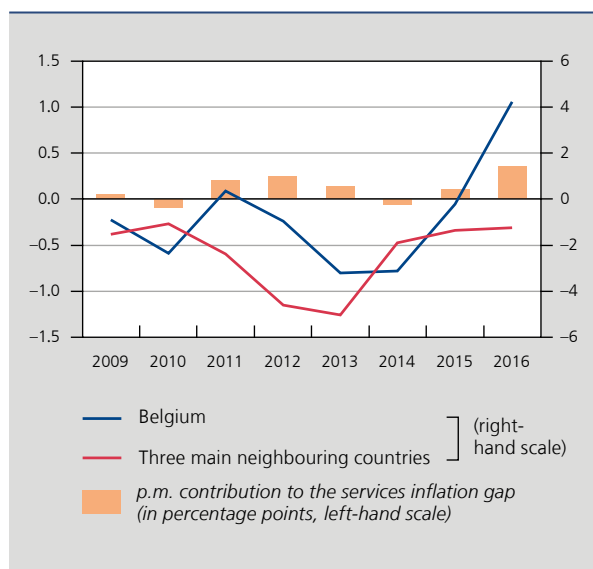
## 4.2 Telecommunications

On average over the period 2009-2016, telecommunications prices fell by 0.8 % in Belgium, whereas the decline averaged 2.4 % in the neighbouring countries. France recorded the biggest fall, on average, at 3.3 % (compared to a 1.9 % fall in Germany and the Netherlands). The weight of telecommunications in the total index for Belgium (6.5 %) is similar to that in the three neighbouring countries (6.7 %).

While prices of mobile telephony services in Belgium fell more sharply (–7.5 %) than in the main neighbouring countries, the prices of fixed telephony services (+3.9 %), internet access (+1.1 %) and – recently – packages in particular (+6.8 % in Belgium in 2016 compared to the previous year<sup>(5)</sup>) recorded bigger increases. In the Belgian index basket, packages represented 60 % of the telecommunications category in 2016, followed by mobile telephony (21 %). The inflation gap in telecommunications between Belgium and the three main neighbouring countries in 2016 is therefore attributable primarily to package prices.

**CHART 12 PRICE MOVEMENTS IN TELECOMMUNICATIONS**

(year-on-year change in the price index, in %, unless otherwise stated)



Source : EC.

The FPS Economy and the Federal Planning Bureau estimated that telecommunications inputs come mainly from the services of the branch itself (68 % of total inputs in Belgium, compared to 65 % in the Netherlands, 56 % in France and 52 % in Germany). The cost of these telecommunications supplies was calculated using the branch's domestic value added deflator<sup>(1)</sup>: in cumulative terms, that cost fell by 32.7 % in Belgium between 2008 and 2014. That deflator declined less steeply than in France (-42.2 %) but more sharply than in Germany (-28.9 %) and especially

the Netherlands (-5.9%). The movement in input prices thus tended to be to Belgium's advantage.

Unit labour costs calculated for the telecommunications branch on the basis of the national accounts<sup>(2)</sup> have fallen by a cumulative figure of 24.2 % in Belgium since 2008. Only Germany recorded a larger fall (-30.8 %). The reduction is less marked in France, while unit labour costs in the Netherlands actually increased. Once again, the movement in costs has tended to favour Belgium.

Various characteristics specific to the telecommunications branch may have played a role in the movement in prices of those services in Belgium.

Even if inflation rates are calculated according to the European harmonised index of consumer prices (permitting comparisons between countries), there are still significant differences from one country to another in the methods of calculating the index.

Belgium and Germany record the tariffs of the most frequently consumed products per profile and per provider, for instance in terms of quantity of calls (which Eurostat considers the "A" method, i.e. the most appropriate). Belgium also takes account of migration percentages from old to new tariffs. If tariff structures change, with a new, cheaper formula meeting a particular consumer profile in the index, that tariff is taken into account and the price index in Belgium therefore declines<sup>(3)</sup>. France and the

(1) On the basis of unpublished provisional estimates by the NAI, taking account of a new series of producer prices for deflating value added in telecommunications.  
 (2) In the case of Belgium, based on the new, still unpublished, estimate of the value added deflator in telecommunications for obtaining the volume of value added.  
 (3) In that way, quality improvements are taken into account in the index.

**TABLE 4 BREAKDOWN OF THE TELECOMMUNICATIONS PRICE INDEX, 2009-2016**

(year-on-year change in the price index<sup>(1)</sup>, in %)

|   | Belgium | Germany | France              | Netherlands         |
|---|---------|---------|---------------------|---------------------|
| Telecommunications <sup>(2)</sup> . . . . .   | -0.8    | -1.9    | -3.3                | -1.9                |
| Fixed telephony services . . . . .            | 3.9     | -       | 0.3 <sup>(3)</sup>  | 2.7 <sup>(3)</sup>  |
| Mobile telephony services . . . . .           | -7.5    | -       | -4.9 <sup>(3)</sup> | -4.1 <sup>(3)</sup> |
| Internet access . . . . .                     | 1.1     | -       | 0.2 <sup>(3)</sup>  | 0.5 <sup>(3)</sup>  |
| Packages (2015-2016) <sup>(4)</sup> . . . . . | 6.8     | -1.1    | -                   | 0.6                 |

Sources : CBS, DGS, EC, FPS Economy, INSEE.

(1) Annual average growth over the period 2009-2016.

(2) Includes devices and services.

(3) Movement calculated on the basis of the national price index.

(4) Change between 2015 and 2016. Packages have been included in the consumption basket since 2014 in Belgium, 2015 in Germany and the Netherlands and 2016 in France.

Netherlands take the cheapest tariffs per profile and per supplier (“B” method, i.e. the method that can be used if the “A” method is not feasible), which assumes a very high degree of consumer mobility towards the cheaper options. It is therefore possible that the adverse movement in prices is attributable partly to a difference of method in calculating the index.

Next to this, it is difficult to compare the levels of tariffs for telecommunications products between countries because they often include various additional services (e.g. cloud data storage or the provision of Wi-Fi home spots). In addition, according to the service providers, the quality of the fixed networks is not the same in Belgium as in the three main neighbouring countries, and that could also account for the price differences<sup>(1)</sup>.

The telecommunications sector is highly capital-intensive and requires substantial investment in capital goods in order to remain operational, innovative and competitive. Between 2013 and 2015, investment in tangible and intangible fixed assets accounted for around 20 % of the sector’s total turnover in Belgium<sup>(2)</sup>, while the European average was 16.6 % in 2015<sup>(3)</sup>. This high level of investment could be part of the reason for the less favourable movement in the prices of telecommunications services in Belgium, as these costs – aimed at improving the quality of the service<sup>(4)</sup> – are passed on to consumers.

There is greater competition on the mobile telephony market (where the market share of the virtual operators has risen sharply<sup>(5)</sup>). In that regard, the 2012 Law on telecommunications (concerning the internet, television, fixed telephony and mobile telephony) made numerous changes for consumers, aimed at facilitating the switch from one operator to another. The changes mainly

- (1) However, it should be noted that the cheapest internet subscriptions in Belgium, unlike those in the other countries, have limits on usage, which is driving consumers to opt for more expensive formulas offering unlimited usage.
- (2) Data from the BIPT, estimated on the basis of the eleven leading Belgian operators. The investment rates came to 19.7 % in 2013, 21.1 % in 2014 and 19.6 % in 2015 respectively.
- (3) Data from the ETNO (European Telecommunications Network Operators’ Association) and the BIPT.
- (4) In fact, on 10 January 2017 Telenet announced an increase in tariffs for some of its services in order to fund new investment in its network and thus respond better to its customers’ needs. Proximus also decided to raise the tariffs for some of its products on 1 January 2017, and at the beginning of the year announced a major investment project extending from 2017 to 2030, with the aim of accelerating the deployment of fibre optic in Belgium and hence enabling it to offer ultra-fast internet for its customers.
- (5) On the mobile telephony market, Proximus is a major player with a market share of around 40 % in 2015. Its two biggest competitors are Orange and Base (with 22 % and 16 % respectively). Virtual operators (the main ones being Telenet and Lycamobile) nevertheless account for over 20 % of the market. However, in 2016 Telenet took over Base Company, so that the market share of Base Company (and hence Telenet) will be higher in the years ahead.
- (6) According to the BIPT, the players currently operating on the residential market in service bundles are Proximus, Belgian Telecom, Billi, Cybernet, EDPnet, Orange Belgium, Scarlet, Schedom/Dommel, SFR, Telenet, TéléSat, TV Vlaanderen, United Telecom, and VOO.
- (7) The “Easy Switch” procedure will make it easier to change to a different fixed operator so long as the consumer at least has access to the internet or a television service. Thus, it will be the new operator and not the consumer who has to deal with the switching formalities (termination of services, cancellation, etc.). Among other things, this will shorten the period for which services are interrupted and limit the risk of double charging.

concerned abolition of the fees payable for terminating a permanent contract or terminating a fixed-term contract after the sixth month following its entry into effect. The Belgian market in fixed telecommunications (telephony, internet and television sold as separate products) looks rather like a duopoly, with Proximus on the one hand, and the cable operators (VOO, SFR and Telenet) on the other. The opening up of the cable networks in 2016 and access to the Proximus copper network were both intended to promote competition on that market. The number of providers is particularly small for triple play packages (internet, fixed telephony and digital television). Among the leading Belgian operators<sup>(6)</sup>, Proximus and Telenet are the two biggest players on the residential market for bundled services, each with a share of between 30 % and 40 % of the market in 2015.

Bundled services considerably reduce the mobility of Belgian consumers on the telecommunications market, and make it very difficult for genuine alternative operators to gain a foothold. As is evident from the low attrition rate of bundles combining three or four services (in 2014, 14 % and 3 % of households respectively cancelled their contracts), this consumer inertia could encourage the maintenance of high prices for these products, or even tariff increases. Following the liberalisation of cable in 2016 and the entry into force, in July 2017, of the new “Easy Switch” rules aimed at further stimulating customer mobility<sup>(7)</sup>, competition between the leading operators could intensify, and charging practices could be revised.

## Conclusions and possible recommendations

During the period 1998-2016, services inflation in Belgium averaged 2.1 %, compared to 1.7 % in the three main neighbouring countries. Since 2009, services have systematically made a positive contribution to the total inflation gap between Belgium and its three main neighbouring countries. Two categories play a decisive role in the inflation gap: restaurants and cafés, and telecommunications.

The movement in services prices can be linked to that in business activity by using the Phillips curve. Since 2014, however, services inflation in Belgium has exceeded the figures expected in the models. The wage moderation efforts of recent years seem to have had little impact on prices. Yet service production costs are largely determined by labour costs, which account for 34 %.

In recent years, regulated services, i.e. services for which the prices are determined directly or indirectly by the government, have made a substantial contribution to services

inflation. Since 2012, those prices have accounted for most of the inflation gap: before that, the gap was due mainly to prices in restaurants and cafés. In 2016, 93 % of the inflation gap in services between Belgium and its three main neighbouring countries was due to regulated services (38 %), telecommunications (29 %) and restaurants and cafés (26 %). The importance of the last two branches in that connection is all the more striking since their weight in the basket of services is 15.2 % and 6.5 % respectively, compared to 28 % for regulated services.

Prices of certain services are indexed on the basis of different indices, namely the health index and the total national index, but also according to specific indices (e.g. ABEX). Index-linked prices – which most commonly concern public services – tend to foster the persistence of services inflation.

The analysis of the functioning of the markets yields partial findings, mainly because of the limitations of the available indicators. Nonetheless, various indices point to weak competition in certain network services such as telecommunications. However, the opening up of the cable operators' network and the "Easy Switch" measure, intended to help consumers to choose the best offer, should encourage competition. In that regard, it is essential to provide information for consumers, though consumers also have a role to play in choosing the operator offering the service that best suits their profile. In regard to restaurants and cafés, competition operates at local rather than national level. The outlook in that branch is also

positive, with the cessation of brewery contracts for cafés. Nonetheless, it will take some time before the impact of those changes can be assessed.

Apart from regular monitoring of services inflation, it is essential to keep a closer watch on the degree of competition in service activities, e.g. with the aid of horizontal screening, in order to identify the branches where structural reforms are appropriate. A higher degree of competition prompts producers to rationalise their production processes, invest in new technologies to enhance productivity, and innovate in order to set themselves apart, and enables the most efficient firms to grow while the inefficient operators will leave the market: all these elements could benefit the customers via cheaper or better quality services. It is therefore vital to strike a balance in market regulation to ensure that the resulting benefits outweigh the associated costs.

Nonetheless, the prices of many services (or adjustments to those prices) are subject to government rules. Those regulations do not systematically specify a transparent methodology (geared to the movement in production costs, for example), and the prices are not always reviewed at regular intervals. More transparent pricing mechanisms, particularly with clearer rules on price increases at the level of the contracts or invoices for certain services (not only public services but also, for example, compulsory insurance contracts), would be a step in the right direction.



## Bibliography

Armstrong M. and J. Vickers (1993), "Price Discrimination, Competition and Regulation", *Journal of Industrial Economics*, 41(4), 335-59.

Aucremanne L., N. Cordemans, D. Cornille and M. Dossche (2010), "The inflation gap between Belgium and the three main neighbouring countries and likely repercussions on competitiveness", *NBB Economic Review*, December, 23-41.

Cavelaars P. (2002), *Does Competition Enhancement Have Permanent Inflation Effects?*, De Nederlandsche Bank Staff Reports.

Ciccarelli M. and C. Osbat (2017), *Low inflation in the euro area: causes and consequences*, ECB Occasional Paper Series 181, January.

Conway P., D. De Rosa, G. Nicoletti and F. Steiner (2006), *Regulation, Competition, and Productivity Convergence*, OECD Economics Department Working Paper 509.

Cornille D. and B. Robert (2005), "Sectoral interdependences and cost structure in the Belgian economy: an application for input-output tables", *NBB, Economic Review*, June, 33-48.

Druant M. (2005), "Pricing behaviour in the euro area: results of a Eurosystem survey", *NBB, Economic Review*, September, 85-92.

ECB (2001), *Price effects of regulatory reform in selected network industries*, March.

ECB (2002), "Price level convergence and competition in the euro area", *Monthly Bulletin*, August.

ECB (2003), "Recent developments in network industries", *Monthly Bulletin*, Box 4, November.

ECB (2004), "Measuring and analysing profit developments in the euro area", *Monthly Bulletin*, January.

ECB (2006), *Competition, productivity and prices in the euro area services sector*, ECB Occasional Paper 44, April.

ECB (2007), "Competition in and economic performance of the euro area services sector", *Monthly Bulletin*, May.

FPS Economy (2017), *Fonctionnement du marché en Belgium: screening horizontal des secteurs*, Price Observatory, February.

FPS Economy, NBB and FPB (2017), *Rapport annuel 2016 de l'Institut des comptes nationaux – Partie II – Analyse de l'inflation des services en Belgium*.

Janger J. and P. Schmidt-Dengler (2010), "The Relationship between Competition and Inflation", Oesterreichische Nationalbank, *Monetary Policy and the Economy Q1*.

Jonsson M. (2007), "Increased competition and inflation", *Sveriges Riksbank Economic Review*.

Przybyla M. and M. Roma (2005), *Does product market competition reduce inflation? Evidence from EU countries*, ECB Working Paper 453, March.

Thum-Thysen A. and E. Canton (2015), *Estimation of service sector mark-ups determined by structural reform indicators*, European Economy – Economic Papers 547, April.