Economic Review

December 2012

National Bank OF BELGIUM
Eurosystem

ISSN 1780-664X

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Economic projections for Belgium – Autumn 2012

Introduction

After the revival at the end of the great recession of 2008 and 2009, activity growth clearly began to run out of steam by the beginning of 2011, both in Belgium and in the euro area. This cyclical downturn is proving to be sharper and more prolonged than various national and international institutions, including the Bank, had predicted in the spring of 2012.

The fragile economic upturn seen in Belgium in the first quarter of this year did not herald a more sustained recovery. While the spring projections already pointed to a slowdown in the growth of activity in the ensuing months, output in fact contracted sharply. In relation to the first quarter, this decline was more marked in Belgium than in the euro area.

The further cyclical slowdown in 2012 came against the backdrop of the worsening crisis in the euro area. While there has undoubtedly been progress towards better governance and the correction of the macroeconomic imbalances, a final solution has yet to be found for what has now become an institutional crisis. That remains an important source of uncertainty concerning the external environment

Regarding the expenditure components of GDP in Belgium, the particularly sluggish domestic demand is striking. Thus, the volume of household expenditure, be it for private consumption or investment in housing, has been falling almost continuously quarter after quarter for quite some time. This decline is linked to the reduction in households' real disposable income over the past two years even though this was largely caused by the erosion of property incomes, for which households have partially compensated by cutting their average propensity to save. Furthermore, the uncertain national and international outlook may also depress household and business expenditure.

The autumn brought a further deterioration in the economic indicators and, above all, mounting pessimism over the outlook for employment. This gloom is being fuelled by a spate of announcements of closures or restructuring of mainly industrial companies, which will be accompanied by substantial job losses. Business leaders are mainly concerned about a slump in demand for their products. Those fears are attributable to the marked slowdown in activity during the closing months of 2012 on the main neighbouring export markets, especially Germany. In this context, it therefore seems highly likely that the Belgian economy will also continue to slacken pace, and that it will take a few more months before the business cycle turns around. The deterioration of the economic situation in 2012 and the relatively pessimistic estimate for the growth of activity in late 2012 and early 2013 are also weighing quite heavily on the annual growth forecast for 2013. Even if the economy recovers as expected in the spring of 2013, annual growth will still be very meagre.

The economic projections for 2013 discussed in this article were finalised as at 23 November 2012. They were drawn up on the basis of the Eurosystem's technical assumptions decided on 16 November, the main ones being described in the box in section 1. As usual in the case of these exercises, the projections for public finances presented in section 5 only take account of measures which have been – or are very likely to be – formally approved by the government and specified in sufficient detail at the cut-off date for the exercise.

In this connection, it was impossible to take account of the political agreement concluded on 20 November 2012 in relation to the federal government budget and the measures to restrain the rise in nominal wages, in the absence of precise, detailed information on those decisions. Therefore, in order to avoid presenting outdated figures, the estimates for public finances in this article do not go beyond 2012. The last section lists some of the risk factors surrounding these projections. Obviously, besides the great uncertainty about the international environment, the measures announced recently could also influence activity growth in 2013.

1. International environment and assumptions

The slowdown in global activity and trade during 2012 was more pronounced than had been expected in the spring. The advanced countries recorded only very modest growth, and some of them actually slumped back into recession. Activity growth was hampered by the continuing public and private sector debt reduction, the strict financial conditions prevailing in certain countries and the constant uncertainty due mainly to the euro crisis. Economic expansion equally slowed down in the emerging countries, owing to the combined effects of sluggish export markets and the loss of dynamism in domestic demand following the tightening of economic policies in 2011.

Global economic activity had gained momentum in early 2012, supported in particular by a number of temporary factors such as the restoration of global production chains after the floods which hit Thailand in the autumn of 2011, and an unusually mild winter in the northern hemisphere. More favourable sentiment was evident on the financial markets in the initial months of the year, thanks to the improvement in the economic climate combined with a series of monetary policy measures, such as the two special longer-term refinancing operations (three-year LTROs) conducted by the ECB.

Nonetheless, most markets were still operating far from normally, and in the second half of March the situation deteriorated again after a renewed flare-up of the euro crisis. The latter mainly concerned Spain, Italy and Greece, and long-term spreads on the government securities of those countries thus widened considerably in the spring. Tensions on those markets and the close link between public finances and banks' positions caused a growing fragmentation of credit conditions in the euro area, thus hindering the proper transmission of monetary policy in some euro area countries. Financial market confidence also deteriorated during the second quarter owing to the publication of weaker economic figures as a result of the disappearance of the temporary factors underpinning growth, and the rising cost of commodities at the beginning of 2012. Even countries which had previously recorded strong growth, such as Germany and the emerging countries, faced a slowdown and economic activity in the euro area contracted in the second quarter. The euro area crisis infected other regions via international trade, financial markets and confidence effects. Outside the euro area, however, several other factors inhibited growth, such as the impact of the measures to tighten economic policy introduced by China in 2011 and the incipient uncertainty over the future fiscal policy of the United States.

From the summer on, the euro area and other countries adopted a series of important economic policy measures in response to the growth slowdown and the persistence of the euro crisis. At the European summit at the end of June 2012, the heads of state or government of the euro area stressed the need to break the vicious circle of debt between banks and governments. They agreed to establish a common bank supervision mechanism. Once this mechanism is set up, the European Stability Mechanism (EMS) will be able to recapitalise banks directly, subject to certain conditions. According to the European Commission's proposals, the ECB will carry the ultimate responsibility for supervision. As regards the Eurosystem, the main key interest rates were initially cut by 25 basis points at the beginning of July. Then, at the end of that month, the ECB president announced that all necessary measures would be taken to protect the euro. That statement produced a significant announcement effect, triggering a narrowing of yield spreads and an appreciation of the euro.

Subsequently, the financial markets very warmly welcomed the ECB's decision at the beginning of September 2012 to permit Outright Monetary Transactions (OMTs) on sovereign debt secondary markets. Those transactions are intended to ensure the correct transmission of monetary policy and the uniformity of the policy signals. The fact that the German Constitutional Court did not object to the ratification of the ESM Treaty (the ESM finally becoming operational on 8 October) was also well received. Moreover, in September and October, policies pursued outside the euro area provided further support for the financial markets. The Federal Reserve, the Bank of England and the Bank of Japan decided to expand their programmes for the purchase of securities. The main emerging countries postponed or cancelled the tightening of economic policy which they had initially planned.

Economic growth stabilised at a low level in the third quarter, and the outlook remains very uncertain. The factors of uncertainty centre mainly on the further development of the euro area crisis, but also on the mounting concern over the situation regarding public finances in the United States. That concern is essentially due to the "fiscal cliff", the fiscal tightening that the US authorities will face in 2013 at unchanged policy, as certain tax cuts expire and increases in spending have to be curbed. Another major factor of uncertainty concerns the progress of activity in the emerging countries, and more particularly the risk of structurally weaker growth in those economies.

Commodity prices have fallen on average since the end of 2011, but there were divergences between the main commodity categories. Food commodity prices increased owing to disappointing harvests, while industrial commodity prices declined. In mid-November 2012, the price of Brent crude oil was much the same as at the end of 2011, at $ 108 per barrel. However, during the year the price fluctuated between $ 90 and $ 126, owing to cyclical and geopolitical factors.

Against this backdrop, the outlook for the growth of economic activity in 2012 and 2013 has been revised downwards in recent months for most economies. Growth is projected to slow down further in 2012, and a recovery is only expected in the course of 2013. The EC's autumn forecasts indicate moderate world GDP growth, amounting to 3.1 % in 2012 and 3.3 % in 2013. In 2012 in particular, growth is forecast to be considerably stronger in the United States and Japan than in the European Union and in the euro area, where negative growth of 0.3 and 0.4 % respectively is forecast. The weak link in global economic growth seems to be Europe in general, and the euro area in particular, although there are wide disparities between the Member States. In the main emerging countries, growth is also set to slacken in 2012 before picking up in 2013. While unemployment will continue to fall in the United States, in the European Union it will persist at a high level owing to the weak business climate, and could even increase further.

TABLE 1 PROJECTIONS FOR THE MAIN ECONOMIC REGIONS

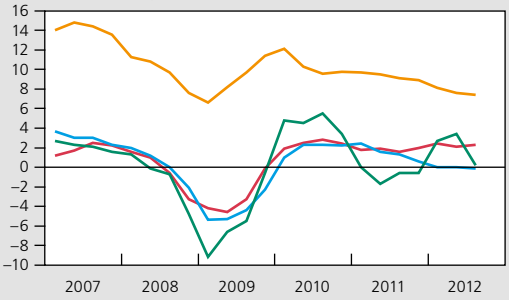
(percentage changes compared to the previous year, unless otherwise stated)

	2011	2012	2013
	Actual figures	Projections	
Real GDP			
World	3.8	3.1	3.3
of which:			
United States	1.8	2.1	2.3
Japan	–0.8	2.0	0.8
European Union	1.5	–0.3	0.4
China	9.2	7.7	7.7
India	7.2	5.0	5.8
Russia	4.3	3.7	3.9
Brazil	2.7	1.5	3.9
p.m. World imports	*7.7*	*3.5*	*4.3*
Inflation (1)			
United States	3.2	2.1	2.0
Japan	–0.3	–0.2	–0.1
European Union	3.1	2.7	2.0
China	5.4	3.0	3.0
Unemployment (2)			
United States	8.9	8.2	7.9
Japan	4.6	4.8	4.7
European Union	9.7	10.5	10.9

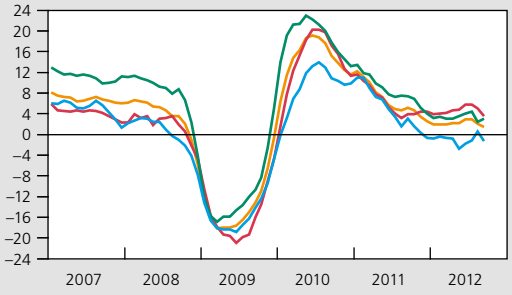
Sources: EC, IMF.
(1) Consumer price index.
(2) In % of the labour force.

CHART 1 GLOBAL CYCLICAL MOVEMENTS AND DEVELOPMENTS ON FINANCIAL AND COMMODITY MARKETS

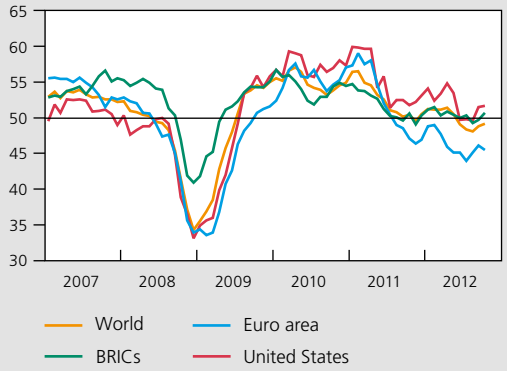
REAL GDP GROWTH
(quarterly data, % change compared to the corresponding quarter of the previous year)



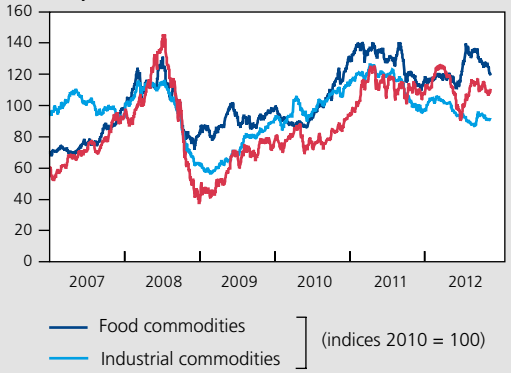
INTERNATIONAL TRADE
(3-month moving average of the volume of exports and imports, % change compared to the corresponding period of the previous year, seasonally adjusted data)



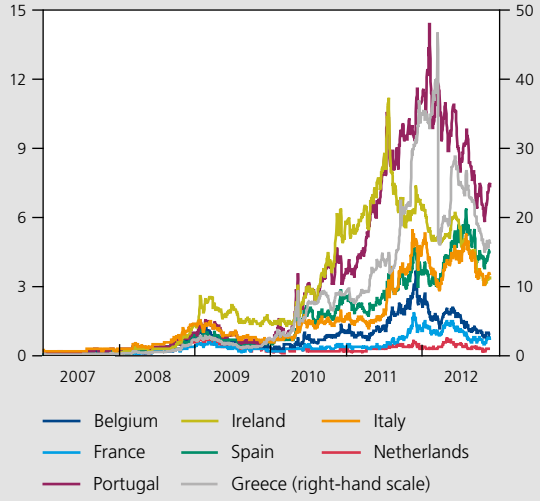
CONFIDENCE INDICATOR IN MANUFACTURING INDUSTRY (PMI SURVEY)
(monthly data)



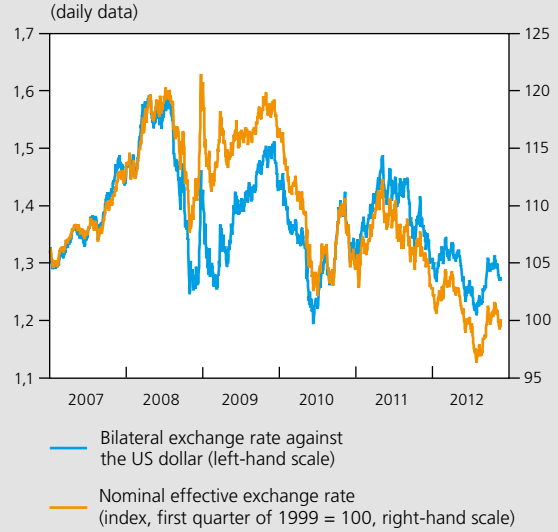
COMMODITY PRICES
(daily data in USD)



SPREADS ON TEN-YEAR GOVERNMENT BONDS IN RELATION TO THE GERMAN BUND
(daily data, in percentage points)



EURO EXCHANGE RATE
(daily data)



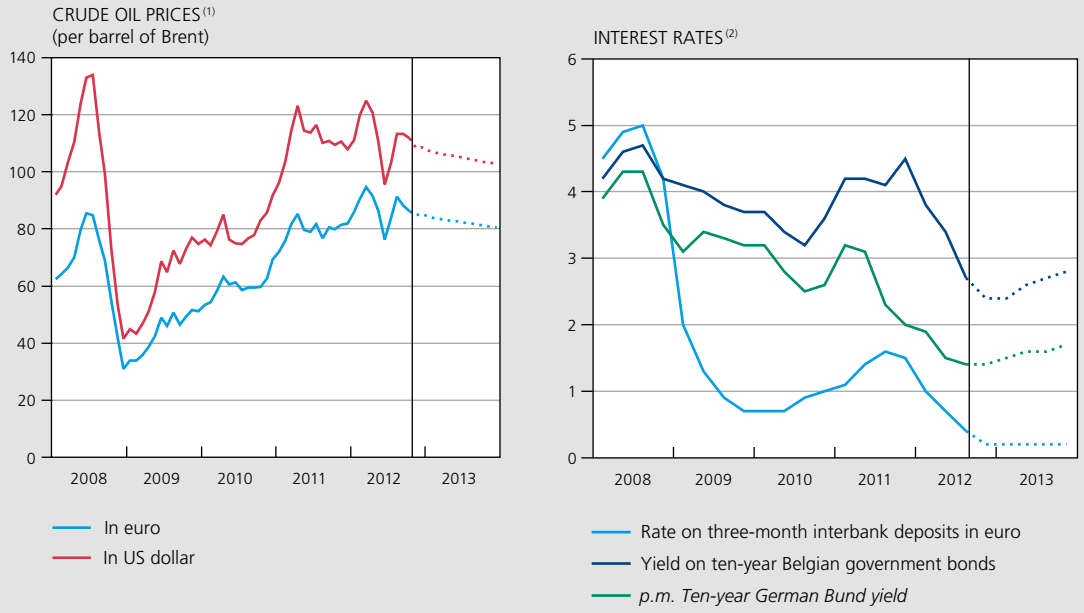
Source: Thomson Reuters Datastream.

Box – Projection assumptions

The economic projections for Belgium described in this article are part of the Eurosystem's joint exercise for the euro area. That exercise is based on a set of technical assumptions and forecasts for the international environment drawn up jointly by the participating institutions, namely the ECB and the national central banks of the euro area.

In particular, the projections are based on exchange rates held constant at the average levels recorded in the last ten working days before the cut-off date for the projections, in mid-November 2012. In the case of the US dollar, the exchange rate stood at $ 1.28 to the euro, which corresponds to the average for 2012.

ASSUMPTIONS CONCERNING OIL PRICES AND INTEREST RATES



Source: ECB.
(1) Actual figures up to mid-November 2012, assumptions from mid-November 2012.
(2) Actual figures up to the third quarter of 2012, assumptions from the fourth quarter of 2012.

In the case of oil prices, account is taken of market expectations as reflected in the forward contracts concluded on the international markets. In mid-November 2012, this indicator suggested a gradual decline in the price per barrel of Brent over the projection horizon, from $ 109.6 on average in the last quarter of 2012 to an average of $ 103.2 in the last quarter of 2013.

The interest rate assumptions are also based on market expectations in mid-November 2012. Three-month interbank deposit rates, which had fallen to an unusually low level of just 20 basis points in the last quarter of 2012, are projected to remain stable up to the last quarter of 2013. The average annual level of interest rates in the short-term segment of the market is therefore expected to fall further by around two-thirds compared to that in 2012.

The expected movement in rates charged by banks on business investment loans and private mortgage loans takes account of the transmission which usually occurs in relation to market interest rates. For the purpose of the Eurosystem projection exercise, the rates charged by each country's banks have been modelled as a function of the market rates to which they are most closely linked, and their projections are based on the ones for those benchmark rates.

Thus, it is evident that, since the start of the financial crisis (and more particularly the sovereign debt crisis), mortgage interest rates in Belgium have been greatly influenced by the Euribor ten-year swap rates rather than by government bond yields. The rates charged on corporate loans generally depend on shorter-term interest rates.

At the end of 2013, the long-term mortgage interest rate is predicted at 3.4 %, compared to 3.5 % in September 2012. The interest rate on short-term corporate loans would drop from 2.2 % to 2 %. The slight fall in these bank interest rates reflects the expected reduction in market interest rates up to the end of 2012 or even early 2013.

Another important assumption concerns the foreign markets relevant to Belgium. During 2012, imports by Belgium's trading partners decelerated sharply. Over the year as a whole, the export market volume is estimated to expand by barely 1.4 % (against 5 % in 2011). The decline is more marked for sales within the euro area – which is undoubtedly connected with the widespread slowdown in economic activity there – but is also affecting markets outside the euro area, though to a lesser extent. Export market growth is estimated at 2.2 % in 2013. The growth of Belgian exports depends not only on the expansion of those markets but also on the movement in market shares, and consequently Belgium's competitiveness. The evolution of prices charged by competitors on the export markets has an impact on Belgium's cost competitiveness. In that respect, the projections assume very modest price increases : in 2013, the prices charged by competitors on the export markets are forecast to rise by less than 2 %, well below the increase from 2011 to 2012.

Obviously, developments on the export markets relevant to Belgium are inextricably linked with global economic growth. The Eurosystem projections are based on two key assumptions in that respect. First, it is assumed that the budget negotiations in the United States will not derail the economic policy : the projections assume a renewal of

EUROSYSTEM PROJECTION ASSUMPTIONS

	2011	2012	2013
		(annual averages)	
Interest rate on three-month interbank deposits in euro	1.39	0.57	0.18
Yield on ten-year Belgian government bonds	4.2	3.1	2.6
EUR/USD exchange rate	1.39	1.28	1.28
Oil price (US dollars per barrel)	111.0	111.7	105.0
Mortgage interest rate	3.9	3.6	3.3
Corporate loan interest rate	2.8	2.2	1.9
		(percentage changes)	
Export markets relevant to Belgium	5.0	1.4	2.2
Competitors' export prices	4.2	4.0	1.8

Source : ECB.

around 60 % of the expiring tax cuts and expenditure increases. The tightening of US fiscal policy in early 2013 will therefore remain limited to around 1.6 % of GDP. The second assumption is that the current policy pursued in response to the euro crisis will continue up to the end of the projection horizon. That implies that the institutional problems will not be finally resolved, but also that there will be no serious adverse shock to confidence which could heavily affect economic activity in the euro area.

In view of the rapid deterioration in the business climate, the Eurosystem slashed its projections for GDP growth in the euro area. Following a marked contraction in economic activity in 2012, of between 0.4 and 0.6 %, real growth is projected to remain very weak in 2013. The growth estimate for that year actually ranges between –0.9 % and 0.3 %. Although the downward revision in the euro area growth projections is general, and also affects the countries whose economic activity has been least affected by the euro crisis, the estimates still diverge widely from one country to another. The countries that need to make more effort to consolidate their public finances and restore their competitiveness are also the ones likely to see an above-average decline in economic activity in 2013.

Inflation in the euro area is still forecast at an average of 2.5 % in 2012, but it is declining. This profile is mainly attributable to the movement in oil prices, which rose strongly in the first quarter before dropping back. Pressure originating from domestic costs – especially labour costs – remains under control. For 2013, the Eurosystem considers that, taking account of the assumed further decline in commodity prices, inflation should range between 1.1 and 2.1 %.

2. Activity and demand

At the beginning of 2012, there was every reason to believe that the economic slowdown had come to an end. Activity growth was surprisingly positive in the first quarter of the year, after stagnating in the second half of 2011. However, it was followed by an unusually steep decline in output in the second quarter, with the economy contracting by 0.5 % quarter-on-quarter. According to the NAI's initial estimates, growth was again zero in the third quarter. In addition, the economic climate clearly deteriorated again at the end of that quarter.

Taking account of this last factor, the Bank's new projections point to a fairly gloomy outlook for growth in the last quarter of 2012 and in early 2013. There are two reasons for this. First, several indicators, such as those concerning confidence in the manufacturing industry, show a marked cyclical slowdown in Belgium's neighbouring countries.

TABLE 2 EUROSYSTEM PROJECTIONS

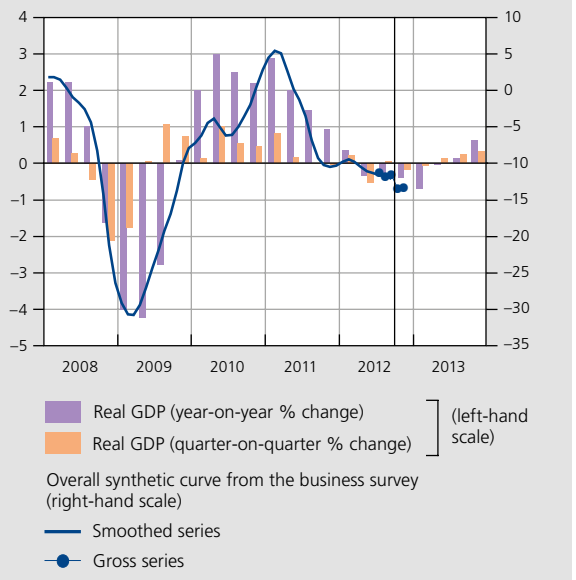
(percentage changes compared to the previous year)

	Euro area			*p.m. Belgium*		
	2011	2012	2013	*2011*	*2012*	*2013*
Inflation (HICP)	2.7	2.5 / 2.5	1.1 / 2.1	*3.5*	*2.6*	*1.6*
Real GDP	1.5	–0.6 / –0.4	–0.9 / 0.3	*1.8*	*–0.2*	*0.0*
of which:						
Private consumption	0.1	–1.2 / –1.0	–1.1 / –0.1	*0.2*	*–0.7*	*0.0*
Public consumption	–0.2	–0.6 / 0.2	–1.2 / 0.0	*0.8*	*0.5*	*1.5*
Investment	1.6	–4.2 / –3.4	–4.2 / –1.0	*4.1*	*–0.5*	*–1.3*
Exports	6.5	2.1 / 3.7	–0.4 / 5.0	*5.5*	*0.3*	*0.6*
Imports	4.3	–1.1 / 0.3	–1.7 / 3.7	*5.7*	*–0.2*	*0.4*

Sources: ECB, NBB.

CHART 2 GDP AND BUSINESS SURVEY INDICATOR

(data adjusted for seasonal and calendar effects, unless otherwise stated)



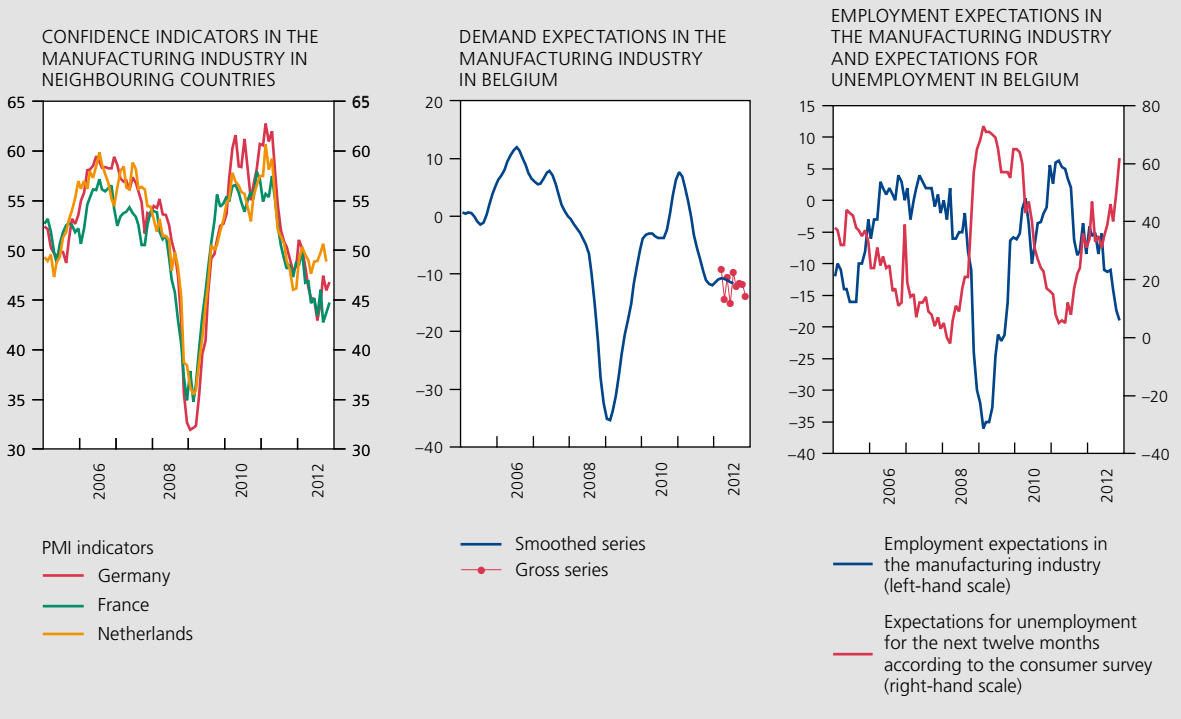
Sources: NAI, NBB.
(1) Seasonally adjusted data.

The weaker or even negative growth expected in the main trading partners will definitely affect Belgium's export performance. Second, the rapid deterioration in the outlook for employment appears to be causing further erosion of consumer confidence. That could curb household spending, *inter alia* because of an increase in precautionary saving.

Owing to the economic slowdown already apparent during 2012 and the further dip expected in the final quarter of the year, the new macroeconomic projections state that annual economic growth will be slightly negative at –0.2 % in 2012. However, 2013 should bring a gradual revival in economic activity. From the second quarter of the year, growth is expected to return to clearly positive territory. Nevertheless owing to the dip expected at the turn of the year, economic activity will remain very weak on an annual basis; the current projections indicate zero growth for 2013.

Regarding the components of expenditure, the contribution of net exports to growth in 2011 was negligible or even slightly negative, as import growth was closely matched by the increase in exports. For both components, that implies a marked deceleration compared to the growth recorded in 2010. In 2011,

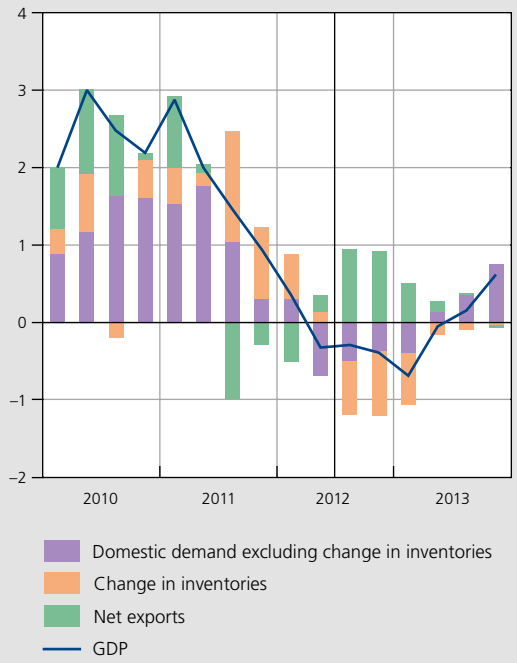
CHART 3 DETERIORATING OUTLOOK FOR ACTIVITY AND EMPLOYMENT



Sources: Markit Economics, NBB.

CHART 4 MAIN EXPENDITURE CATEGORIES

(contributions to annual GDP growth in percentage points; data adjusted for seasonal and calendar effects)



Sources: NAI, NBB.

the expansion of activity was therefore driven mainly by domestic demand. Although the contribution of domestic demand, apart from inventories, almost equalled the previous year's figure, its composition was very different. Whereas in 2010 domestic demand still originated almost exclusively from Belgian household expenditure, the growth of that spending had already fallen sharply during 2011. However, that fall was offset by the steep rise in business investment in particular. The change in inventories also contributed significantly to the growth of activity in 2011, accounting for almost 40 % of that growth. The reason for that phenomenon, which was also visible in other euro area countries, may be that the production process was slow to adjust to the deteriorating business climate during 2011.

As in 2009, the contribution of domestic expenditure to GDP growth is estimated to become negative in 2012: the fall in private consumption is expected to persist, while the expansion of investment will also be curbed by the deteriorating outlook for growth. That is likewise prompting firms to scale down their stock-building. Conversely, the contraction of activity is currently being moderated somewhat by the positive contribution from net exports, resulting from a small rise in exports combined with a similarly minor fall in imports.

The still relatively favourable export growth compared to the other expenditure components is due essentially to the fact that the business climate in Belgium's main export markets began to deteriorate primarily towards the end of the year. An example is the German economy, which was still recording solid growth rates until the third quarter of 2012. According to provisional foreign trade figures, exporters increased the volume of their turnover on foreign markets in the first three quarters of 2012. Although exports are likely to have fallen in the final quarter of 2012, year-on-year growth would remain slightly positive even though the export markets relevant to Belgium have grown considerably more slowly than in 2011. As stated in the box, those markets expanded by 1.4 %, still outpacing Belgium's export growth. This means that Belgian exporters once again lost market share. According to the common assumptions for the Eurosystem projections, export markets should expand a little more strongly in 2013 as a result of the gradual economic revival, which will support exports. According to the Bank's projections, however, export growth will again lag behind the expansion of the markets as a result of further losses of market share.

Household expenditure is forecast to continue falling in both 2012 and 2013. According to the Bank's estimates, real private consumption will continue to be eroded during the rest of the year, following the steep fall in the first half of 2012. On an annual basis, it will decline by 0.7 %. This fall is much steeper and more protracted than the one at the start of the great recession of 2008 and 2009, when real household consumption continued to rise on an annual basis. Moreover, the decline exceeds the fall in households' real disposable income. In 2011, the savings ratio hit a historically low level for Belgium; households are expected to increase that ratio again as a consequence of the uncertainty about the outlook for employment, in particular, and more generally, their purchasing power in the immediate future. According to the Bank's estimates, the real disposable income of households should increase again in 2013, for the first time in three years. However, that increase will not be supported by labour incomes, which will continue to fall slightly in real terms. It will be attributable solely to a rise in other incomes, such as those derived from property. Since such incomes are saved to a relatively greater extent, it could explain why – together with the uncertainty which is likely to continue depressing consumption until early 2013 – private consumption is expected to lag behind household disposable income, and why real consumption will likely remain roughly unchanged in 2013.

TABLE 3 GDP AND MAIN EXPENDITURE CATEGORIES IN CHAINED EURO, REFERENCE YEAR 2010

(percentage changes compared to the previous year, calendar adjusted data)

	2009	2010	2011	2012 e	2013 e
Final consumption expenditure of households and NPIs	0.6	2.7	0.2	–0.7	0.0
p.m. Real gross disposable income (1)	*2.8*	*–1.2*	*–0.8*	*–0.2*	*1.0*
Savings ratio	*18.3*	*15.4*	*14.4*	*14.9*	*15.7*
Consumption expenditure of general government	1.9	0.7	0.8	0.5	1.5
Gross fixed capital formation	–8.4	–1.4	4.1	–0.5	–1.3
Housing	–8.6	3.1	–5.3	–2.9	–1.6
General government	9.7	–3.1	5.3	1.9	–5.1
Enterprises	–10.2	–3.2	8.6	0.3	–0.6
p.m. Domestic expenditure excluding change in inventories (3)	*–1.1*	*1.3*	*1.1*	*–0.4*	*0.1*
Change in inventories (3)	–1.0	0.3	0.7	–0.2	–0.2
Net exports of goods and services (1)	–0.6	0.7	–0.1	0.4	0.2
Exports of goods and services	–11.1	9.6	5.5	0.3	0.6
Imports of goods and services	–10.6	8.9	5.7	–0.2	0.4
GDP	–2.7	2.4	1.8	–0.2	0.0

Sources: NAI, NBB.

(1) Gross data.

(2) In % of gross disposable income in the broad sense, i.e. including the change in households' entitlements to additional pensions accruing in the context of an occupational activity.

(3) Contribution to the change in GDP.

The decline in household spending also concerns investment in housing, which is similarly following a clear downward trend, after having been fostered temporarily in 2010 by the federal government's stimulus policy, particularly via a targeted cut in VAT. Since then, investment has fallen quarter after quarter, except in the first quarter of 2012, despite the historically low levels of interest rates on mortgage loans. Apart from the reduction in household disposable income and the uncertainty, credit restrictions may also be a contributory factor. In that respect, the Bank Lending Survey indicates that financial institutions have already tightened their mortgage lending criteria in the second and third quarters of 2012, and that they will probably do so again in the final quarter. According to the Bank's estimates, modest positive growth in housing investment will probably not be seen until some time in 2013. On an annual basis, real housing investment will therefore continue to decline in 2012 and 2013.

According to the Bank's estimates, business investment will have fallen in the second half of 2012 owing to the deteriorating demand outlook. The capacity utilisation rate in the manufacturing industry, for instance, has fallen sharply since 2011 and the propensity for business investment has apparently suffered as a result of the slowdown in activity. The tightening of lending criteria may also be a factor here, as suggested by the findings of the Bank Lending Survey. Nonetheless, as a result of the strong growth in 2011, which persisted in the first quarter of 2012, the year-on-year growth in real business investment will still be slightly positive in 2012. Owing to the decline which set in during 2012, however, annual growth will be slightly negative in 2013 despite the revival expected around the middle of the year.

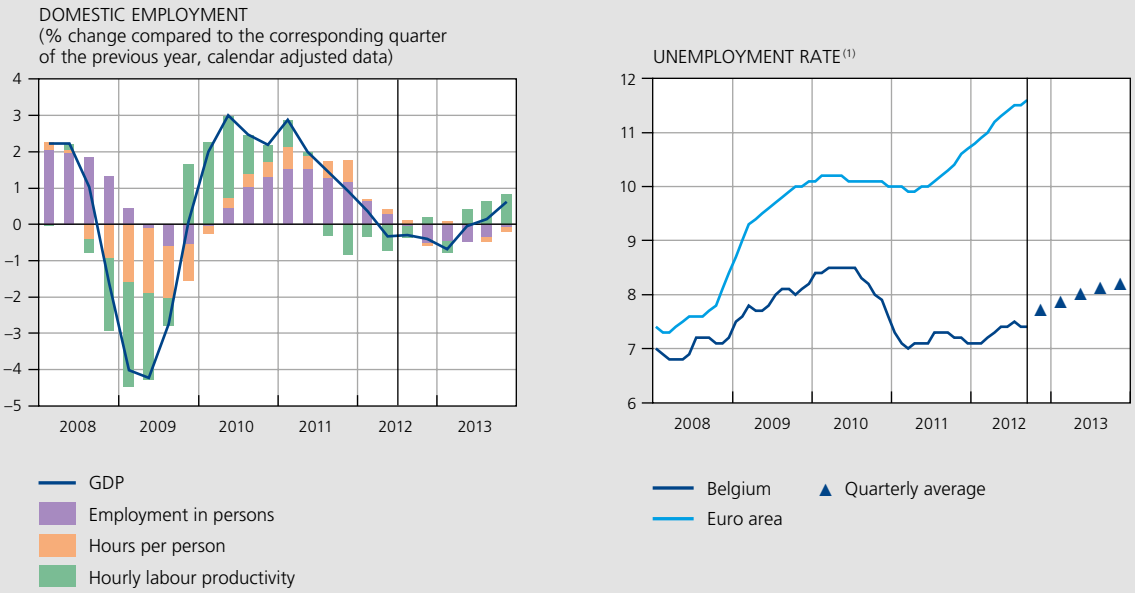
Notwithstanding the consolidation efforts, public spending will continue to support activity growth in 2012. The growth of public consumption will only fall slightly, while public investment will record a higher growth in real terms, as is usual in a local election year.

Overall, year-on-year growth of domestic demand should be modest in 2013. The growth contribution of net exports will likewise be small but positive. In fact, owing to the weakness of domestic demand, imports will rise less than exports.

3. Employment

The less favourable outlook for economic activity also implies a downward revision in the employment projections.

CHART 5 EMPLOYMENT



Sources: EC, NAI, NEO, NBB.
(1) Harmonised unemployment rate in % of the labour force.

On an annual basis, the volume of labour will remain relatively constant in 2012 but is expected to fall in 2013. In contrast to what happened in 2008 and 2009, average working time will absorb the cyclical fluctuations to a lesser extent. The contraction of the labour volume will therefore be more rapidly translated in job losses. Domestic employment, which amounted to 4 562 000 workers at the end of 2011, will fall by 23 000 units by the end of 2012, and will continue to decline in 2013. That fall is due to the underlying trend in paid employment and in the number of self-employed workers.

With regard to employees, the branches of activity sensitive to the business cycle are likely to suffer most from job losses. Employment in general government and education will also contract slightly in both 2012 and 2013. "Other services" form the only branch which could still record positive growth of employees. However, that growth will be insufficient to compensate for losses in other branches in both 2012 and 2013.

Apart from the economic climate, another factor influencing the pattern of paid employment is the change in job creation attributable to programmes which reduce the labour costs of certain target groups, notably via subsidies. Service vouchers will become more expensive, and will be more closely controlled; together with a saturation effect, that presages slower growth in 2013. Similarly, the number of workers benefiting from the Activa "win-win" programme is falling significantly owing to the termination of the scheme on 31 December 2011. For some of those workers, that means a return to unemployment. Another factor explaining the increased impact on employment of the weakening of economic activity is the ending of the crisis measures even though the temporary unemployment scheme for white-collar workers, for instance, has become permanent since January 2012. Moreover, employers making large-scale use of this scheme have been required to pay an accountability contribution since 2012, which will potentially make them slower to resort to this instrument, or encourage them to use it for shorter periods.

In 2012, the decline in employment has been curbed somewhat by a small rise in the number of self-employed persons (up by an average of 5 500). In 2013, that growth will probably continue to weaken against the backdrop of a deteriorating business climate, but should remain positive. Incidentally, that was also the case at the time of the great recession of 2008 and 2009. At that time, the expansion was fostered by institutional factors, such as the transitional rules on the free movement of persons applicable to countries joining the EU in 2004. Abolished in 2009, these rules – which aimed to protect the labour markets of the old EU Member States from a supply

TABLE 4 LABOUR SUPPLY AND DEMAND

(calendar adjusted data, annual averages, unless otherwise stated)

	2008	2009	2010	2011	2012 e	2013 e
			(% change)			
GDP	1.0	–2.7	2.4	1.8	–0.2	0.0
Volume of labour	1.5	–1.6	0.9	1.9	0.1	–0.4
Domestic employment in persons	1.8	–0.2	0.7	1.4	0.1	–0.3
			(change in thousands of persons)			
Domestic employment	78.7	–8.8	30.8	61.6	4.6	–14.9
p.m. Change during the year[1]	*58.8*	*–24.3*	*58.9*	*53.1*	*–23.1*	*–3.3*
Employees	68.7	–13.3	25.0	52.0	–1.0	–17.1
of which:						
Branches sensitive to the business cycle	46.0	–38.1	3.4	34.5	–10.2	–27.0
General government and education	9.9	13.8	6.7	0.8	–2.8	–2.3
Other services	12.8	11.0	14.9	16.8	12.0	12.2
Self-employed persons	10.0	4.5	5.8	9.6	5.5	2.2
Frontier workers	0.5	1.1	0.5	–2.3	–0.4	0.0
Total employment	79.2	–7.7	31.3	59.3	4.2	–14.9
Unemployed job-seekers	–25.7	50.6	13.7	–19.8	16.6	45.4
p.m. Change during the year[1]	*–5.0*	*59.8*	*–10.0*	*–11.1*	*33.8*	*41.1*
Labour force	53.4	42.9	45.0	39.5	20.8	30.6
p.m. Harmonised activity rate[2]	*67.1*	*66.9*	*67.7*	*66.7*	*66.8*	*67.0*
Harmonised employment rate[3]	*68.0*	*67.1*	*67.6*	*67.3*	*67.1*	*66.6*
Harmonised unemployment rate[4]	*7.0*	*8.0*	*8.4*	*7.2*	*7.5*	*8.1*

Sources: EC, NAI, NEO, NBB.
(1) Difference between the fourth quarter of the year concerned and the fourth quarter of the previous year.
(2) Percentages of the population of working age (15-64 years), non calendar adjusted data.
(3) Percentages of the population of working age (20-64 years).
(4) Percentages of the labour force (15-64 years), non calendar adjusted data.

shock – were in fact commonly circumvented by persons setting up businesses on a self-employed basis, that status not being covered by the transition arrangements. Up to 31 December 2013, a similar measure applies to nationals of Romania and Bulgaria, countries which joined the EU in 2007.

The recent reforms concerning unemployment and early retirement are strongly geared towards increasing the incentives to find a (new) job as quickly as possible and remain active for longer on the labour market. In the short term, owing to the slowdown in economic activity and the decline in demand for labour, it will not be possible to absorb the expansion of the labour force, so that unemployment will increase. Moreover, unemployment has been rising since the end of 2011, and is approaching 580 000 persons at the end of 2012. That figure will rise further in 2013. In the 15-64 age group, the unemployment rate, which stood at 7.4 % in the second quarter of 2012, is thus forecast to rise to an average of 8.1 % in 2013.

4. Prices and costs

According to the current projections, consumer price inflation measured by the HICP is estimated at 2.6 % in 2012 – compared to 2.5 % in the euro area – and 1.6 % in 2013. Having exceeded 3 % throughout 2011 – at an average of 3.5 % – the rise in prices remained below that figure from April 2012 on, and should actually drop below 2 % by the beginning of 2013.

The deceleration is due primarily to energy prices which, after a 17 % surge in 2011, are estimated to have risen by

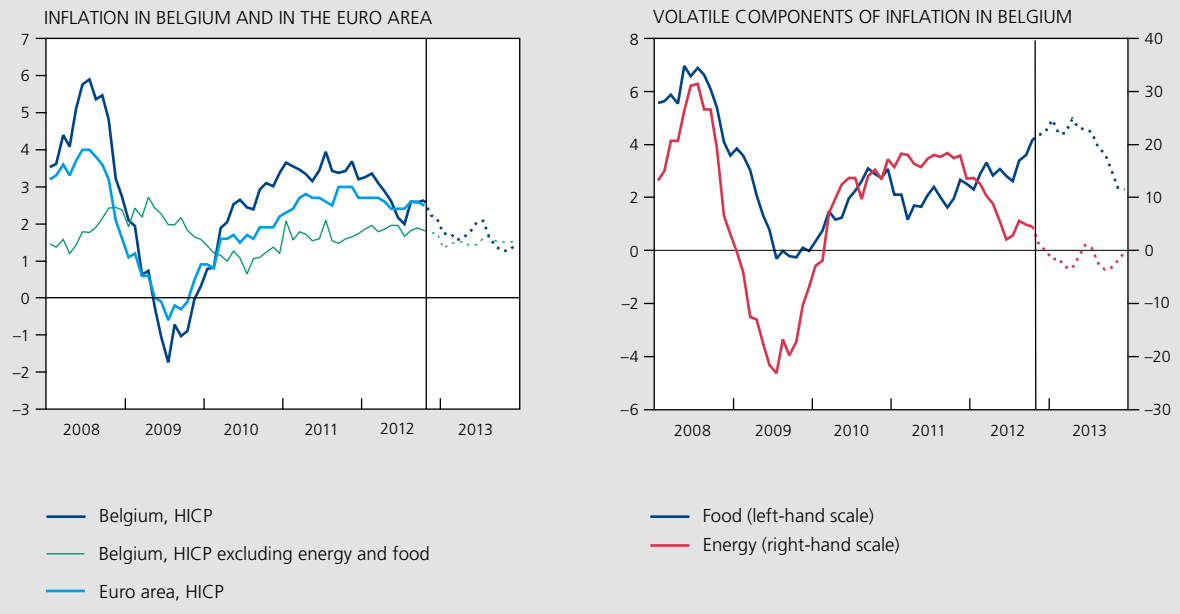
5.9 % on average in 2012. This is mainly attributable to oil prices on the international markets and to the behaviour of the euro in relation to the dollar. In fact, in 2012, the price per barrel of Brent initially continued rising to peak at $ 125 per barrel in March (monthly average), before falling for a brief period, to reach a low point of $ 96 per barrel in June. Since then, the price has risen again so that the 2012 average will be similar to that for 2011 : current projections put the price at $ 112 in 2012 compared to $ 111 in 2011. At the same time, the euro depreciated against the dollar during 2012, dropping to a low point of $ 1.23 in July before recovering quite strongly so that, as an annual average, the euro/dollar exchange rate is estimated at 1.28 compared to 1.39 in 2011. The steadily high price of Brent combined with a weaker euro means that oil prices in euro are higher in 2012 than in 2011, although the rate of increase has been lower than a year ago. In 2013, energy prices should fall year-on-year except during June and July, owing to a base effect caused by the drop in oil prices in the spring of 2012. The effect on inflation of freezing the indexation of gas and electricity prices until the end of 2012 is likely to be limited, and is estimated at –0.1 percentage point on overall inflation measured by the HICP in 2012.

After having benefited from favourable supply conditions in 2011, unprocessed food prices gathered pace in 2012, a year in which the average increase is put at 3.5 %, against merely 0.2 % in 2011. Local weather conditions were particularly unfavourable for fruit and vegetables in the spring and summer of 2012, while supplies of some types of fish were less plentiful than usual. These price increases will continue to influence year-on-year inflation in 2013. Thus, prices of unprocessed food are expected to rise by an average of 3.6 % over that year. The pace of the annual average increase in the price of processed food was stable in 2012 at 3.2 %, against 3.1 % in 2011. However, the 2012 figure conceals a compensation effect between the slower pace of price increases in the second quarter and the steeper rise from August onwards, reflecting a new surge in world prices of food commodities, due partly to the drought in the United States. That acceleration is likely to persist in the first half of 2013, peaking at 4.9 % in April. On average, processed food prices will thus rise by 4.1 % in 2013.

The increases in indirect taxes on services and the price rises in the communications sector in January 2012 account for much of the acceleration in underlying inflation in 2012, with an average figure forecast at 1.8 % compared to 1.7 % in 2011. In 2013, the underlying trend will cease to be influenced by these factors and should decelerate from January on, reverting to an average of 1.5 % for the whole year.

CHART 6 INFLATION

(HICP, % change compared to the corresponding period of the previous year)



Sources : EC, NBB.

TABLE 5 PRICE AND COST INDICATORS

(% change compared to the previous year, unless otherwise stated)

	2009	2010	2011	2012 e	2013 e
HICP	0.0	2.3	3.5	2.6	1.6
Health index	0.6	1.7	3.1	2.6	1.7
Underlying inflation trend[1]	2.1	1.1	1.7	1.8	1.5
GDP deflator	1.2	2.0	2.0	2.1	1.9
Labour costs in the private sector					
Labour costs per hour worked	2.7	0.9	2.3	3.2	2.0
of which indexation	2.5	0.5	2.7	2.8	2.0
Labour productivity[2]	–1.1	1.5	0.0	–0.5	0.3
Unit labour costs	3.8	–0.6	2.2	3.7	1.8

Sources: EC; NAI; FPS Employment Labour and Social Dialogue; NBB.
(1) Measured by the HICP excluding food and energy.
(2) Real value added per hour worked by employees and self-employed workers.

After having already risen by 2.2 % in 2011, unit labour costs in the private sector are set to accelerate to 3.7 % in 2012. This increase, which outpaces the rise expected for Belgium's three main partners, namely Germany, France and the Netherlands, is damaging the competitiveness of Belgian producers. Nonetheless, according to the assumptions adopted, and given the economic climate, the rate of progression of unit labour costs should subside to 1.8 % in 2013.

This evolution is favourably influenced by the slight improvement in labour productivity gains in 2013, which were adversely affected by the slowdown in activity at the end of 2011, and especially in 2012. However, the movement in hourly labour costs also has a major impact: having risen by 2.3 % in 2011 and 3.2 % in 2012, hourly labour costs in the private sector should increase by only 2.0 % in 2013. These developments largely reflect those of wage indexation. After having risen by 3.1 % in 2011, the health index, which is used as the reference for wage indexation, is projected to rise by 2.6 % in 2012 and 1.7 % in 2013. Taking account of the time lags inherent in the indexation mechanisms in the various joint committees, the effects of the automatic wage adjustment are likely to remain considerable in 2012, even though inflation began to ease this year. In 2013, there will be a more noticeable decline in the impact of indexation. Apart from indexation, the assumption on hourly labour costs in the private sector allows for a 0.2 % increase in negotiated wages which is in line with observed developments for the first three quarters of 2012. That is slightly below the maximum increase of 0.3 % for negotiated wages, specified by the draft central agreement for 2011-2012 imposed by the government. The other wage-setting factors should have a neutral impact in 2012, and then become negative in 2013, particularly as a result of lower bonuses. The assumption concerning the movement in hourly labour costs in the private sector in 2013 is based mainly on the expected outcome of indexation. In fact, taking account of the movement in labour costs in relation to neighbouring countries and a still sluggish economy, it was considered that real increases would remain limited.

5. Public finances

According to the information available on the projection cut-off date, public finances should end the year 2012 with a deficit of 2.8 % of GDP, which is 0.9 percentage point below the figure for the previous year[1]. The target set in the last stability programme will therefore be achieved, cutting the deficit below 3 % of GDP in 2012 in accordance with the Ecofin Council's recommendations.

The marked improvement in the overall balance in 2012 is due to a 1.7 percentage points increase in revenue, concerning all categories and resulting primarily from the consolidation measures initiated by the federal government formed in December 2011. The effect of the structural measures, such as the harmonisation of tax rates on income from movable property or the limitation to 3 % of the interest rate taken as the reference for calculating

(1) This estimate is based on the assumption that the planned increase in Dexia's capital by the government can be regarded as a purely financial transaction. According to Eurostat's preliminary view on the subject – after the finalisation of the projections – that transaction should be recorded as a capital transfer.

TABLE 6 GENERAL GOVERNMENT ACCOUNTS[1]
(in % of GDP)

	2010	2011	2012 e
Revenue	48.6	49.4	51.1
Fiscal and parafiscal revenue	43.1	43.5	44.8
Other	5.5	6.0	6.4
Primary expenditure	49.0	49.8	50.5
Primary balance	–0.4	–0.4	0.6
Interest charges	3.4	3.3	3.4
Financing requirement (–) or capacity	–3.8	–3.7	–2.8
p.m. Effect of non-recurrent factors	*0.0*	*–0.1*	*0.3*
Consolidated gross debt	95.5	97.8	100.6

Sources: NAI, NBB.
(1) According to the methodology used in the excessive deficit procedure.

the risk capital tax allowance, is supplemented by the impact of temporary measures or factors, such as the postponement of the nuclear rent from 2011 to 2012. The increased share of wages in value added also bolstered the rise in the proceeds of personal income tax and social security contributions. Non-fiscal and non-parafiscal revenues were boosted by the increase in revenues collected from financial institutions and by the reimbursement by bpost of subsidies unduly paid out to them between 2006 and 2010, and by bringing forward the collection of the anticipatory advance levy on life insurance. Altogether, the temporary factors generated revenue amounting to 0.3 % of GDP in 2012.

Primary expenditure is estimated to rise by 0.7 percentage point of GDP in 2012, to reach a historically high level. The main source of this rise is the increase in social benefits, particularly pensions, health care and sickness and disability benefits. Interest charges will have risen somewhat in 2012, as the slight reduction in the implicit interest rate on the public debt did not offset the impact of the increase in the debt.

Public debt will exceed 100 % of GDP from 2012 on, owing to the recapitalisation of Dexia, loans to Greece, Ireland and Portugal, and the first capital contributions to the European Stability Mechanism.

6. Risk assessment

The projections described in this article were produced in a context of great uncertainty. The main reason for that is to be found in external developments, as is often the case in regard to Belgium's economic forecasts. Here it should be noted that the projections presented in this article are based on the assumption of a gradual, moderate revival in activity in the main partner countries. In particular, that presupposes the absence of major shocks which could destabilise the financial markets and the state of public finances in the euro area. Similarly, it is assumed that the negotiations which have begun in the United States in order to resolve the problem of the fiscal cliff will not lead to a political deadlock comparable to the one observed in the summer of 2011. However, if world growth were to exceed current expectations, Belgium's growth in 2013 could prove considerably better than in the projections described above.

On the domestic level, the projections take no account of the recent decisions by the federal government, announced in the political agreement of 20 November 2012. As regards the 2013 budget, this wioud pertain to a consolidation effort amounting to € 3.4 billion, or 0.9 % of GDP, according to the government. First, there will be a structural increase in tax revenues of more than € 1 billion. This includes a substantial increase in the withholding tax on income from movable property, from 21 % to 25 %, with restoration of the discharge of this income for the final tax declaration, and a new ceiling on the reference interest rate used to calculate the risk capital allowance in corporation taxes. Next, according to the federal government's calculations, the primary expenditure of the federal departments and social security would be cut by almost € 1.4 billion compared to the Monitoring Committee's estimates in October 2012. These savings will essentially concern health care, expenditure on national defence and development cooperation, and subsidies to the SNCB group and bpost. Finally, other miscellaneous measures corresponding to a total of € 1.3 billion have also been announced, including the sale of licences and emission allowances and, above all, increased revenues expected from measures to combat fraud and a new regularisation of taxes on undeclared income. A limited amount of around € 300 million in 2013 will nevertheless be devoted to a further tax cut on low incomes.

In addition, the federal government announced initiatives aimed at curbing nominal wage increases in the coming years, thus enhancing the competitiveness of the Belgian economy. On the one hand, the composition of the consumer price index will be modified to be more closely aligned on the actual consumption pattern, which implies

taking account of periods of sales and changes in prices of major retailers' own brands. On the other hand, the government would make sure that, apart from the wage drift, there will be no increase in real wages in 2013 and 2014.

As the exact details of these fiscal and other measures were not known at the projection cut-off date, it was not possible to take them into account. Without prejudice to the results of a more detailed analysis, it is already possible to assess the extent to which those decisions could influence the macroeconomic outlook. As regards wage increases, the projections for 2013 already take account of zero growth beyond indexation and the wage drift, as stated above. The estimates described above are therefore in line with the measure announced by the government. Regarding the revision of the composition of the consumer price index, the details regarding the application of that measure had not been clearly specified when this article was being written. The consolidation measures should lead to a slight reduction in households' disposable income, increase the price of certain consumer products and erode firms' profit margins. Overall, however, these measures are likely to have only a minor impact on the growth of activity in 2013.

Regarding public finances, the 2013 budget is still based on the growth assumption in the September 2012 Economic Budget. The growth estimate presented in this article is considerably lower. Furthermore, the consolidation effort announced by the federal government falls short of the fiscal consolidation proposed by the Monitoring Committee for general government. It was assumed that a significant part of that effort has yet to be made by Entity II (i.e. the Communities, Regions and local authorities), in addition to the fiscal measures that this Entity has already announced. Thus, according to the current projections, it seems likely that – even taking account of the latest decisions by the federal government – the budgetary target set for 2013 under the previous stability programme, namely a deficit of 2.15 % of GDP, will not be achieved.

Annex

PROJECTIONS FOR THE BELGIAN ECONOMY: SUMMARY OF THE MAIN RESULTS

(percentage changes compared to the previous year, unless otherwise stated)

	2009	2010	2011	2012 e	2013 e
Growth (calendar adjusted data)					
GDP in volume	–2.7	2.4	1.8	–0.2	0.0
Contributions to growth:					
Domestic expenditure, excluding change in inventories	–1.1	1.3	1.1	–0.4	0.1
Net exports of goods and services	–0.6	0.7	–0.1	0.4	0.2
Change in inventories	–1.0	0.3	0.7	–0.2	–0.2
Prices and costs					
Harmonised index of consumer prices	0.0	2.3	3.5	2.6	1.6
Health index	0.6	1.7	3.1	2.6	1.7
GDP deflator	1.2	2.0	2.0	2.1	1.9
Terms of trade	3.4	–1.6	–1.3	–0.1	0.1
Unit labour costs in the private sector	3.8	–0.6	2.2	3.7	1.8
Hourly labour costs in the private sector	2.7	0.9	2.3	3.2	2.0
Hourly productivity in the private sector	–1.1	1.5	0.0	–0.5	0.3
Labour market					
Domestic employment (average annual change in thousands of persons)	–8.8	30.8	61.6	4.6	–14.9
p.m. Change during the year, in thousands of persons (1)	*–24.3*	*58.9*	*53.1*	*–23.1*	*–3.3*
Total volume of labour (2)	–1.6	0.9	1.9	0.1	–0.4
Harmonised unemployment rate (3) (in % of the labour force)	7.9	8.3	7.2	7.4	8.1
Incomes					
Real disposable income of individuals	2.8	–1.2	–0.8	–0.2	1.0
Savings ratio of individuals (in % of disposable income)	18.3	15.4	14.4	14.9	15.7
Public finances (4)					
Overall balance (in % of GDP)	–5.5	–3.8	–3.7	–2.8	n.
Primary balance (in % of GDP)	–1.9	–0.4	–0.4	0.6	n.
Public debt (in % of GDP)	95.7	95.5	97.8	100.6	n.
Current account (according to the balance of payments, in % of GDP)	**–1.4**	**1.9**	**–1.4**	**–0.9**	**–0.9**

Sources: EC, DGSEI, NAI, NBB.

(1) Difference between the fourth quarter of the year concerned and the fourth quarter of the previous year.

(2) Total number of hours worked in the economy.

(3) In % of the labour force (people of 15 years or older), non calendar adjusted data.

(4) According to the methodology used in the excessive deficit procedure (EDP).

Labour market integration of the population of foreign origin

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H. Zimmer(*)

Introduction

The question of the labour market integration of the population of foreign origin is particularly important in Belgium. Immigrants make up 14 % of the resident population – one of the highest proportions for any EU country. While the employment rate of European immigrants is close to that of persons born in Belgium, the figure for non-European immigrants is much less and the lowest of all Member States.

In our analysis, a person's origin is determined by the country of birth, not nationality, owing to the large number of persons acquiring Belgian nationality each year, and a distinction is made between EU countries and others.

The article is in four parts. The first part details the definitions and sources used, and describes the immigrant population in Belgium. The second part considers the main employment findings according to origin and compares them with those of the other EU countries. Since the socio-demographic characteristics of the immigrant population differ from those of the population born in Belgium, that has to be taken into account in examining the labour market performance according to origin. The third part analyses individual and institutional factors influencing access to the labour market as well as those on the demand side, particularly discrimination. It therefore sheds light on miscellaneous obstacles encountered by foreigners. This part also focuses on the specific situation of direct descendants of immigrants. Finally, the fourth part covers the qualitative aspect of employment and examines the specific characteristics of jobs held by people of foreign origin.

1. Characteristics of the immigrant population in Belgium

1.1 Definitions

According to the National Register, on 1 January 2010 Belgium had around 10 840 000 residents, of whom 9 780 000 were Belgian and 1 060 000 of a different nationality. Since a large number of foreigners have become Belgians, it is interesting to know that, at the same time, almost 1 500 000 foreign-born persons were living in Belgium.

In 2010, immigrants thus represented 13.9 % of the total population, a proportion similar to that seen in Spain, but lower than in Austria (15.2 %) and Sweden (14.3 %).

There was recently a big expansion in the large group of Belgians born in another country; this was due to the simplified procedure for obtaining Belgian nationality, i.e. on entry into force of the Law of 2000 amending the Belgian Nationality Code ("Snel-Belgwet"). Since 2000, around 400 000 people have become Belgian(1); according to the latest figures available from the Directorate

(*) The authors would like to thank J. De Mulder and Y. Saks for their helpful comments on this article.

(1) Belgian nationality can be acquired by a statement of nationality, by "simple" option, by marriage with a Belgian or by naturalisation.

General of Statistics and Economic Information (DGSEI), the figure was just under 33 000 in 2009. However, in October 2012, the Chamber adopted a proposal for a law aimed at tightening up the procedure for acquiring nationality. Under the new rules, candidates seeking Belgian nationality must prove that they can speak one of the country's languages and that they are socio-economically integrated. After five years of legal residence, they can apply for Belgian nationality, although the law specifies a more flexible procedure for persons legally resident in Belgium for more than ten years. Nationality is not necessarily acquired by deliberate choice. Any child born in Belgium to non-Belgian parents who meet the stipulated conditions[1] is automatically Belgian. Similarly, children born abroad but having at least one Belgian parent are automatically Belgian.

Persons registered as "Belgian" may therefore have very diverse origins. If those varied origins affect labour market participation, an analysis based on nationality will not provide a complete picture of the labour market integration of migrants and their descendants. The definition of an "immigrant" used in this article is therefore not based on nationality but on the individual's actual migration history: people are regarded as immigrants if they are resident in Belgium but were born abroad[2].

Once the definition of an immigrant has been decided, it is necessary for the purpose of analysis to differentiate between groups according to the origin of the individuals. The principle of the free movement of people in the EU (despite the temporary restrictions still imposed on Romanian and Bulgarian workers) facilitates migration flows and is likely to influence the reasons for immigration. It is therefore appropriate to distinguish between European migrants (i.e. those from the EU) and those from the rest of the world. This article therefore focuses on three clearly-defined groups: people born in Belgium, European immigrants and non-European immigrants (born within and outside the EU respectively).

There are essentially two types of data source for determining the immigrant population: administrative statistics and survey data. The advantage of using administrative data is that these are "genuine", but they nevertheless also have some drawbacks. For instance, they do not offer sufficient detail to provide more information on the characteristics and the socio-economic situation of those in question, and they are not directly comparable at international level. The data from the labour force survey (LFS), harmonised at European level, give a more detailed description of the personal context of the individuals polled. In this article, administrative data are used to indicate the absolute sizes of the populations, while the survey data are used to analyse participation in the labour market and examine in greater depth some of the specific characteristics of these populations. The "ad hoc module"[3] of the 2008 survey, which investigated in particular the position of migrants on the labour market, is used in several sections.

1.2 Structure of the immigrant population

1.2.1 Immigration trends and the main countries of birth

Recent years have seen a steep rise in the number of new immigrants. Whereas in 2001 just over 10 % of registered residents had been born outside Belgium, that figure was almost 14 % in 2010, which corresponds to around one and a half million individuals. The percentage of foreign-born persons has been rising steadily for several decades, but this increase has clearly accelerated since 2000. In the 1930s, the proportion of immigrants was around 5 %, which means that it took almost 70 years for that figure to double.

In recent years, there has also been a change in the principal countries from which immigrants originate. Taking the immigrant population as a whole, France and Italy were the main countries of origin in 2001, at 14.2 and 12.8 % respectively. Together, the neighbouring countries and Italy accounted for around 44 % of the total. The dominant non-European immigration countries, namely Morocco and Turkey, represented 10.1 and 6.3 % respectively of the immigrant population. Owing to its colonial past, Belgium also had a significant proportion of people born in the Congo, namely 4.4 %. The "other countries" group accounted for just over one third of the total in 2001.

At the beginning of 2010, the proportion of persons born in Morocco (11.9 %) exceeded that of persons born in France (11.4 %), even though the latter had increased in number. The Netherlands and Italy respectively accounted for 8.3 and 8 % of Belgium's immigrant population. There has been clear diversification in the countries of origin, with the share of "other countries" rising to 37.2 %. But there was also a steep rise in immigration from the new EU Member States: between 2001 and 2010, the

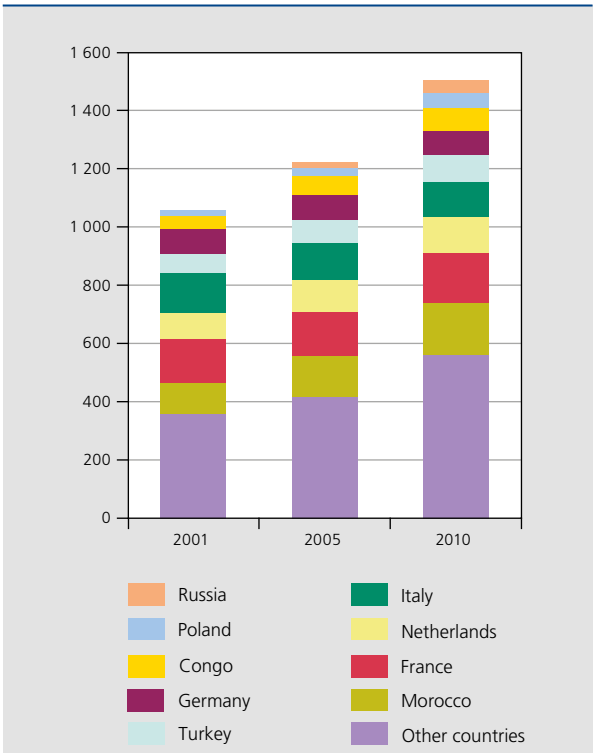
(1) At least one of the parents must have been born in Belgium or have had their principal residence there for five of the ten years preceding the birth.

(2) Only 1.3 % of the population aged from 15-64 years have both parents born in Belgium and were born abroad (2008 data on the basis of the labour force survey ad hoc module), indicating that the influence of this group should not be particularly significant.

(3) Every second quarter, an "ad hoc module" consisting of supplementary questions is added to the individual questionnaire for a specific fraction of the population. In 2008, the topic was "the situation of migrants and their direct descendants on the labour market", so that these supplementary questions applied to the group of migrants in Belgium.

CHART 1 BREAKDOWN OF THE IMMIGRANT POPULATION BY COUNTRY OF BIRTH

(in thousands of persons, data as at 1 January)



Source: DGSEI.

number of immigrants from Poland more than doubled. The number originating from Russia also increased steadily. However, these groups do not yet account for a large share of the total immigrant population. It was the surge in immigration from Morocco and "other countries" that, at the beginning of 2010, caused the percentage of European migrants in the total foreign-born population to fall to 49.6 %, whereas the figure had stood at 52 % before the accession of the new EU Member States in 2004.

However, this rate of increase is not unique in the history of Belgian immigration. In the 1920s, the percentage of the foreign-born population had risen even faster than now, owing to the recruitment of foreigners to work in the mines. But after the Second World War most of them were recalled to their country of origin to perform their military service, more or less ending that expansion. After the war, the migration tool was used again to provide the coal industry with cheap labour and thus to restrain commodity prices in a context of industrial recovery. In addition, as that recovery gained hold, other sectors experienced structural shortages of workers. After the Iron Curtain had descended, Belgium turned mainly to southern Europe, and later North Africa and Turkey, to meet the post-war demand for labour.

The nature of migration changed after the Second World War: while, in the 1920s, foreign workers were sent back to their country of origin when the business cycle went into reverse, in the 1970s many immigrants settled in Belgium after the immigration stop in 1974. Moreover, many of them arranged for their families to join them, gradually increasing the proportion of immigrants in the Belgian population (by around one percentage point every ten years following the immigration stop).

1.2.2 Reasons for immigration

The ad hoc module of the 2008 survey enables us to break down the foreign-born population according to the main reason for immigration. In 2008, immigrants from the EU had entered Belgium for family reasons in 44 % of cases. Work was cited as the main motive in 29.3 % of cases, followed by "other reasons" (20.8 %)[1]. Finally, 4.8 % originally came to Belgium to study.

The profile of immigrants from outside the EU is more diverse. Almost half (47 %) came to Belgium for family reasons. Only 18 % of them cited work as the reason for migration, while just over 15 % of immigrants in this group sought asylum. "Other reasons" and study were the main original reason for 10.2 and 9.6 % respectively of non-EU immigrants.

The fact that a large proportion of migrants from both EU and non-EU countries cite family reasons as the main motive for immigration is due to the immigration stop introduced in 1974, which greatly hampered economic migration. The divergent findings for the two origin groups are attributable mainly to differences in the regulations. As stated earlier, the free movement of people within the EU means that it is now possible to look for a job in another EU country without prior authorisation[2]. Conversely, people who are not nationals of a member of the European Economic Area (EEA) wishing to come to Belgium to work have to obtain a work permit[3]. Belgium in fact applies separate sets of rules on work permits and residence permits.

(1) According to the Eurostat quality report (2010), this high percentage reflects a problem concerning the survey questions for this group, which were clearly not sufficiently detailed.
(2) Except Romania and Bulgaria.
(3) Switzerland is the only exception.

The type-B work permit is valid for only one employer and has a one-year time limit. The application must be made by the employer wishing to take on the worker. If an examination of the labour market proves that it is not possible to find locally a Belgian or European worker suitable for the job in question within a reasonable period, the employer is granted an employment authorisation and the worker concerned is automatically granted a type-B work permit[1].

The type-A work permit is valid for all salaried occupations with all employers for an unlimited period. It is granted only after four years of work covered by a type-B work permit[2] during a maximum ten-year period of legal residence, which explains why it is granted far less commonly than the type-B work permit.

The type-C work permit introduced in 2003 is valid for all salaried occupations and for a limited period. It is granted to certain categories of foreign nationals who have only a limited or precarious right of residence in Belgium (e.g. students, asylum-seekers, etc.).

In principle, nationals of non-EU countries who hold a permanent right of residence do not need a work permit. Therefore, all people coming to Belgium to join their family and who have obtained a permanent residence permit (the length of the procedure increased from 15 months to three years in 2007[3]) have full access to the labour market without prior authorisation. The obligation to hold a work permit could impede access to employment for immigrants in only a very specific number of cases.

Data from the Federal Public Service Employment, Labour and Social Dialogue (FPS ELSD) on the number of work permits issued each year since 2005 show that the number of type-A and B work permits – grouped together in view of the small number of type-A permits – increased sharply up to and including 2008, a year in which more than 50 000 work permits of this type were granted, then fell substantially in 2009 to around 30 000, following the economic crisis and the abolition of the transitional regime[4] for the ten countries which joined the EU in 2004. The number of type-A and B work permits declined in 2010 as well, dropping to 26 500. The composition is dominated by the new EU Member States and changed over the period under review, with a large number of Polish recipients from 2005 to 2008 joined by a rising number of Bulgarians and Romanians from 2007 onwards: the latter are the two groups which currently account for the bulk of the type-A and B work permits. Type-C work permits are much less affected by the economic situation, since they do not primarily concern migration for occupational reasons; the number of these permits has hovered around 25 000 for some years.

(1) The rules are less strict for workers applying for a job on the regional lists of critical jobs compiled for this purpose, and there is no examination of the labour market.

(2) In certain cases, that period may be reduced to two or three years.

(3) During this three-year period a work permit is necessary.

(4) A limit on the number of workers from most of the new EU Member States was introduced as a transitional measure, to avoid labour market shocks in Belgium. That obligation ended on 1 May 2009 for most of the countries, though it was extended until 31 December 2013 for the most recent Member States, namely Romania and Bulgaria.

1.2.3 Regional breakdown of the immigrant population

Immigrants do not settle uniformly throughout Belgium, the reasons being not only variations in the availability of work but also language, cultural affinities, and relatives or groups already present, etc.

At the beginning of 2011, 39.8 % of all immigrants lived in Flanders, compared to 29.4 % in Brussels and 30.8 % in Wallonia. Owing to differences in the size of the regional populations, the proportion of foreign-born persons among residents of the Region is 10 % in Flanders and 13.8 % in Wallonia, whereas it reaches 41.5 % in Brussels. This high proportion in the capital is due partly to the presence of major international institutions and businesses. However, it is so substantial that the existence of an established population is an attraction in itself.

Over 8 % of the population of Brussels was born in Morocco; persons from that country are therefore almost twice as numerous as those from France (4.3 %). Similarly, immigrants from the Congo (2.4 %), Poland (2.1 %) and Turkey (2.1 %) are relatively more numerous in the capital than elsewhere. In Wallonia, the main groups are people born in France (2.8 %) and Italy (2.4 %). Finally, Flanders mainly has immigrants from the Netherlands (1.8 %) and Morocco (1 %).

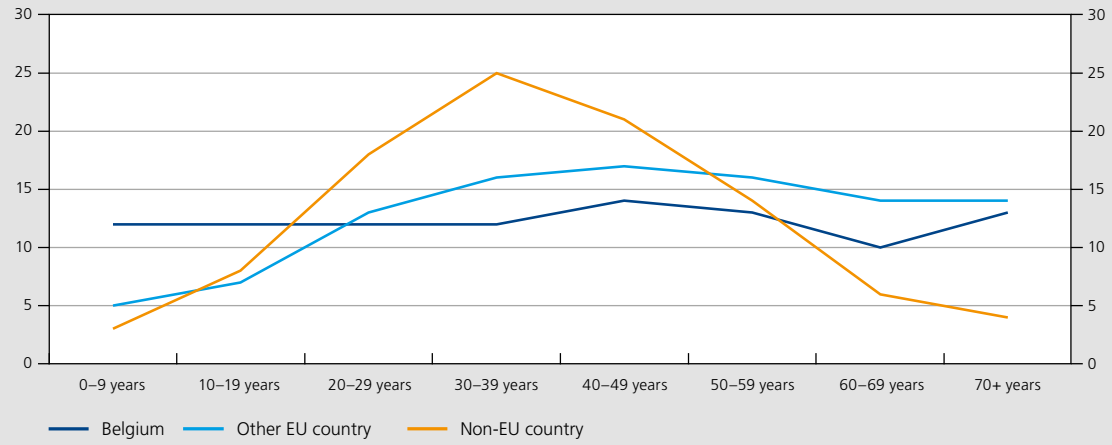
1.2.4 Age pyramid

The age pyramid for native Belgians has a fairly flat profile, with a rise in the 40 to 59 age group. This means that the baby boomers are approaching retirement age and will tend to become inactive. The spike at the extremity of the age pyramid, indicating that there is a relatively large proportion of people aged 70 and over, reflects the increased life expectancy of the population. However, the size of the youngest age bands shows that demographic trends have been fairly stable since the baby boom generation.

The immigrant populations have a different demographic profile. Owing to the large historical immigration waves,

CHART 2 AGE PYRAMID BY COUNTRY OF BIRTH

(in % of the corresponding total population, data as at 1 January 2010)



Source: DGSEI.

elderly persons are fairly well represented among immigrants from the EU countries, but the corresponding population of working age is also relatively larger than among people born in Belgium. The youngest age bands are relatively less numerous in the total population concerned.

Non-EU immigrants often come from farther away, and have to follow a stricter immigration procedure, which may explain why the proportion of children among them remains even lower. The great majority of people arriving in Belgium from non-EU countries are relatively young and of working age. Almost two-thirds of the population are aged between 20 and 49 years, while that applies to barely four out of ten people born in Belgium. The contrast is equally striking in regard to the over-50s: while they represent a quarter of non-EU immigrants, they account for around 37 % of people born in Belgium.

2. Labour market status

2.1 Main findings

The integration of these various groups into the labour market is examined via the objective status categories as defined by the International Labour Office (ILO) and used in the labour force surveys harmonised at European level. Persons in employment are those who have performed at least one hour of paid work during the reference week [1] – which therefore does not exclude undeclared employment. Unemployed persons had no work during the reference week, were available for work and had actively looked for a job during the last four weeks, or had already found a job due to start in the coming three months. Registration with a public employment service and the receipt of unemployment benefits are therefore not relevant criteria for the survey. Inactive persons are those who do not work and are not looking for a job. They are therefore not part of the labour supply.

Most results were calculated on Labour Force Survey microdata, for which 2010 is the last year at our disposal.

In all, persons born in Belgium and those coming from other EU countries have similar activity rates, at around 68 %. However, the breakdown between people in work and the unemployed is slightly different; while 63.6 % of the native population were in work in 2010, the figure was 61.2 % for persons born in another EU country. Their respective unemployment ratios thus stood at 4.7 and 6.7 %. The position of the population born outside the EU presents greater differences; almost four in ten persons were inactive, while only 46.5 % were in work and 14.3 % were unemployed.

The gender breakdown reveals very clear-cut findings. While the activity rate for men is fairly similar for the

(1) Or have not worked but normally have a job from which they were temporarily absent on account of illness, holiday, labour dispute or training.

CHART 3 BREAKDOWN OF THE POPULATION BY GENDER AND ORIGIN ACCORDING TO LABOUR MARKET STATUS

(in % of the population aged from 15 to 64 in 2010)

Source: EC (LFS, microdata).

various countries of origin of the residents, the employment rate of those born outside the EU, at 56.6 %, is more than ten percentage points below the figure for the other comparison groups. Among the men, 16.6 % are looking for work, i.e. between two and three and a half times more than the proportion for other residents. Among the women, only half of immigrants from outside the EU are active: 37 % have a job while 12 % are unemployed. The activity rates for the other two categories of residents are similar, at over 60 %, and the gaps between the employment rates of European immigrants and women born in Belgium are relatively small, since 55.2 and 58.7 % respectively are working.

The high unemployment ratios among immigrants from outside Europe and the particularly high inactivity rate among women in this group justify maintaining, in the rest of the article, the distinction between persons born in an EU country (other than Belgium) and those born outside the EU.

In the analysis from here on, the employment rate (as a percentage of the total population of working age, i.e. active and inactive) is the preferred indicator of labour market integration, rather than the unemployment rate (as a percentage of the active population only), owing to the major differences in participation rates according to origin and gender.

2.2 International comparison

The existence of significant gaps between the employment rates of immigrants and persons born in Belgium is not a recent phenomenon. The disparities in the employment rates of native-born as opposed to those from outside the EU already stood at 15 percentage points in the 1990s, and reached around 20 points in the early 2000s[1]. However, the gap narrowed during the decade that followed. The differential between native-born and persons born in other European countries has always been smaller.

There are therefore likely to be specific barriers to the integration of immigrants into the labour market. Before considering certain exclusion factors, it is worth looking at Belgium in a European perspective. In 2011[2], Belgium had the lowest employment rate of any European country for people born outside the EU, at 45.8 %. The European average stood at 58.1 %[3]. Belgium's ranking in that respect has hardly changed for some years. Among the old EU members, Belgium has been in last place since 1995[4]. In terms of the percentage point gap between the

(1) The group considered for this period comprises persons born outside the EU-15, i.e. a larger group of migrants, in the absence of data on people born outside the current EU which has 27 members.

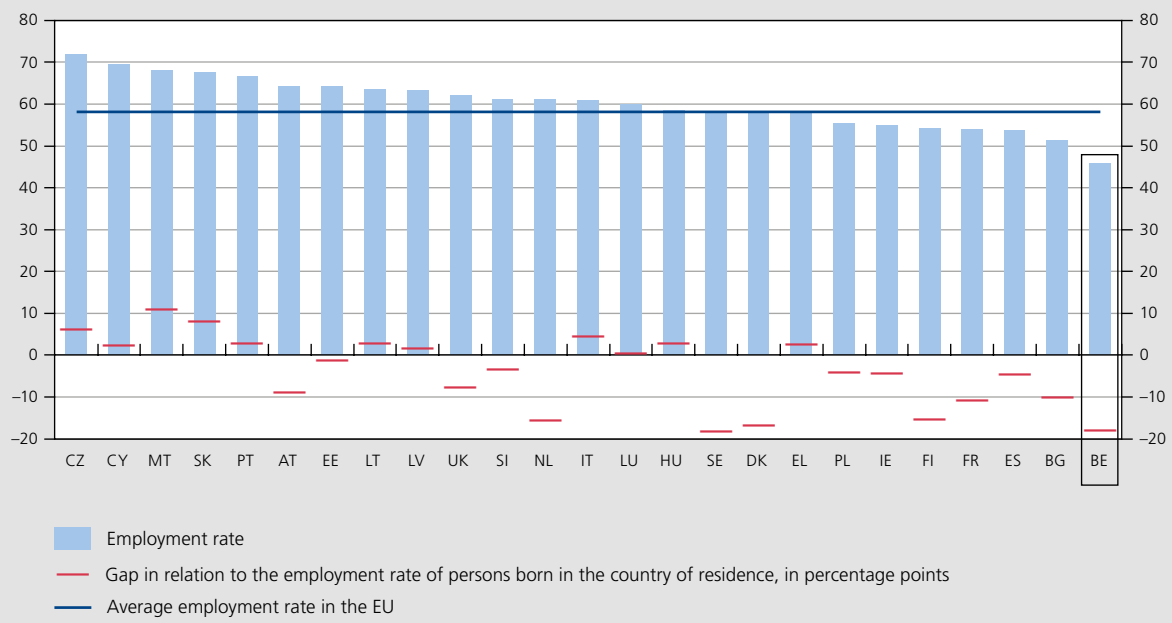
(2) Microdata are not necessary for the purpose of this European comparison based on the employment rate; the year 2011 can thus be presented.

(3) Excluding Germany, which does not report data on the country of birth in the labour force survey, and Romania.

(4) Start of the published series of employment rate by country of birth.

CHART 4 EMPLOYMENT RATE OF PERSONS BORN OUTSIDE THE EU[1]

(in % of the population aged from 15 to 64 years in 2011, unless otherwise stated)



Source: EC (LFS, Eurostat).

(1) The respondents' country of birth is not available for Germany. The data on Romania are not available for 2011.

employment rate of native-born and that of non-European immigrants, Sweden and Belgium perform the worst, at around 18 percentage points.

Under the EU2020 strategy, Belgium adopted secondary targets concerning the employment of certain risk groups which had an employment rate well below the average. The improvement in the employment figures for non-European nationals (in this connection, nationality is the criterion used) was formulated in terms of a reduction in the differential between the employment rate of this group and that of Belgian nationals. In the strategy, the group considered comprises people between the ages of 20 and 64 years. In 2011, the gap came to 29.1 percentage points; it is to be cut below 16.5 points within ten years.

3. Factors influencing access to employment

3.1 Individual characteristics

The demographic and socio-economic characteristics of Belgium's resident population may vary according to the person's origin. In this section, we look at the observable parameters which could typically influence the chance of being in work.

It is possible to formalise the link between the probability of being employed and miscellaneous explanatory variables using a simple econometric estimate, namely a logistic regression. The dependent variable is binary and takes the value 1 if the person is in work and 0 if that is not the case. The – qualitative – explanatory variables are also dichotomic: for example, the fact of being a woman, resident in Wallonia, with a given level of education, etc. This multivariate analysis can be used to measure the influence of a single characteristic by controlling all the others. Thus, the effect of being born in a non-European country is not connected with the different average level of education of immigrants, because the model takes account of these specific effects.

For this estimate, the reference group comprises men aged between 25 and 54 years, medium-skilled[1], born in Belgium and resident in Flanders. The coefficients

(1) The levels of education correspond to the ISCED 1997 international classification. The three main groups are: low-skilled, having completed no more than pre-primary, or primary education or the first stage of secondary education (levels 0-2), medium-skilled, having completed second stage secondary or post-secondary but not higher education (levels 3-4), and highly-skilled, holding higher education qualifications (levels 5-6).

obtained all have the expected sign and are statistically significant at the 1 % threshold. As expected, the probability of being in work is very high for the reference group, at 90 %. All other things being equal, and changing only one characteristic at a time in relation to the reference group, the likelihood of having a job is lower for a woman, a young person, or an older person, and for someone not completing secondary education, not born in Belgium, and resident in a Region other than Flanders. Conversely, it is greater for those with higher education qualifications.

Age has by far the greatest impact: the probability of being in work for a medium-skilled native-born, resident in Flanders and aged between 15 and 24 years is only half that of an adult aged between 25 and 54, and drops by 33 percentage points for persons aged between 55 and 64 years compared to that same reference group. The reason is that the majority of young people and the older age group are inactive, respectively because they are still in education or have permanently retired from the labour market. The chance of labour market integration is 12 points below the figure for the reference group for those not completing secondary education. The fact of being born in a non-EU country is just as significant a factor as the level of education. While persons born in Belgium have a 90 % chance of being in work, that figure falls to 77 % for persons with the same characteristics but born outside the EU. Women are at a disadvantage compared to their male counterparts, and the fact of being resident in Wallonia or Brussels also reduces the chances of being in work. However, it should be borne in mind that we are dealing with a simplified model which only neutralises the effect of certain variables. Fluency in the language of the country of residence, marital status, nationality, household composition, place of obtaining the highest qualifications, and the size of the social network are just a few examples of other factors which are not all covered by the labour force surveys and which may have a varying degree of influence on access to the labour market. Obviously, discrimination by employers cannot be ruled out as a factor limiting access to employment for certain population groups (see below).

The acquisition of nationality may be seen as a means of integration. However, if it is subject to compliance with certain conditions, the findings relating to labour market integration may be biased; both positive and negative selection criteria may then play an invisible role and cause endogeneity[1].

(1) Thus, it is possible that persons meeting the set conditions for acquiring nationality may also have characteristics enabling them to find a job more quickly. For example, they may be more highly skilled, more motivated, with a better support network, etc. But it is also possible that migrants attracted by citizenship specifically form a more vulnerable group on the labour market and essentially wish to enjoy the benefits of that citizenship. It is more than just the effect of nationality that is measured, be it in a positive or a negative case (Corluy *et al.*, 2011).

TABLE 1 PROBABILITY OF BEING IN EMPLOYMENT IN BELGIUM: ECONOMETRIC RESULTS
(logit model based on 2010 data)

	Parameter coefficient	Standard deviation	Significance[1]	Calculated probability[2]
Reference[3]	2.197	0.0237	***	90.0
Woman	–0.714	0.0191	***	81.5
Aged 15-24	–2.468	0.0253	***	43.3
Aged 55-64	–1.928	0.0231	***	56.7
Low-skilled	–0.944	0.0217	***	77.8
Highly-skilled	0.703	0.0247	***	94.8
Born in another EU country	–0.140	0.0361	***	88.7
Born in a non-EU country	–0.979	0.0337	***	77.2
Resident in Brussels	–0.483	0.0318	***	84.7
Resident in Wallonia	–0.340	0.0202	***	86.5

Sources: EC (LFS, microdata), NBB calculations with unweighted data.
(1) ***: significant at 1 %.
(2) The probabilities shown in the table are not additive. The presentation is of the *ceteris paribus* type: one characteristic at a time is changed in relation to the reference group.
(3) The reference is a man aged between 25 and 54 years, medium-skilled, born in Belgium and resident in Flanders.

If the effect of nationality is estimated on the basis of Belgian data, the selection effect should have less influence in that, until recently, the acquisition of nationality was conditional solely on a certain period of residence (Corluy *et al.*, 2011)[1]. The results of a regression applied solely to persons born outside the EU confirm the importance of Belgian nationality. The significant coefficient indicates that the probability of getting a job increases considerably – by 11 percentage points – if, *ceteris paribus*, the person can claim Belgian nationality. Various factors, such as less discrimination, access to employment in public administration, exemption from a work permit, etc., could perhaps play a role in this "nationality premium".

3.2 Structure of the population and employment rate

The population structure by gender, age and level of education and the employment rates corresponding to each of these categories differ according to origin: the immigrant groups have a relatively greater concentration of people aged from 30 to 49 years and fewer people in the 50-64 age group than the native population. In the case of non-European immigrants in particular, over half are in the intermediate age group. It is necessary to distinguish between European and non-European immigrants in regard to the level of education. While European immigrants are fairly evenly distributed across the three levels of education – and actually comprise a larger proportion of highly-skilled persons than the native population – around 47 % of non-European immigrants have not completed secondary education, and only a quarter of them have higher education qualifications.

The lower average employment rate of immigrants could be due to the different structure of their population, with characteristics which are perhaps more unfavourable to employment than for the Belgian-born population. To identify the "structure" effect, it is possible to calculate an immigrant employment rate adjusted for the population structure and cross-analysing gender, age and level of education. The reference group is the population born in Belgium. If this adjustment is made, the employment rate of non-European immigrants increases by only 1.8 percentage points to 48.3 % in 2010. Conversely, the employment rate of European immigrants falls by 1.1 points to 60.1 %. Thus, the real population structure of these two groups has a negative and positive effect respectively on their chance of having a job. But the main factor accounting for their overall employment rate is their low employment rate in each category considered.

Confirming the results of the above regression, it appears that, whatever the socio-demographic characteristics of

(1) In October 2012, the Chamber passed a new proposal for a law amending the Belgian Nationality Code.

TABLE 2 BREAKDOWN OF THE POPULATION BY ORIGIN ACCORDING TO CERTAIN INDIVIDUAL CHARACTERISTICS AND CORRESPONDING EMPLOYMENT RATES

(respectively in % of the total population aged from 15 to 64 years and in % of the corresponding population aged from 15 to 64 years in 2010)

	Share in the total population				Employment rate			
	Belgium	Other EU country	Non-EU country	Total	Belgium	Other EU country	Non-EU country	Total
Gender								
Men	50.5	48.7	48.7	50.3	68.5	67.6	56.6	67.4
Women	49.5	51.3	51.3	49.7	58.7	55.2	37.0	56.5
Age								
15 to 29 years	28.9	19.7	24.9	28.0	44.0	47.0	31.8	43.2
30 to 49 years	41.2	47.1	53.1	42.6	85.7	77.6	56.5	82.0
50 to 64 years	29.9	32.2	22.0	29.4	52.2	46.5	39.1	50.9
Level of education								
Low-skilled	30.9	35.0	46.9	32.6	39.6	43.7	33.2	39.1
Medium-skilled	37.9	31.3	28.8	36.7	66.9	63.1	51.8	65.7
Highly-skilled	31.1	33.6	24.2	30.7	83.5	77.8	66.1	81.9

Source: EC (LFS. microdata).

people born outside the EU, their employment rate is systematically lower than that of people born in Belgium or in another EU country.

As far as age is concerned, the intermediate group has the highest employment rate, taking all origins together. Thus, 56.5 % of non-European immigrants and 77.6 % of European immigrants in this category have a job. However, the maximum employment rate is 85.7 % for the population born in Belgium, which considerably widens the gap between origins compared to what is seen for young people and the older age group.

The relatively low employment rate of young people is influenced by the fact that some of them have not yet completed their education. However, the NEET[1] indicator, which measures the percentage of young people between the ages of 15 and 24 who are not working or pursuing any training, reveals a worrying situation which implies a risk of losing competence and becoming bogged down in unemployment or inactivity. In 2010, 20.8 % of young non-European immigrants – or about one in five – were in that situation, compared to 18 % of young immigrants of European origin and 9.9 % of Belgian-born.

3.2.1 Level of education and its recognition

The highest level of education attained is a decisive factor for employability and career development. However, persons with low skills make up the largest group among the foreign-born population.

Regardless of origin, there is a positive correlation between the employment rate and the level of education. Yet even though the employment rate of foreigners improves in the event of more advanced study, since two-thirds of highly-skilled persons originating from a non-EU country are working, there is still a gap of around 17 points in relation to the natives of Belgium.

Issues concerning the recognition and the values of diplomas or levels of education probably help to explain these divergent employment rates and occupational overqualification (see section 4.2.), particularly in the case of people from non-European countries. They relate to the problems of information asymmetry (employers may wonder about the content of a degree gained abroad), the conditions for the transfer of knowledge (insufficient fluency in the language of the host country which may make it hard to make full use of skills acquired in the country of origin), the complexity of the certification process and the relevance of the application of this knowledge in a different society (law, customs, etc.) (OECD, 2007).

The labour force surveys do not identify the place where the highest qualifications were obtained. On the basis of information obtained from the 2001 Belgian socio-economic census, the OECD (2008) compared the divergences in employment rates between natives and non-European immigrants gaining their qualifications in Belgium, and those gaining their qualifications abroad: the gap diminishes – but persists – at the level of secondary and higher education if the courses were attended in Belgium.

In Belgium, the three language communities all have their own procedures for recognising foreign qualifications. They check whether the diploma corresponds to a Belgian educational diploma. That equivalence is essential for the pursuit of regulated occupations[2] and in the case of a public service employer. In the case of unregulated occupations, private employers are free to take on staff on the basis of a foreign diploma without any decision on equivalence, although they may nevertheless request such a decision.

On the basis of the Belgian labour force survey ad hoc module 2008, the DGSEI[3] found that 83.7 % of immigrants aged 15 and over have not ascertained the Belgian qualifications corresponding to the highest diploma which they have obtained (one-third of them have not done so because they gained their highest diploma in Belgium), while 11 % have applied for, and obtained, equivalence, and the remaining 5.3 % have been refused equivalence or are waiting for a response.

Moreover, the agencies responsible for skill validation were only set up recently[4]. Their purpose is to grant official recognition of professional knowledge and expertise acquired outside the traditional (Belgian and foreign) training routes. The three French-speaking governments initiated a system for the validation of professional skills. It involves the social partners, public employment services and educational and vocational training providers. Validation centres arrange tests; candidates who pass are issued with certificates of competence covering a set of skills associated with a particular occupation. A similar system exists in Flanders. Specific certificates (*ervaringsbewijs*) are determined by the social partners in the Flanders Socio-Economic Council (SERV). The certificate concerns the occupation as a whole. At the end of 2012, there

(1) "Not in education, employment or training".
(2) Typically medicine, dentistry, veterinary science, pharmacy, law, architecture, nursing, psychology, etc.
(3) http://statbel.fgov.be/fr/statistiques/chiffres/travailvie/emploi/migrants.
(4) Flanders passed the Decree of 30 April 2004 "*betreffende het verwerven van een titel van beroepsbekwaamheid*" (on the acquisition of a certificate of professional competence), while a cooperation agreement was signed on 24 July 2003 between the Walloon Region, the French Community and the French Community Commission on the validation of skills in continuing vocational training. Three decrees on approval of the cooperation agreement were then adopted by the levels of power concerned.

was a validation process for around fifty occupations in Flanders and in the French Community.

3.2.2 Specific situation of women

The employment rate of female non-European immigrants is particularly low in Belgium. Only 37 % of them are in work, while the majority are inactive. The inequality between men and women from the same origin is most marked in the case of immigrants from a non-European country: here, the gender gap in the employment rate is almost 20 percentage points, compared to around 10 points for natives of Belgium.

The labour force surveys shed light on the reasons put forward to explain this inactivity, or more precisely the failure to look for work. The motives cited may be family or personal responsibilities, illness or disability, training, belief that no work is available, retirement and "other reasons" (unspecified). In order to reduce the effect of the 15-24 age group, who are quite likely to be still studying, and the 55-64 age group who may have retired from the labour market and do not usually still have dependent children, we analyse the distribution of the reasons for inactivity among women in the 25 to 54 age group.

Family and personal responsibilities are the main reason for inactivity, regardless of the migration background of the women, but the proportions of the diverse reasons vary according to the origin of the women questioned. In 2010, around 39 % of those born in Belgium cited family responsibilities as the main impediment to seeking work. Next came medical reasons for 28 % of them. Among inactive women originating from another EU country, 47 % of respondents cited family responsibilities and 15 % mentioned illness and disability, a proportion similar to that comprising "other reasons". Over half of the inactive women born in a non-EU country were not seeking work on account of their family responsibilities. Around one in ten could not find an appropriate category of reasons in the survey, and a total of 18 % were undergoing training or were ill.

Certain factors may explain this uneven distribution according to origin and the greater inequality between men and women from outside the EU in regard to labour market access. For example, on average these women have more children under the age of 15 living in their household than is true of women born in Belgium. In 2010, a quarter of non-European adult immigrants were living with one child, 19 % with two children, and 13 % with three or more children. The corresponding proportions for natives of Belgium are 17, 14 and 4 % respectively. It is known that, in large families, it is usually the women who leave the labour market to look after the children (CSE[1], 2007). Moreover, we cannot rule out cultural differences which maintain a family and economic model centred more on the man as the family's main means of support ("male breadwinner"). Other factors – which are not necessarily spelt out in the survey – may be involved and could encourage women to remain at home, such as low pay prospects or insecure working conditions, especially in the case of low-skilled women.

3.3 Parental origin

The difficulties facing first-generation immigrants could be passed on to their children, the "second generation"[2]: these are people born in their country of residence to parents born abroad, regardless of their own and their parents' nationality[3].

The second generation is identified by objective criteria, using the labour force survey ad hoc module 2008. Apart from the respondent's country of birth (available in the regular surveys), one of the variables concerns the country or countries of birth of the respondent's father and mother. This identifies first-generation immigrants (13.6 % of the population aged between 15 and 64 years, according to the survey), persons born in Belgium having two foreign-born parents (4.1 %), persons born in Belgium having only one foreign-born parent (4.3 %) and persons born in Belgium both of whose parents are natives of Belgium (78 %). It is interesting to compare the results for these various groups on the labour market because, normally, children born in Belgium to immigrant parents have been integrated into the Belgian education system, learnt the language and culture of the country from a very early age, are covered by the Belgian social security system, etc. Theoretically, they should therefore have easier access to the labour market than first-generation immigrants. Yet according to the figures, this early integration is not enough to guarantee them the same opportunities for employment as children whose parents are not immigrants, or to improve their results compared to first-generation immigrants, unless one of the parents was born in Belgium, as we shall see below.

The age group considered is limited to persons aged from 20 to 54 years. It covers three-quarters of the population

(1) High Council for Employment.

(2) They are commonly known as "second-generation immigrants". However, this term has certain connotations, since they are still referred to as "immigrants" whereas they have not necessarily experienced any migration. Moreover, this categorisation does not necessarily correspond to the subjective identity of the persons concerned.

(3) Immigrants arriving at a very early age may in certain respects be regarded in the same way as immigrants' children born in Belgium. However, no-one has clearly defined the age of arrival in the host country beyond which the comparison no longer applies (OECD, 2007).

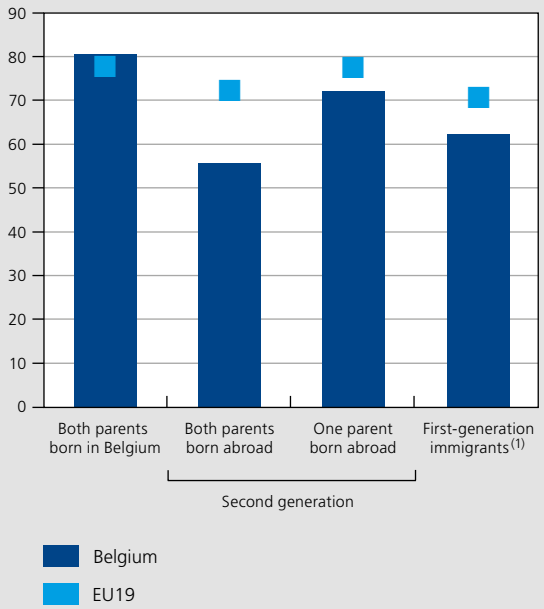
of working age among both the first and the second generation, and excludes some of the inactive persons at the two extremities of the distribution (15 to 19 year-olds, who are in school – proportionately more numerous in the second generation – and 55 to 64 year-olds, some of whom have retired from the labour market – proportionately more numerous in the other comparison groups) while retaining young people aged from 20 to 24 years whose participation in higher education appears to vary according to origin [1].

In Belgium, the employment rate of native-born whose parents are not immigrants stood at 80.6 % in 2008; they represent the most successful group in terms of labour market access. Next come persons born in Belgium having only one foreign-born parent: 72 % of them were working. Among first-generation immigrants aged from 20 to 54, only 62.3 % had a job in 2008. Finally, children having two immigrant parents (taking EU and non-EU together [2]) had the lowest employment rate of the four population groups considered, namely 55.6 %. The fact of having at least one parent born in the country of residence may therefore have a positive influence on the "integration" process, or at least on the chances of entering employment. Be that as it may, it seems that the problems encountered by immigrants to find a job also apply to their children. Moreover, the addition of a binary variable representing parental origin (at least one foreign-born parent) in a regression similar to that presented above [3] confirms that, *ceteris paribus*, the probability of employment declines (–3 percentage points) if both parents were not born in Belgium.

The European average used for comparison covers only 19 countries, namely those for which the ad hoc module microdata are available and for which the parental origin of the respondents could be determined with a sufficiently high response rate. On average in the EU, all groups of foreign origin (immigrants or persons born in the country of residence but having at least one immigrant parent) have a higher employment rate than the same groups resident in Belgium. Descendants of two immigrant parents have a slightly higher employment rate than first-generation immigrants. If only one parent was born abroad, the employment rate is similar to that of natives whose parents were not immigrants, at around 78 %.

CHART 5 EMPLOYMENT RATE OF IMMIGRANTS AND PERSONS BORN IN BELGIUM ACCORDING TO PARENTAL ORIGIN

(in % of the population aged from 20 to 54 years in 2008)



Source: EC (LFS, microdata, ad hoc module 2008).
(1) Regardless of the parents' country of birth.

However, the average conceals significant divergences between countries. A different immigration history and different integration procedures for new immigrants may influence the outcomes for their children in society. The employment rate gap between residents whose parents were not immigrants and those with two foreign-born parents is highest in Belgium, at 25 percentage points, and in Spain (16.9 percentage points). In France and the Netherlands, Belgium's neighbouring countries [4], the gap to the detriment of this second generation is much smaller, at 10.1 and 6.7 percentage points respectively in 2008.

This issue needs to be considered in the light of, among other things, the inequality of opportunities which already applies at school: the OECD's PISA surveys reveal the persistence of a substantial divergence in pupils' results according to whether or not they have a history of migration; that applies in both Flanders and the French Community [5]. The main explanatory factor is the socio-economic status of the parents (level of education and

(1) For example, in 2008, 35 % of young people aged from 20 to 29 years, born in Belgium to native-born parents, had completed higher education, against 12 % of children of immigrant parents.
(2) For simplicity (some couples are of mixed European and non-European origin) and to ensure that the data are representative.
(3) The reference is a man aged between 25 and 54 years, medium-skilled, resident in Flanders and born in Belgium with two native-born parents. The regression concerns data from 2008, the year of the labour force survey ad hoc module concerning migrants.
(4) The country of birth identifying first- and second-generation immigrants is not available for Germany.
(5) The main recent study on the subject, conducted by Jacobs *et al.* (2011), identifies three categories of pupils according to their migratory status. The first comprises "native pupils": these are pupils born in Belgium or abroad with at least one parent born in Belgium. The second category covers pupils born in Belgium both of whose parents were foreign-born. The study calls them "second-generation pupils". The third category comprises "immigrant pupils", namely foreign-born pupils whose parents were themselves born in another country.

occupation), as pupils with an immigrant background often come from families in a less favourable socio-economic situation than that of the others (Jacobs *et al,* 2011). But this parameter does not explain everything: the language spoken at home is a decisive factor[1], as is the type of course pursued. Children of low-skilled parents and immigrants are over-represented in technical and vocational education and under-represented in general education. Pupils on technical and vocational courses achieve poorer academic results. All the same, in both types of education there is a marked difference between the results of "native" children and those with an immigrant background.

In 2008, the proportions of young people aged between 15 and 24 who are not in employment or training (NEET) among descendants of immigrants (two foreign-born parents) and first-generation immigrants were two to three times higher than for children born in Belgium with native-born parents, at 11.4 and 20.4 % respectively. Without a diploma, the chances of getting a job are seriously compromised. Moreover, when the sons and daughters of immigrants leave education, they have to compete with the children of native families who have more national cultural capital and more effective social networks. On top of that are possible problems of discrimination based on (supposed) origin.

3.4 Discrimination in recruitment

It is hard to assess the impact of discrimination on the labour market. Even for persons with the same socio-demographic characteristics, existing differences in job opportunities and remuneration may be due to characteristics which cannot be easily measured, such as social networks or knowledge of how the labour market operates.

The legislation forming the legal basis of the fight against discrimination[2] applies among other things to employment relationships, be it access to a job, working conditions or the termination of an employment relationship in both the public and the private sector.

Discrimination means any difference of treatment based on age, sexual orientation, marital status, wealth, belief or ideology, political convictions, language, current or future state of health, disability, physical or genetic characteristics, social origin, gender, nationality, supposed race, skin colour, ancestry, nationality or ethnicity[3].

A study conducted in Belgium in 1996 at the instigation of the ILO (Arrijn *et al*., 1998) played a key role in putting the issue on the political agenda. It was based on the situation test method. Pairs of researchers with the same characteristics (qualifications, gender, age, nationality, attitude) apply for a medium-skilled vacancy by the same method. The only difference between them is their "ethnic" origin – native Belgian or Moroccan Belgian – according to the sound of their name or the physical identity attributed. If only one of the two is called in, interviewed or taken on[4], the difference can, in principle, be attributed solely to ethnic origin. This argument presupposes that ethnic origin should never be a staff selection criterion. The divergences between the number of discriminatory actions against people of Moroccan origin and those of Belgian origin are added together for the various recruitment phases and expressed as a percentage of the number of case files opened. Discrimination rates concerning persons of foreign origin came to 34.1 % in Brussels, 39.2 % in Flanders and 27 % in Wallonia[5]. Situation tests do not permit direct comparison of results between countries or between Regions or any ranking of Regions according to their degree of discrimination. However, the rates calculated using the ILO method in other countries in the mid-1990s make it possible to assess the results obtained in Belgium. The Netherlands and Spain respectively recorded rates of discrimination against candidates of Moroccan origin equal to 36.6 and 35.6 %, Germany's rate of discrimination against people of Turkish origin was 19 %, and the results obtained in the United States were broken down by origin: 19.4 % for Afro-Americans and 33.2 % for Hispanics.

Since then, extensive literature has been devoted to this matter and the issue has been closely monitored by the Centre for Equal Opportunities and Opposition to Racism.

In 2005, a joint ULB/KUL study (Martens *et al*., 2005) was based on the ILO method and applied it in a non-experimental context. Two groups of job applicants were selected from the Actiris database: a population comprising young people of foreign nationality[6] and a control population comprising young people with a profile which was as similar as possible, but of Belgian nationality. Among the pairs of job applicants, almost half of the foreigners would have received unequal treatment.

(1) Pupils speaking the language of education at home often achieve better results.
(2) The legal basis consists of three laws:
- the general Law of 10 May 2007 to combat certain forms of discrimination, replacing the Law of 25 February 2003;
- the Law of 10 May 2007 to combat discrimination between men and women, replacing the Law of 7 May 1999 on equality of treatment between men and women;
- the Law of 30 July 1981 against certain acts motivated by racism and xenophobia.

(3) Source: FPS ELSD.
(4) Thus, if both candidates progress to the next recruitment phase or if both are rejected, there is no question of discrimination.
(5) 87/255, 71/181 and 54/201 respectively.
(6) Moroccan, Turkish, sub-Saharan and east European nationalities.

The EC's Eurobarometer survey of discrimination conducted in 2012 (EC, 2012) reveals that, in Belgium, if a firm wants to recruit someone and has a choice between two candidates with the same skills and qualifications, the main criterion against a candidate, according to the responses[1], is skin colour or ethnic origin: this factor is cited by 60 % of respondents, compared to an average of 39 % in the EU. The findings are much the same as in previous editions of the survey.

More recently, in 2012, the diversity barometer initiated by the Centre for Equal Opportunities[2] looked at access to employment according to various criteria, such as age, gender, disability and origin, on the basis of three scientific studies[3] each adopting a different method: behaviour tests which can be used to examine any differences in the chance of selection of certain population groups, interviews with human resources officers, and presentation of a series of indicators aimed at identifying inequalities in relation to the criteria mentioned above. Persons of foreign origin are obviously treated differently when it comes to inviting candidates to attend a job interview: the probability that a person of foreign origin will not be invited to that interview, in contrast to his Belgian counterpart, is 6.6 percentage points greater than the probability that neither candidate will be invited (Capéau *et al.*, 2011). Of the human resources officers questioned, 10 % state that the candidate's origin influences the ultimate selection, and 5 % state that skin colour is also a factor (Lamberts and Eeman, 2011). Nonetheless, in such a survey, the question on the influence of origin will presumably elicit more socially acceptable responses[4].

4. Employment characteristics

This section focuses on the qualitative aspect of occupations. When persons of foreign origin find a job, its characteristics are not – on average – the same as those of jobs held by natives.

4.1 Branches of activity

The analysis of employment by branch of activity distinguishes between men and women, because of their relative specialisations. Generally speaking, regardless of origin, the main branches employing men are different from those employing women: male workers are over-represented in industry, construction and transport, while a proportionately larger number of women are employed in certain services such as health and social work, education, or real estate and business services.

Male and female immigrants are systematically under-represented in public administration and in education. The reasons are many, and may concern both legal barriers – for persons not of Belgian or European nationality – and specific requirements relating to qualifications. In the first case, the OECD (2008) showed that naturalised immigrants were almost as likely to work in the public sector as native Belgians[5].

Among the other salient points is the fact that male workers born outside the EU are more likely than Belgian-born to be employed in the hotels and restaurants branch (9.8 %, compared to 2.2 %) and in the "other branches"[6] (6.7 %, compared to 4.9 %). On the other hand, in the case of workers originating from another EU country, it is mainly in construction (19 %) and in the "other branches" (12.4 %) that they will be proportionately more numerous than native-born. In the first case that is due to the large influx of construction workers from one of the "new" Member States (over half of them work in this branch), and in the second case it is due to the presence of persons from the "old" Member States working in extra-territorial organisations and bodies.

In the case of women, there are again differences according to origin. Women from a non-EU country are three times more likely to work in the hotels and restaurants branch than women born in Belgium (8 %, compared to 2.8 %). They are also much more likely to have a job in real estate and business services (14.2 %, compared to 8.7 %) and in the other branches (12.6 %, compared to 7 %), which may be due in the first case to such factors as their employment in cleaning firms or their registration with temporary employment agencies, and in the second case to working as domestic cleaners for households. However, like native-born, the majority of female immigrants from outside Europe are employed in health and social work. Women born in a European country most frequently work in the "other branches" – mainly service branches – (18.5 %), but this time the key reason is the presence of international institutions in Belgium. They are also over-represented in real estate and business services (14.4 %) compared to natives.

(1) Out of a total of 1 059 interviews in Belgium.
(2) The diversity barometer concerns three aspects of life in society: employment, housing and education.
(3) Capéau *et al.* (2011), Lamberts and Eeman (2011) and Desmarez *et al.* (2011).
(4) This assumption is borne out by the results for similar questions on the wearing of headscarves. Evidently, it is not so much religious belief as the wearing of these external symbols that influences the ultimate decision. Almost half (45 %) of human resources officers state that certain religious symbols, such as the headscarf, influence the ultimate selection. The question is of course to what extent this distinction is based on religion or on ethnic origin.
(5) On the basis of the 2001 socio-economic census.
(6) The "other branches" are: agriculture, arts and entertainment, other service activities, activities of households as employers, and activities of extra-territorial organisations.

TABLE 3 BREAKDOWN OF EMPLOYMENT BY BRANCH OF ACTIVITY ACCORDING TO GENDER AND ORIGIN

(in % of the corresponding population in work aged from 15 to 64 years, in 2010)

	Men				Women			
	Belgium	Other EU country	Non-EU country	Total	Belgium	Other EU country	Non-EU country	Total
Industry	22.8	20.0	20.0	22.4	9.1	7.9	6.6	8.9
Construction	11.7	19.0	11.1	12.2	1.2	n.r.	n.r.	1.2
Trade and repairs	13.0	10.6	14.5	13.0	13.4	12.0	11.1	13.2
Hotels and restaurants	2.2	5.8	9.8	3.0	2.8	5.4	8.0	3.3
Transportation and communication	13.2	10.4	14.2	13.1	5.0	5.0	4.2	4.9
Financial services	3.8	2.6	1.8	3.6	3.6	2.5	2.5	3.5
Real estate and business services	8.2	7.4	8.5	8.2	8.7	14.4	14.2	9.4
Public administration	9.4	4.6	4.3	8.7	10.1	7.1	6.4	9.7
Education	5.4	3.7	3.6	5.2	15.0	7.9	8.8	14.2
Health and social work	5.5	3.4	5.5	5.3	23.9	17.6	24.8	23.5
Other branches[1]	4.9	12.4	6.7	5.5	7.0	18.5	12.6	8.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: EC (LFS, microdata).

(1) Agriculture, arts and entertainment, other service activities, activities of households as employers, activities of extra-territorial organisations.

4.2 Over-qualification in employment

Over-qualification means the situation in which people have more skills or formal qualifications than their job requires. There are various ways of measuring that. In this article, the rate of over-qualification measures the proportion of highly-skilled individuals in employment (graduates of higher education) pursuing a low or medium-skilled occupation[1].

In Belgium, workers born in Belgium and those born in another EU country have similar rates of over-qualification, at 21.6 and 20.3 % respectively in 2010. With more than a third of people (35.1 %) pursuing an occupation which does not correspond to their level of education, workers born outside the EU have an over-qualification rate 1.6 times higher than that of native-born. Those rates have been relatively stable since 2004[2]. The rate of over-qualification of persons born outside the EU is the same as for the EU, on average[3]. This inequality may be due to problems concerning the recognition of training and skills acquired abroad, but also to a weak network of contacts, limited access to certain information, or discrimination by employers.

One might expect that the chances of the recognition of qualifications or fluency in the national language would improve over time, reducing the likelihood of being over-qualified. Yet in Belgium the rate of over-qualification of non-European migrants hardly changes with their period of residence: it stays at the same level, whether the person has lived in the country for more than or less than six years.

4.3 Types of employment contract and professional status

The qualitative aspect of employment may also be approached according to the type of employment contract: temporary contracts apply to 7.3 % of employees born in Belgium, 10.7 % of those born in another EU country, and 16 % of those born outside the EU. Regardless of the worker's origin, temporary contracts are involuntary in about three-quarters of cases (the person states in the survey that the reason for the temporary contract is failure to find a job offering a permanent contract). That similarity

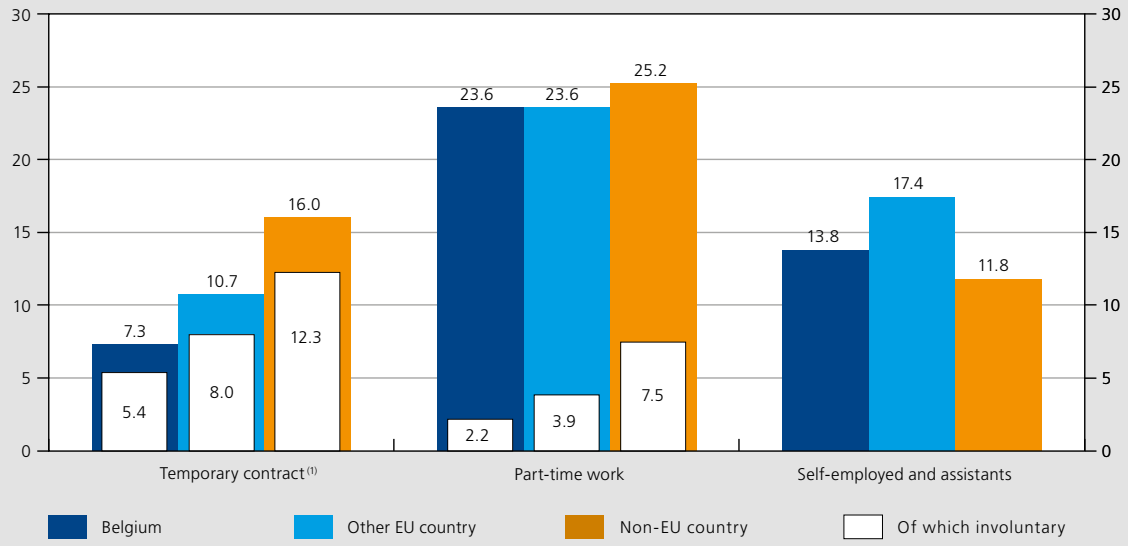
(1) Corresponding, according to Eurostat, to ISCO classification 4 to 9: clerical support workers; service and sales workers; craft and related trades workers; plant and machinery operators and assemblers; elementary occupations.

(2) Year from which it is possible to define three groups of countries of birth: Belgium, other EU countries, non-EU countries.

(3) Average excluding Germany.

CHART 6 TYPES OF EMPLOYMENT CONTRACT AND PROFESSIONAL STATUS BY ORIGIN

(in % of the corresponding total employment of the population aged from 15 to 64 years in 2010)



Source: EC (LFS, microdata).
(1) In % of salaried employment only.

may be surprising, taking account of the high proportion of temporary contracts among workers coming from outside the EU. It is therefore possible that this risk group accepts less secure jobs in view of the various obstacles encountered in the search for work. In some other European countries, work under temporary contract, which is already more common among immigrants, is also more often involuntary than in the case of natives (that is true in France, Spain, the Netherlands and Sweden).

Part-time work concerns around a quarter of people in work, regardless of their origin. However, the detailed breakdown of employment by gender shows that, in the case of men, 12.2 % of non-European immigrants work part-time, compared to just 8.2 % of native-born. For women, the differences are smaller. However, whether part-time working is a deliberate choice or not varies considerably according to the respondent's origin: among non-European immigrants, part-time work was not chosen in 29.9 % of cases (the respondent states that it was not possible to find full-time work) compared to just 9.5 % of workers originating from Belgium.

Entrepreneurial activity could be a way of overcoming some obstacles to the pursuit of salaried employment, or a strategy for avoiding overly low wages – owing to occupational over-qualification, for example – or discrimination. In 2010, proportionately more migrants from other EU countries were self-employed, namely 17.4 %. A more detailed breakdown by country of origin indicates that a quarter of workers from the "new" Member States were self-employed. That is due partly to the transitional arrangements concerning the free movement of workers; for nationals of the countries which joined the EU in 2004 (except Cyprus and Malta), a work permit was still required until May 2009 in order to pursue salaried employment. Self-employed status was a way of circumventing the barriers hampering access to the Belgian labour market. In the case of nationals of Bulgaria and Romania, countries which joined the EU in 2007, the transitional arrangements will be retained until the end of 2013, and registration as a self-employed worker therefore still represents an alternative way for them to gain employment in Belgium (in 2010 one-third of Bulgarian and Romanian workers had self-employed status). Conversely, only 11.8 % of immigrant workers from non-EU countries pursue a self-employed activity, i.e. two percentage points below the figure for workers born in Belgium. Immigrants wishing to set up in business may again face barriers, notably in terms of difficulty in getting credit to finance their activity (OECD, 2011a).

Conclusions

The position of foreign-born persons on the labour market is problematic in Belgium. The employment rate of non-European immigrants is the lowest for all Member States, namely 45.8 % in 2011. There is a difference of almost 20 percentage points compared to persons born in the country of residence.

Immigrants represent 14 % of Belgium's total resident population. The countries of origin have become more diverse, but the main ones are still Morocco, France, the Netherlands and Italy.

The structure of the immigrant population differs from that of the population born in Belgium. Almost two-thirds of persons born outside the EU are in the 20-49 age group, and a quarter of them are aged 50 and over. Conversely, the corresponding proportions in each of these two groups are around 40 % for persons born in Belgium. Immigrants are also distributed differently across the various levels of education, compared to natives of Belgium. In particular, the distribution among non-European immigrants is very uneven since almost half are low-skilled and barely a quarter hold a higher education diploma.

However, age, gender and level of education may influence the likelihood of having a job. But it has been calculated that, given the same population structure as native-born, the average employment rate of immigrants would be almost unchanged. A simple logistic regression also shows that, *ceteris paribus*, the effect of being "foreign-born" has a negative impact on the probability of getting a job. Nonetheless, certain parameters such as the place where a person's qualifications were obtained, fluency in the language of the country of residence, and social networks are not included in the analysis, whereas they could also be explanatory factors here.

The level of education and professional experience are decisive factors for finding a job and career development. Around one in five young immigrants are not pursuing training and are not working; that means a high risk of becoming bogged down in unemployment and social exclusion. Even if foreign-born persons have completed higher education (not necessarily in Belgium), they are considerably less likely to be in work than natives. Problems concerning the recognition of foreign diplomas and the weak development of skill validation are probably additional obstacles.

Fewer than four out of ten female immigrants from outside Europe are in work. Their participation in the labour market is below that of Belgian-born, but it is also very unequal compared to that of men of the same origin. In both cases, the gap between their respective employment rates is 20 percentage points. Different family responsibilities, the prospect of an insecure job and the social model are some of the reasons which may explain their failure to seek employment.

The employment rate of the children of immigrants, a population which is still relatively young, is below that of children of parents born in Belgium. However, the fact of having a parent born in Belgium increases the chances of finding work, which tends to confirm the importance of language and social aspects. The inequalities begin before the person looks for work. According to the PISA studies, the academic results of pupils from immigrant families are inferior to those of pupils of Belgian origin, a phenomenon which is due largely to the parents' socio-economic circumstances.

Apart from individual characteristics, discrimination in recruitment cannot be ruled out according to an ILO study. The existence of discrimination in recruitment is borne out by other more recent studies, such as the barometer of diversity in employment.

Foreign-born persons who have a job are proportionately more often employed than native-born in certain branches regarded as less secure, such as the hotel and catering trade or cleaning services, whereas they are under-represented in public administration and education. Over a third of persons from outside the EU have a job which does not match their level of education. Moreover, taking account of the greater prevalence of temporary contracts and involuntary part-time work in their case, compared to native-born and "Europeans", it is possible that this risk group of non-European origin is obliged to accept less secure jobs or reduced working hours in order to gain employment.

The analysis of access to the labour market according to a person's origin showed that the inequalities persist year after year and from one generation to the next, whereas employment is the most powerful instrument of social integration and of combating poverty.

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Belgium's progress towards SEPA – the Single Euro Payments Area

J. Vermeulen

Introduction

More than four years ago the European banking sector gave the signal for the operational launch of SEPA, the Single Euro Payments Area: since 28 January 2008 it has in fact been possible to use European credit transfers to effect payments throughout the SEPA area (cf. box 1). Since November 2009 it has also been possible to use European direct debits for automatic collection of payments throughout the SEPA area. These two payment instruments more or less form the foundations of SEPA, the Single Euro Payments Area.

The aims of SEPA were explained in detail in the previous two articles on SEPA in the Economic Review of the National Bank of Belgium (NBB)[1]. SEPA's primary objective is to promote financial integration in Europe, more particularly in the sphere of cashless payment services and payment systems. The economic agents (firms, consumers, public authorities and all other payment service users) throughout the SEPA zone must be able to effect cross-border payments as easily, securely and efficiently as domestic payments.

These articles have already presented detailed comments on the organisation of SEPA in Belgium. The Steering Committee on the Future of Means of Payment is a consultative body composed of all the economic agents (the banking sector, card processors, firms, consumer associations and public services) in order to ensure that the migration to SEPA is properly monitored. Chaired by the NBB, the Steering Committee brings together all the parties concerned in order to organise the transition to SEPA in Belgium with maximum efficiency.

This article describes the progress of SEPA in Belgium and compares it with the situation in the other European countries. The time lapse between this article and the previous one (which was the second article) has been longer than the period between the first two articles because of the need to complete a major legal project. During 2010 there was talk for the first time of a legislative initiative at European level to speed up the migration to SEPA. That initiative became an actual project which took up the whole of 2011, culminating in a new regulation of the European Parliament and of the Council in March 2012. As a self-regulating process, the SEPA project was unable to ensure a rapid migration to European credit transfers or the prompt launch of the European direct debit. Even today, four years after the introduction of European credit transfers, the number of transactions using them is nearly 60 % of the credit transfers processed in Belgium and only 30 % in the euro area. The situation was even worse in the case of direct debits, which have not been successfully launched (except in Belgium).

Some European players delayed making the transition while waiting for this new legislation. In Belgium, the use of SEPA credit transfers has continued to make slow but sure progress. The switch to the European direct debit did not take off in Belgium until one of the biggest creditors in the country initiated that move in December 2011, bringing the total European direct debits to 19 % of all direct debit transactions processed.

Chapter 2 deals with the legal framework of SEPA; it focuses mainly on the new, important regulation which

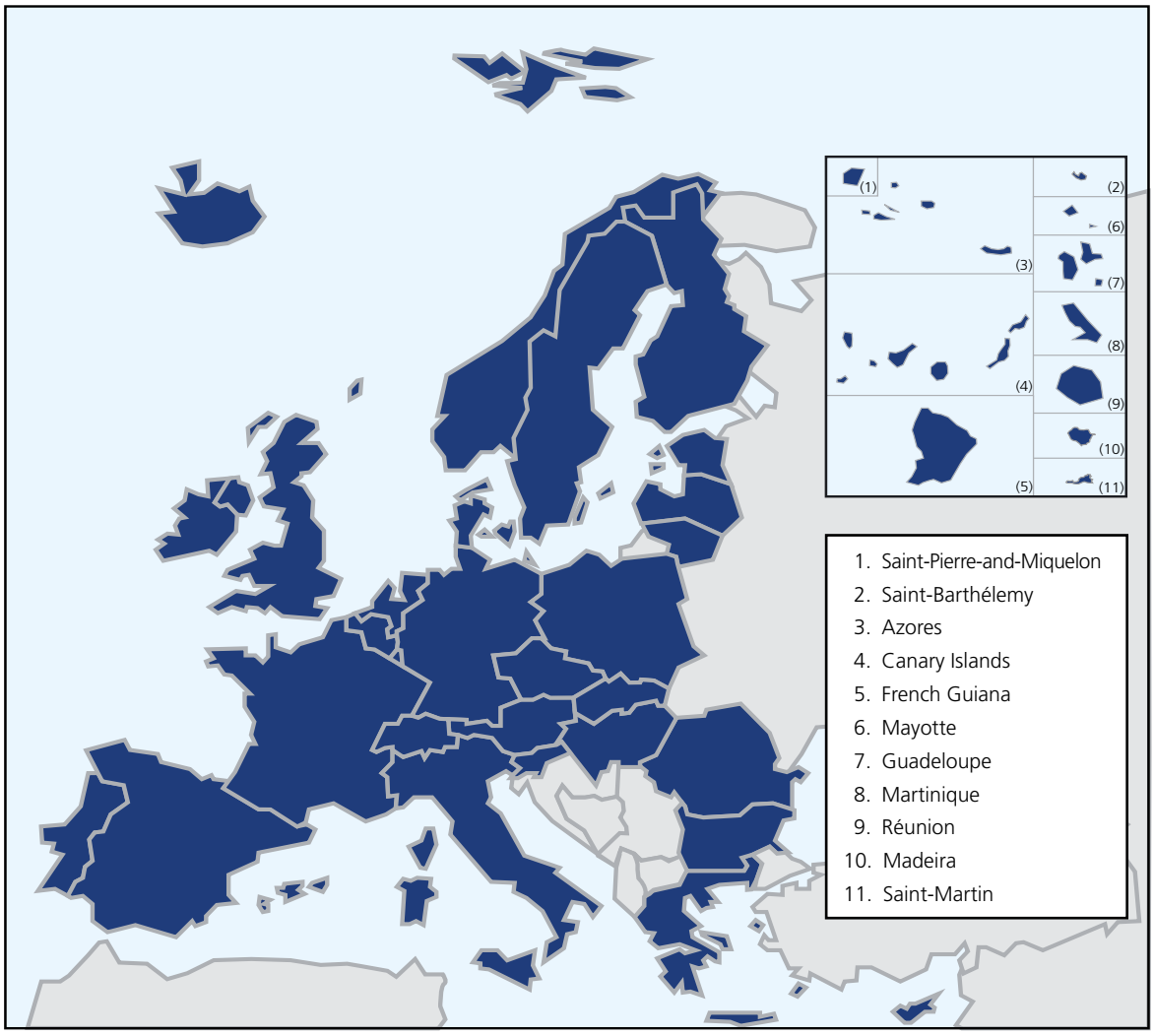
(1) Maillard, H. and J. Vermeulen (2007), "The Single Euro Payments Area: SEPA", NBB, *Economic Review*, September, 49-64 and Vermeulen, J. and A. Waterkeyn (2009), "The Belgian migration to SEPA: Single Euro Payments Area", NBB, *Economic Review*, June, 71-87.

sets the deadline for the migration. Chapter 3 describes the governance of the SEPA project; since the previous article, that governance has been increasingly formalised at European level. Chapter 4 is devoted to the Belgian publicity campaigns which have been or are to be conducted to provide optimum support for the migration. Chapter 5 describes the progress of the migration to European credit transfers and direct debits in payment transactions in Belgium, and compares it to the situation in the rest of Europe. Finally, the last Chapter looks at the progress of the main infrastructures which process retail payments in Belgium: the Centre for Exchange and Clearing (CEC), Atos Worldline, BancontactMister Cash NV/SA and ISABEL.

Box 1 – Geography of the Single Euro Payments Area (SEPA)

The geographical definition of the Single Euro Payments Area, or SEPA, is the area comprising the following 32 countries:

- the 17 countries which have adopted the euro;
- the 10 other European Union (EU) countries. Croatia is to become a new EU Member State in 2014, and will therefore be part of the SEPA zone;
- the other 3 countries in the European Economic Area, namely Iceland, Liechtenstein and Norway;
- Switzerland; although European legislation is not transposed into Swiss law, the Swiss banks can take part in the SEPA project if they take the necessary measures;
- Monaco, which takes part voluntarily in the SEPA project if it takes the necessary measures.



GEOGRAPHY OF THE SINGLE EURO PAYMENTS AREA (SEPA)

Country – Territory	BIC con-tains	IBAN starts with	Currency code	Country – Territory	BIC con-tains	IBAN starts with	Currency code
Åland Islands	FI	FI	EUR	Lithuania	LT	LT	LTL
Austria	AT	AT	EUR	Luxembourg	LU	LU	EUR
Azores	PT	PT	EUR	Madeira	PT	PT	EUR
Belgium	BE	BE	EUR	Malta	MT	MT	EUR
Bulgaria	BG	BG	BGN	Martinique	MQ	FR	EUR
Canary Islands	ES	ES	EUR	Mayotte	YT	FR	EUR
Cyprus	CY	CY	EUR	Monaco	MC	MC	EUR
Czech Republic	CZ	CZ	CZK	Netherlands	NL	NL	EUR
Denmark	DK	DK	DKK	Norway	NO	NO	NOK
Estonia	EE	EE	EEK	Poland	PL	PL	PLN
Finland	FI	FI	EUR	Portugal	PT	PT	EUR
France	FR	FR	EUR	Réunion	RE	FR	EUR
French Guiana	GF	FR	EUR	Romania	RO	RO	RON
Germany	DE	DE	EUR	Saint-Barthélemy	BL	FR	EUR
Gibraltar	GI	GI	GIP	Saint-Martin (French part)	MF	FR	EUR
Greece	GR	GR	EUR	Saint-Pierre-and-Miquelon	PM	FR	EUR
Guadeloupe	GP	FR	EUR	Slovakia	SK	SK	EUR
Hungary	HU	HU	HUF	Slovenia	SI	SI	EUR
Iceland	IS	IS	ISK	Spain	ES	ES	EUR
Ireland	IE	IE	EUR	Sweden	SE	SE	SEK
Italy	IT	IT	EUR	Switzerland	CH	CH	CHF
Latvia	LV	LV	LVL	United Kingdom	GB	GB	GBP
Liechtenstein	LI	LI	CHF				

Source: European Payments Council (EPC).

A number of territories are considered to be part of the EU (under Article 299 of the Treaty of Rome), namely overseas territories and islands (archipelagos).
Nine of these territories have their own ISO code. Altogether, 41 ISO country codes are therefore possible in SEPA. A transaction is considered as a SEPA-transaction only if it is effected between two banks with a Bank Identifier Code (BIC) containing one of these 41 ISO country codes.

1. The regulation on the SEPA migration and other legal aspects

1.1 European regulation on an end-date for the migration to the SEPA payment instruments

On 14 February 2012 the European Parliament approved the Regulation establishing technical and business requirements for credit transfers and direct debits in euro and amending Regulation (EC) n° 924/2009 on cross border payments.

That regulation, subsequently approved by the Council, was published in the Official Journal on 30 March 2012 and entered into force on 31 March 2012.

It sets a common end-date of 1 February 2014 after which credit transfers and direct debits must be effected in accordance with the technical requirements of the regulation (meeting the SEPA standards).

A rapid and full migration to EU-wide credit transfers and direct debits is the only way to eliminate the costs entailed in using the old instruments alongside the SEPA instruments, and deriving all the benefits of an integrated payments market. However, the European banking sector's efforts at self-regulation via the SEPA initiative have proved insufficient to bring about a coordinated migration to the EU-wide schemes for credit transfers and direct debits: that applies to both the supply side and the demand.

Although there are variations between Member States in the progress of the migration to the European schemes for credit transfers and direct debits, a universal deadline set at the end of an appropriate implementation period, allowing time for all the necessary processes to be completed, would contribute towards a coordinated, coherent and integrated migration to SEPA and help to avoid a two-speed SEPA which would be confusing for consumers.

On 14 February 2012 the European Parliament therefore approved the Regulation establishing the technical and business requirements for credit transfers and direct debits in euro, and amending Regulation (EC) n° 924/2009[1]. This regulation, subsequently approved by the Council, was published in the Official Journal on 30 March 2012.

It sets a common end-date of **1 February 2014**, after which credit transfers and direct debits must be executed in accordance with the technical requirements of the regulation. In practice, the national direct debit and credit transfer formats will have to be replaced with the SEPA formats throughout Europe.

Generally speaking, the requirements of the Regulation concerning European direct debits and credit transfers cover the following points:

- The international bank account number (**IBAN**) (cf. box 2) should from now on be sufficient (instead of the IBAN plus the BIC).
- Payment service providers must use **payment schemes** that
  - apply the same rules for making national and cross-border payments;
  - are used by the majority of payment service providers (PSPs) within a majority of Member States (in other words, only payment schemes that already have a large share of the European market are accepted).
- The payment systems must be technically interoperable through the use of **standards** developed by European- and international-level specialised bodies[2] and thus make it possible for payments to be made from one country to another without any technical obstacles.
- The **reachability** obligation for payment service providers is extended to credit transfers (this obligation already applies to direct debits). So, any payment service provider offering its customers the national direct debit or credit transfer must be able to carry out those same transactions when they are initiated in another EU Member State. This reachability, that the European

(1) At the same time, a detailed impact study by the Commission was also published. Since the regulation is directly applicable, there is no need for it to be transposed into Belgian law.

(2) The EPC standards are based on those developed by other international standardisation bodies such as ISO and SWIFT.

Payments Council (EPC) had wanted to be imposed through a process of self-regulation now becomes a legal obligation.

- In terms of accessibility, a payer using credit transfers cannot refuse to make a credit transfer to an account held by a payment service provider established in a foreign country, and a payee using direct debits to collect funds cannot refuse to debit funds from an account held by a payment service provider established abroad. In practice, a customer must be able to pay into any account and a creditor must be able to collect payment from the customer's account by direct debit regardless of the country where the customer is located.
- When initiating or receiving a payment with grouped instructions, users who are not consumers must use the **ISO 20022** standard[1] to send the instructions to, or receive them from, their payment service provider.
- As of 1 November 2012, **multilateral interchange fees** (MIF) may no longer be charged on cross-border direct debits. These fees are usually a contribution paid by the creditor's bank to the debtor's bank in exchange for the direct debiting service. There is a transitional period running until 1 February 2017 for domestic direct debits. An exception is made for rejected R-transactions (Reversal, Rejection, Return and Refusal) for which such fees will be tolerated as long as they reflect the real cost of handling R-transactions and are used to minimise errors[2].

The combination of reachability of payment service providers (mainly banks) and payment accessibility to all bank accounts is central to the SEPA concept. In Europe, payments are exchanged freely and without hindrance throughout the SEPA area.

For the SCT (SEPA Credit Transfer), these technical requirements very largely correspond to the standards defined by the European Payments Council (EPC)[3].

However, in the case of the SDD (SEPA Direct Debit), some of them differ from the interbank standards defined by the EPC as far as the core scheme is concerned. In practice, payers must have the right to instruct their payment service providers:

- to limit a direct debit collection to a certain amount or periodicity, or both;
- where a mandate under a payment scheme does not provide for the right to a refund, to verify each direct debit transaction, and to check whether the amount and periodicity of the submitted direct debit transaction is equal to the amount and periodicity agreed in the mandate, before debiting their payment account, based on the mandate-related information;
- to block any direct debits to the payer's payment account or to block any direct debits initiated by one or more specified payees (black list), or to authorise direct debits only initiated by one or more specified payees (white list).

The following table sets out the key dates specified in the Regulation:

TABLE 1 MAIN CHANGES AT A GLANCE

Date	Impact	Change
31-03-2012	SCT-SDD	Reachability compulsory for payment service providers[1]
31-03-2012	SCT-SDD	Accessibility compulsory for payments[1]
31-03-2012	SCT-SDD	Abolition of the ceiling of € 50 000 for the charging of equal fees for domestic and cross-border payments
01-11-2012	SDD	MIFs for cross-border direct debits prohibited
01-02-2014	SCT-SDD	End of migration to SEPA direct debits and credit transfers[1]
01-02-2014	SDD	Continuity of old ("legacy") mandates, which become SDD mandates
01-02-2014	Payment systems	Technical interoperability between payment systems becomes compulsory[1]
01-02-2014	SCT-SDD	End of the obligation to mention the BIC for national payments
01-02-2016	SCT-SDD	End of the obligation to mention the BIC for cross-border payments
01-02-2017	SDD	MIFs for national direct debits prohibited

(1) The deadline is extended to 31 October 2016 for the non euro area Member States.

(1) ISO (International Organization for Standardization) is a body that develops and publishes international standards, the ISO 20022 standard being reserved for financial messaging standards.

(2) In the case of direct debits, the multilateral interchange fees are a payment made by the creditor's bank to the debtor's bank. In some countries, the MIFs charged on R-transactions are so high that they deter such transactions. In other countries, there is no such differentiation.

(3) The EPC is the banking sector's coordinating and decision-making body for everything to do with payments at European level.

1.2 Amendment of the European regulation on cross-border payments

This Regulation also amends Regulation (EC) N° 924/2009 on cross-border payments in the Community, mainly by abolishing the ceiling of € 50 000 so as to bring fees for domestic and cross-border transactions into line for all payments.

First, it immediately scraps the previous limit of € 50 000 so as to ensure that the fees a user is charged by a payment service provider for cross-border payments are the same as those charged for domestic payments.

Second, under the new Regulation, users no longer have to mention the BIC code, since it is now only the Regulation on the end-date for migration to SEPA that defines the various instances where consumers must indicate the BIC. Likewise, the Regulation on cross-border payments drops the accessibility and reachability requirements for direct debits; these are now set out solely in the Regulation on the end-date.

Finally, it changes the time limit for charging multilateral interchange fees on national direct debits, putting it back to 1 February 2017 instead of 1 November 2012.

(1) Transposed into Belgian law in the Law of 10 December 2009 on payment services and in the Law of 21 December 2009 on the status of payment institutions, access to the activity of payment service provider and access to payment systems.

1.3 Revision of the European Payment Services Directive

The objective of the Payment Services Directive[1] *is full harmonisation of the payments market. In view of the market's rapid development, the European Commission will start preliminary work on a revision of that Directive around the end of this year.*

At the moment, several avenues are being explored in drafting these revised texts. The main ones are described below.

In order to minimise any differences in the processing of the various payments, the Commission may propose extending the scope of the Payment Services Directive to payments where only part of the transaction is made in euros (so-called "one-leg"), that is payments made between Europe and the rest of the world.

There is currently an EU Directive governing electronic money transactions (e-money directive). It seems that it could easily be integrated into the Payment Services Directive, permitting fuller harmonisation of its concepts.

Owing to the rapid growth of transactions and ways of making payments, the question of internet access to bank accounts, e.g. for effecting bank transactions, now concerns not just security aspects, but also information and liability. The draft revised Directive thus incorporates a set of rules for accessing payment accounts, and some security rules governing payments, more specifically for payments made over the internet, by card or on a website offered by a payment service provider.

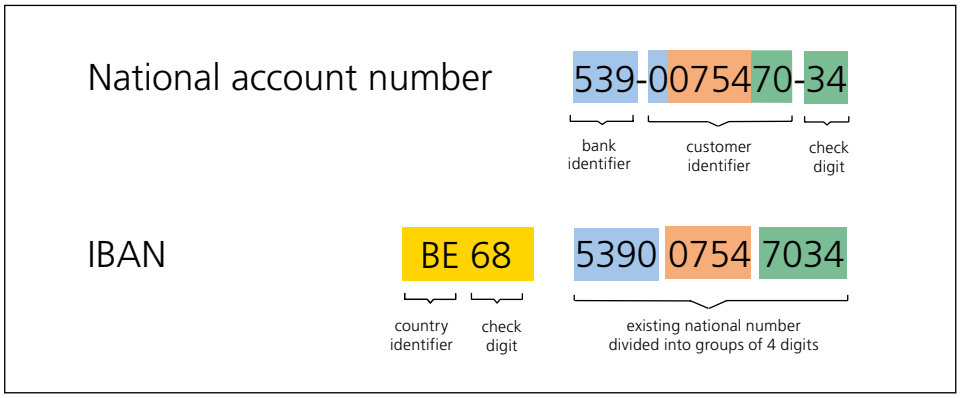
Box 2 – International Bank Account Number (IBAN)

To permit the fully automated exchange of payments, all bank accounts in the SEPA zone have to have a single identifier. Hence the use of the IBAN international standard, which used to apply only to cross-border payments[1].

In practice, the IBAN can be used without changing the current national account numbers. In the case of Belgian bank accounts it consists of a code BE (country code) followed by two check digits and ending with the traditional bank account number. The IBAN account number is therefore four positions longer than the Belgian account number, and appears on all bank and post office account statements. It is expressed in a structured form of 4 x 4 positions.

The Belgian bank account number is therefore retained in full and comprises three parts: the first three digits identify the bank, the next seven digits identify the customer, and the last two constitute a check digit.

(1) In some cases, up to 1 February 2016, combined with the Bank Identifier Code (BIC) for cross-border payments.



Since the IBAN is based on the existing national account numbers, its length varies from one country to another, with a maximum of 34 characters. In Europe, the length ranges between 15 characters (Norway) and 31 (Malta).

The IBAN standard is a global standard designed by the International Organisation for Standardisation (ISO)(1) and based in turn on other standards. The country code is specified in ISO 3166, with two letters for each country(2).

The IBAN also includes two check digits. A first check digit is the one of the original Belgian bank account number (the last two digits). The second check digit is calculated on the basis of the original Belgian number, including the two preceding letters (the country code) and is positioned after the first two letters of the IBAN. The check digits are calculated on the basis of the Modulo algorithm (remainder after division by) 97, which is part of the ISO 7064(3) standard. As the country codes consist of letters, they are first converted to figures using a specific table before the Modulo 97 is calculated. The Modulo 97 check algorithm verifies the probability that an account number is correct. The check digits do not offer an absolute guarantee that an incorrect account number will be detected. In the case of the Modulo 97 algorithm, the average number of errors undetected ranges between 20 and 250 per 100 000 errors.

(1) ISO 13616-1:2007 Financial services – International bank account number (IBAN)
(2) ISO 3166 International standard for codes of names of countries
(3) ISO/IEC 7064:2003 Information technologies – Security techniques – Check character systems

1.4 Green paper "towards an integrated European market for card, internet and mobile payments"

In parallel with the revision of the Payment Services Directive, the European Commission also launched a specific consultation at the beginning of the year on "new" means of payment.

The Commission is thus trying to establish the expectations and requirements of the various stakeholders in the payments market as regards the future of SEPA, and payments by card, internet and mobile phone.

The ever-growing share of online payments ("e-payments") and payments by mobile phone ("m-payments"), and above all the widespread use of smart phones, is transforming the payments landscape and ushering in new payment applications, such as electronic purses or virtual public transport tickets stored in a mobile phone, for instance. The European Commission's aim here is to assess the extent to which the SEPA payment instruments could serve as a basis for more integrated and secure payment innovations.

On the other hand, the integration of the European payment cards market is far from complete and there are still very few tangible results. Here, the Commission asks a number of questions with a view to identifying the factors that are slowing up this integration and examining what could be done.

Responses to this consultation, which closed in April 2012, can be accessed on the internet[1]. They are still being analysed, but the first summary reports are expected before the end of the year.

2. SEPA governance

2.1 Governance in Belgium

Chaired by the National Bank of Belgium, the Steering Committee brings together all interested parties with a view to organising and monitoring the transition to SEPA in Belgium as efficiently as possible.

In Belgium, the structure organising the SEPA migration in society is the Steering Committee on the future of means of payment, comprising representatives of all economic agents (the banking sector, payment card system operators, businesses, consumer associations and public services).

Given the many economic agents involved in the work and the complexity of the changes, the switchover to SEPA needs to be coordinated not just at the banking sector level but also at the level of society. The SEPA Working Group was set up for the purpose of this social dialogue. It reports to the Steering Committee on the future of means of payment. The SEPA Working Group's mandate covers the organisation of discussions between all parties concerned in order to ensure a successful transition to SEPA throughout Belgian society.

Since the changeover to SEPA affects everyone, the SEPA Working Group decided to arrange separate monitoring of the activities of the various economic stakeholders. For this reason, sub-groups have been set up to support and guide their own sector's migration to SEPA and to assess the progress made.

2.2 Governance in Europe: The SEPA Council

The SEPA Council is the highest European-level body monitoring the transition to SEPA. It is composed of representatives from all sectors.

Chaired by the European Central Bank (ECB) and the European Commission, the SEPA Council provides support for the SEPA migration at European level. One of the objectives of this new body is to ensure that all players in Europe are involved in the process. Five representatives have been selected from both the supply side (banks and payment institutions) and the demand side (payment service users). The five users' representatives come from European coordinating bodies representing consumers, retailers, the business sector, small and medium-sized firms and national public authorities. The Eurosystem is represented by the ECB and by several national central banks (NCBs), on a rotating basis. The NBB regularly takes part in the SEPA Council. The secretariat is provided jointly by the ECB and the European Commission.

The SEPA Council members are currently discussing the need to adapt their working mandate. Up until now, this mandate was limited to promoting establishment of SEPA by bringing together the highest authorities of the parties involved and seeking a consensus for the next stages in the migration to SEPA. In the future, the SEPA Council is to perform more of a steering role and take strategic decisions at the highest level of power. A multi-layered structure is likely to be set up, with the SEPA Council representing the top level; a second level would be the structure for the "business" dialogue between the various stakeholders. The third tier would be the technical level, where specific technical standards and protocols would be drawn up by separate entities (such as the EPC and other standardisation bodies).

3. Communication on SEPA

3.1 Communication in Belgium

Communication in Belgium follows the usual top-down approach: those steering the SEPA project inform the main users and user groups, who in turn pass on the information to small and medium-sized stakeholders and citizens.

Since 2008, numerous communication activities have already been organised. In this respect, we refer to the three previous progress reports. Since Belgium has opted for a gradual approach for its migration to SEPA, the communication activities have also developed gradually for specific target groups. The communication strategy centres on a diversified approach per target group, each involving a different emphasis in terms of content.

Table 2 gives an overview of the main communication activities carried out over the last few years. It shows the stakeholders that have arranged communication for the various target groups, and the communication media used.

(1) http://ec.europa.eu/internal_market/payments/cim/index_en.htm

TABLE 2 COMMUNICATION ACTIVITIES BY COMMUNICATOR AND TARGET GROUP

Target group / Communicator	Banks, individually	Public authorities	Businesses	Consumers
Febelfin	SEPA Workshops CEC Workshops Directives on Extranet	SCT brochure www.sepabelgium.be	Press releases SCT leaflet SCT brochure SDD brochure www.sepabelgium.be	Press releases SCT leaflet www.sepabelgium.be
Banks, individually	–	Brochures for the customer	Brochures for the customer Company events	On-the-spot websites
NBB	–	Steering Committee, SEPA WG Bilateral contacts	Press releases Distribution of memos on the legal steps Progress reports Steering Committee, SEPA WG: • Big billers • Public authorities • Firms • Federations • ERP & IT providers Bilateral contacts with the "big billers"	Press releases Steering Committee, SEPA sub-WG Consumer representatives
Public authorities	–	–	Press release minfin.fgov.be/portail2/fr/sepa fin.vlaanderen.be/sepa www.sepa.cfwb.be	Press release SCT leaflet http://minfin.fgov.be/portail2/fr/sepa fin.vlaanderen.be/sepa www.sepa.cfwb.be

As this table shows, the communication was organised by the banking federation, individual banks and the NBB, which passed on the information to their main customers (public authorities, big billers). These in turn circulated the information to the general public and other businesses.

3.2 Future communication

The European Parliament and the Council of Ministers are counting on the payment service providers, States and national central banks to carry out and coordinate general communication on SEPA.

In February 2012, the European Parliament and the Council of the European Union adopted a Regulation establishing technical and business requirements for credit transfers and direct debits in euro, also known as the SEPA Regulation (see Chapter 1 above).

The 15th recital in the preamble stresses the importance of communication for the migration to European payment instruments, direct debits and credit transfers (SEPA):

"It is absolutely crucial that all actors, and particularly Union citizens, are properly informed, in a timely manner, so that they are fully prepared for the changes brought about by SEPA. Key stakeholders such as PSPs, public administrations and national central banks, as well as other heavy users of regular payments should therefore carry out specific and extensive information campaigns, proportionate to the need and tailored to their audience as may be necessary, in order to raise public awareness and prepare citizens for SEPA migration. In particular, there is a need

to familiarise citizens with migration from BBAN to IBAN. National SEPA coordination committees are best placed to coordinate such information campaigns."

In its role as chairman of the Steering Committee, the National Bank of Belgium has the task of monitoring the progress of SEPA among the various parties involved and ensuring that there is a consistent approach in the efforts devoted to communication. A successful SEPA migration is only possible if all stakeholders make enough effort to circulate information about SEPA within a reasonable time-frame. For this reason, the priority must be to get all the various parties involved to commit themselves to arranging the necessary communication.

Previously, it had already been decided not to organise any general national communication campaign on SEPA, as it is up to each individual citizen or business to decide on the best moment to switch over. If need be (depending on progress with SEPA in Belgium in 2013), a decision will be taken on whether a general communication campaign nevertheless needs to be organised at national level, involving the broadcasting media. That may prove necessary if there are still too many people unaware of the European credit transfers (and direct debits). At present, 59.9 % of all credit transfers made in Belgium are SEPA transfers. By the end of 2013, European direct debits and credit transfers are likely to be very widely used in Belgium, obviating the need for any national advertising campaign.

If all parties involved make sufficient efforts, the entire migration could well be completed before 1 February 2014, without any need for a national information campaign. In any case, it is essential for the highest echelons of all the various stakeholders to lend their explicit support to a wide-scale public information campaign.

Annex 1 contains the NBB's SEPA communication plan, listing all the activities carried out or planned from the second quarter of 2012 until the end of the migration, in February 2014.

4. Progress of SEPA in Belgium

4.1 The European credit transfer (SEPA Credit Transfer or SCT)

4.1.1 Introduction of the European credit transfer in Belgium

The European credit transfer accounts for almost 60 % of the market Belgium, a much larger share than in most of the other countries.

Almost 60 % of all Belgian credit transfers are made in the European format, with the IBAN used to identify the bank providing the payment services. The rapid spread of the European credit transfer in Belgium can be explained by the early start made by the public services, soon followed by the big billers.

In addition, the credit transfer paper form was developed in a SEPA version which was widely visible to the general public. The "old" paper-version domestic transfer forms have been scrapped and the banks stopped processing them on 17 October 2011.

The chart below compares the volume of European credit transfers handled by the Belgian retail payment system (the CEC) with the aggregate volumes processed by the main European retail payment systems within the euro area.

The migration is currently at the stage where smaller and medium-sized enterprises are switching to SEPA, each according to their own schedule. Consequently, the steady upward trend is continuing.

4.1.2 Introduction of the European credit transfer by the various stakeholders

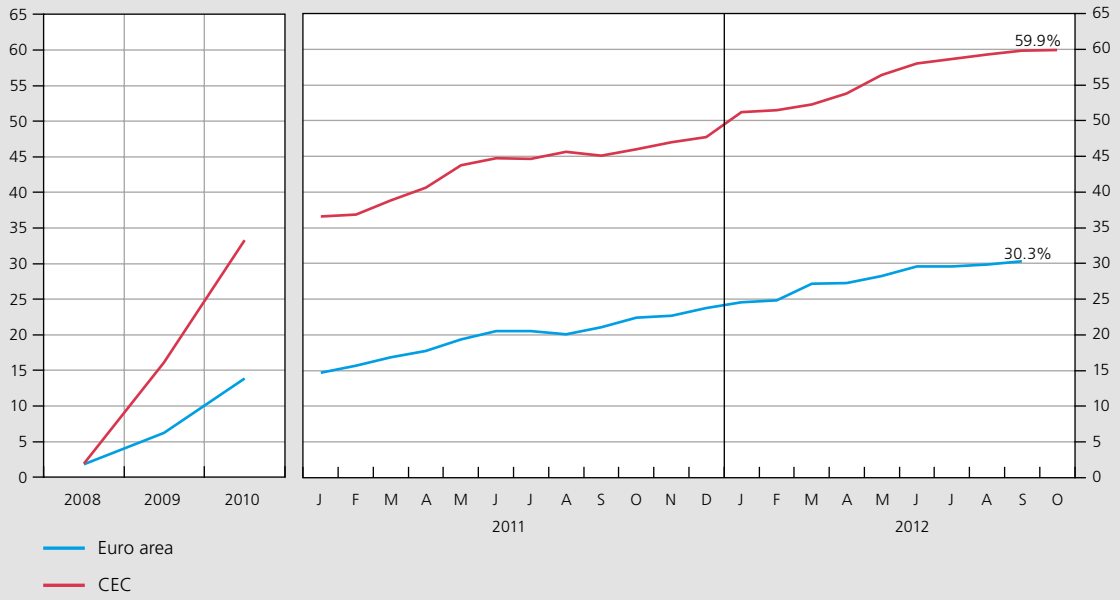
Most public authorities and big billers have already completed the migration, but this is not yet the case for many small and medium-sized enterprises.

4.1.2.1 Introduction of the European credit transfer by the Federal State and big billers

In April 2012, 82 % of the credit transfers originating from the federal public services were in the SEPA format. Most services are already using the ISO20022 XML standard, in line with the European credit transfer operating rules. Currently, those public services that are still not 100 % ready are being urged to convert the rest of their payment transactions to the SEPA format as quickly as possible. Thanks to the major communication efforts made by the

CHART 1 CREDIT TRANSFERS IN SEPA FORMAT (2008 – OCTOBER 2012)

(% of total interbank credit transfers)



Sources: European Central Bank (ECB) and Centre for Exchange and Clearing (CEC).

public authorities as early as 2008, both the general public and the business community rapidly became familiar with the European credit transfer.

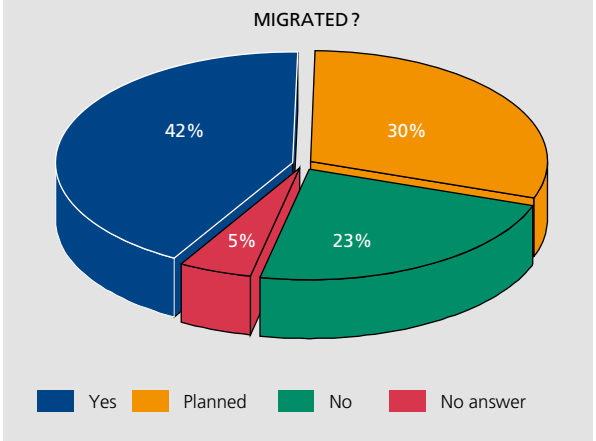
Most large firms issuing invoices completed their migration to the SEPA credit transfer during 2011. These big billers send out their requests for payment together with a European credit transfer form. Following the move by the public sector, they in turn proceeded to introduce the European credit transfer.

4.1.2.2 Introduction of the European credit transfer by small and medium-sized enterprises

Many small and medium-sized enterprises have not yet begun converting to the European credit transfer or are still in the process of doing so. Consequently, a very large proportion of transfers, especially those sent electronically in bulk to the issuing bank, are currently still in the domestic format. The main challenge at the moment consists in informing the thousands of small and medium-sized enterprises and encouraging them to proceed with the conversion.

For a good many firms, the ISABEL platform [1], very widely used in the market, is vital, because this is the channel enabling credit transfers and direct debits (as well as other account information) to be transmitted to a number of banks. ISABEL is a key player in the payment services market for firms and public authorities. By the end of June 2012, 87 % of its users had already opted for the ISABEL6

CHART 2 INTRODUCTION OF THE EUROPEAN (SEPA) CREDIT TRANSFER BY SMALL AND MEDIUM-SIZED ENTERPRISES



(1) ISABEL is a supplier of services concerning bank data communication and electronic invoicing. In particular, it offers a multibank platform for payment service users.

solution, which is compatible with the new SEPA formats, and SEPA payments made up 44 % of the total.

At the end of 2011, the NBB and ISABEL carried out a joint survey among 231 small and medium-sized enterprises to find out just how ready they were to start using European direct debits and credit transfers (see chart 2). Forty-two percent of firms surveyed say they are ready to introduce the European credit transfer, and 30 % of them have planned their migration to SEPA.

The following conclusions may also be drawn from the replies from this sample of small and medium-sized firms:

- almost 90 % of companies are aware of the SEPA concept. Conversely, only 31 % of them know about the new Regulation on the end-dates for the migration;
- more than 50 % of firms surveyed are expecting SEPA to cut the cost of their payments;
- over 70 % of businesses expect SEPA to reduce the time required to process payments;
- they are not expecting any immediate increase in competition between banks nor expansion of international trade (7 % in both cases);
- only a small number of firms (14 %) are aware of the existence of the European direct debit, but those that know about this new payment scheme are usually aware that a Business-to-Business (B2B) version also exists;
- many firms say they do not yet have all the information about SEPA;
- only 4 % of firms have started implementing the migration to European direct debits, and 3 % of them have plans for doing so. For the B2B version, the respective figures are 5 and 4 %.

Since the migration among ISABEL users has been relatively slow up to now, the end-date for using the non-SEPA platform (ISABEL Business Suite 5.0) was extended until the end of July 2012. Users of the ISABEL platform thus have a wider migration window.

4.2 The European direct debit (SEPA Direct Debit or SDD)

4.2.1 The two versions of the European direct debit

The European direct debit is a new payment instrument for the automatic collection of invoices on a cross-border basis. It comes in two different versions. (cf. Box 3)

As well as being an international instrument, the European direct debit comes in a number of variants geared to different uses and users. The Business-to-Business (B2B) scheme was designed for use between businesses, enabling them to collect or pay their invoices efficiently. Banks offer the B2B scheme as an option, but in Belgium almost all banks active in the field of payments take part in the scheme. There is some demand for the B2B scheme on the market, so that the migration started with B2B transactions. Nonetheless, the volume of these B2B transactions remains small.

TABLE 3 MAIN DIFFERENCES BETWEEN THE CORE EUROPEAN DIRECT DEBIT SCHEME AND THE BUSINESS-TO-BUSINESS (B2B) SCHEME

European Scheme (Core)	European Business-to-Business Scheme (B2B)
For use between businesses and consumers	For use between businesses
Reimbursement up to 8 weeks after collection	No entitlement to reimbursement (except in cases where there is no valid mandate)
The mandate is administered exclusively by the creditor	The mandate is administered by the creditor from the debtor, and the debtor's bank must have consent from the debtor
The interbank execution cycle takes 2 days	The interbank execution cycle takes 1 day

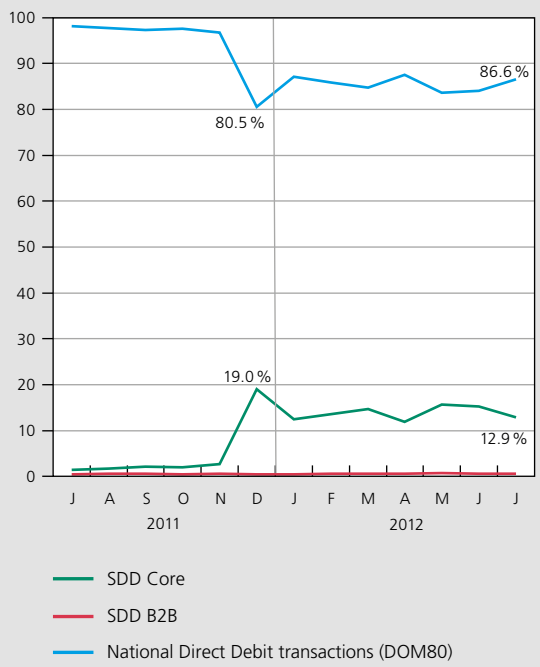
The main differences between the Core Scheme and the B2B version are set out in the table above.

4.2.2 Launch of the European direct debit in Belgium

After a very slow start for the European direct debit, one of the biggest billers in Belgium opted to switch over to the SEPA direct debit at the end of 2011, immediately boosting the market share of the European version to between 12 and 15 %.

The European direct debit was launched on 1 November 2009, but migration to this SEPA instrument made little progress in the first two years. Then, in mid-November 2011, one of the leading creditors in Belgium (a public utility operating in the energy sector) began converting its domestic direct debits (DOM80) into European ones. A month later, in mid-December, the conversion was successfully completed, and all customers had migrated without any problems to the European format. In December 2011, as a result of this migration, 19 % of all direct debits in Belgium were made in the SEPA format. During 2012,

CHART 3 DIRECT DEBITS IN SEPA FORMAT (JULY 2011 – JULY 2012)



Sources: Euro Banking Association (EBA) and CEC.

this figure declined to between 12 and 15 %, owing to the particularly high number of transactions traditionally recorded in December, which is the month when most existing direct debits are collected: monthly, quarterly, half-yearly and annual payments.

In all, by the end of July 2012, 49 Belgian firms had started the migration to SEPA, and 11 companies had completed the switchover.

Belgium now has 13 728 creditors that use the direct debit payment instrument; together, they administer 31 million mandates (direct debits). The number of mandates/direct debits per creditor varies considerably. Migration to the European direct debits thus lies in the hands of a relatively small number of players, namely creditors using direct debits for automated collection of invoices. In the case of credit transfers, the situation is completely different as the decision to switch to the European format depends on millions of citizens with bank accounts and several thousand companies that have to take action themselves. Under the direct debit scheme, it is the creditor that has to take the initiative.

Chart 4 gives a breakdown of the number of direct debit mandates in relation to the number of creditors.

This shows that a small number of creditors control the majority of direct debits. For instance, the ten leading creditors account for 34 %, and the twenty biggest creditors represent 44 % of all mandates. In the case of the top 200 creditors, this share reaches almost 90 % of the total number of mandates. The advantage is that the group of companies which must be the focus of attention for achieving almost total migration is only small, so that communication can be specifically targeted.

The speed and success of the migration largely depends on the creditor firms: public authorities cannot set an example because it does not use direct debits to collect payments (except for local authorities).

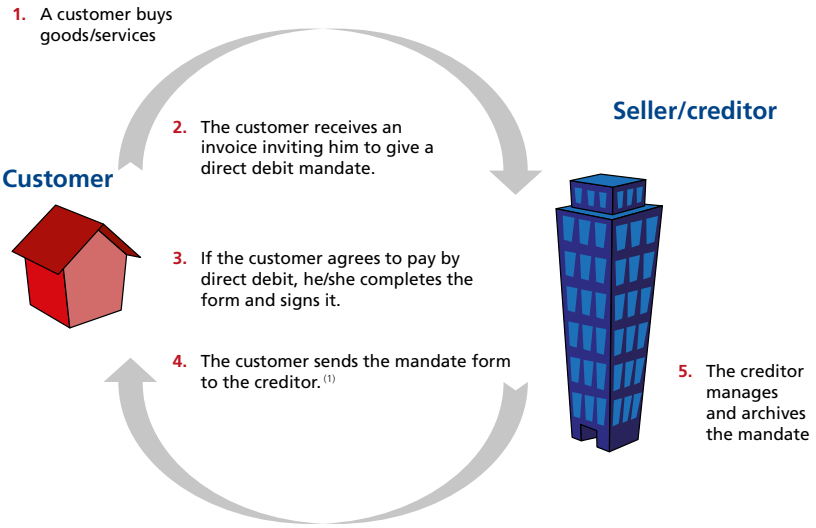
The migration is being initiated by the creditor firms: they are the ones that decide which type of mandate to present to their debtors and thus arrange the gradual transition from the old Belgian DOM80 system to the new payment instrument, the European direct debit. Up to now, there has not been much active publicity on this

Box 3 – Operation of the European direct debit or SEPA Direct Debit (SDD)

The direct debit is the preferred payment instrument for periodic payments between two parties. For firms/creditors, the payment process can be entirely automated, with no manual intervention or checks. Debtors/consumers do not have to do anything, and can monitor the payments by checking their bank statements.

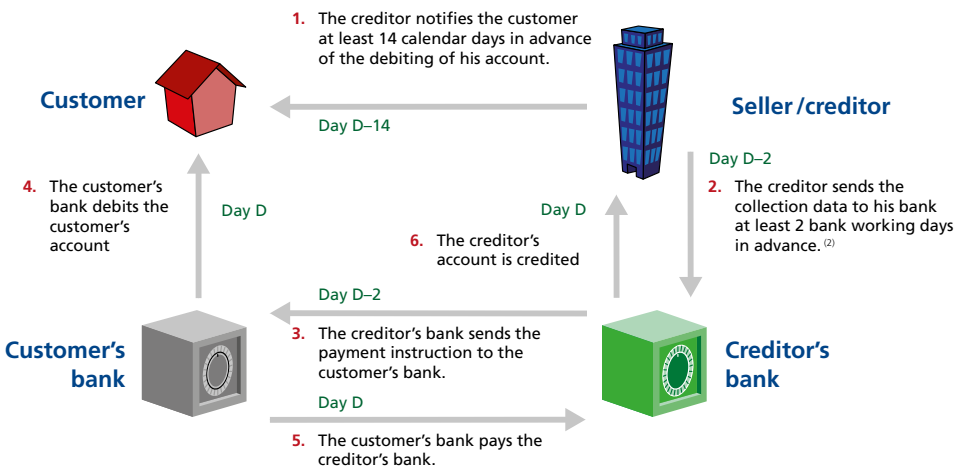
There are two steps in the execution of direct debit payments: the grant of a mandate and the successive collections.

STEP 1 : Grant of a direct debit mandate



(1) In the case of a "Business-to-Business" mandate, the customer's bank needs to hold the consentment of the debtor.

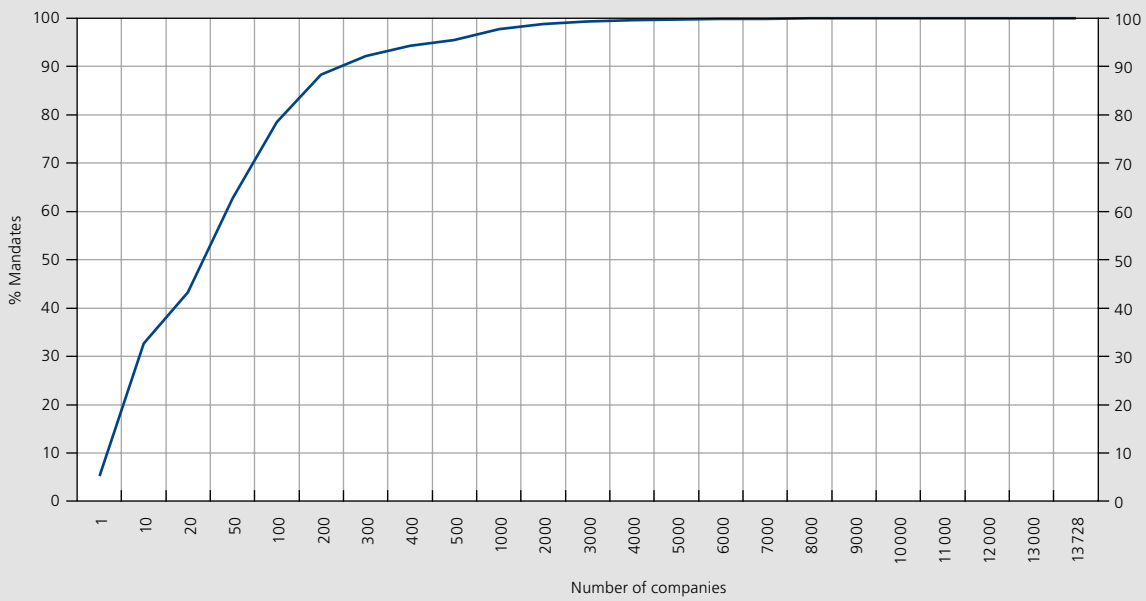
STEP 2 : Collection of periodic direct debits



(2) In the case of the initial collection in a series of new direct debit collections, or a one-off collection, the data are sent on day D–5. In the case of a "Business-to-Business" direct debit collection, the data are sent on day D–1.

subject, pending publication of the European Parliament and Council Regulation (see Chapter 1) designed to speed up migration to the European payment instruments. Unlike the European credit transfers, migration to the European version of the Belgian direct debit payment instrument is not being led by the public authorities, as they do not use direct debits to collect payments (except for the local authorities). For this reason, it is hoped that the example of the big billers will serve as a model for migration to the European direct debit.

CHART 4 BREAKDOWN OF THE DIRECT DEBIT MANDATES AMONG THE NUMBER OF ACTIVE CREDITORS REGISTERED IN BELGIUM



The chart below shows a provisional schedule for the migration by twelve of the biggest billers in Belgium.

If this schedule is respected, a figure of 35 % European direct debits would be reached by the last quarter of 2012.

A survey carried out among payment software suppliers has revealed that upgrading to the new direct debit schemes is in progress.

The survey of firms active in the Enterprise Resource Planning (ERP) market (see above in section 4.1.2.2 Introduction of the European credit transfer in small and medium-sized firms) also covered the SEPA direct debit. Most firms supplying payment software are planning to adapt their products so that they can process the European direct debit Core Scheme. However, most of them are not yet ready. Not all suppliers will offer the B2B payment scheme. Only a minority of software packages will be

CHART 5 (PROVISIONAL) PLANS FOR MIGRATION TO THE SDD BY 12 OF THE BIGGEST BILLERS IN BELGIUM

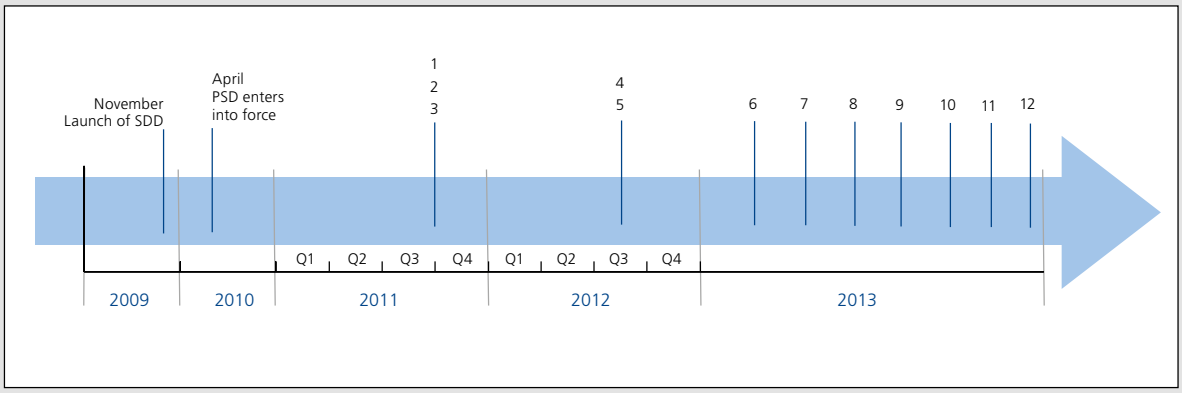
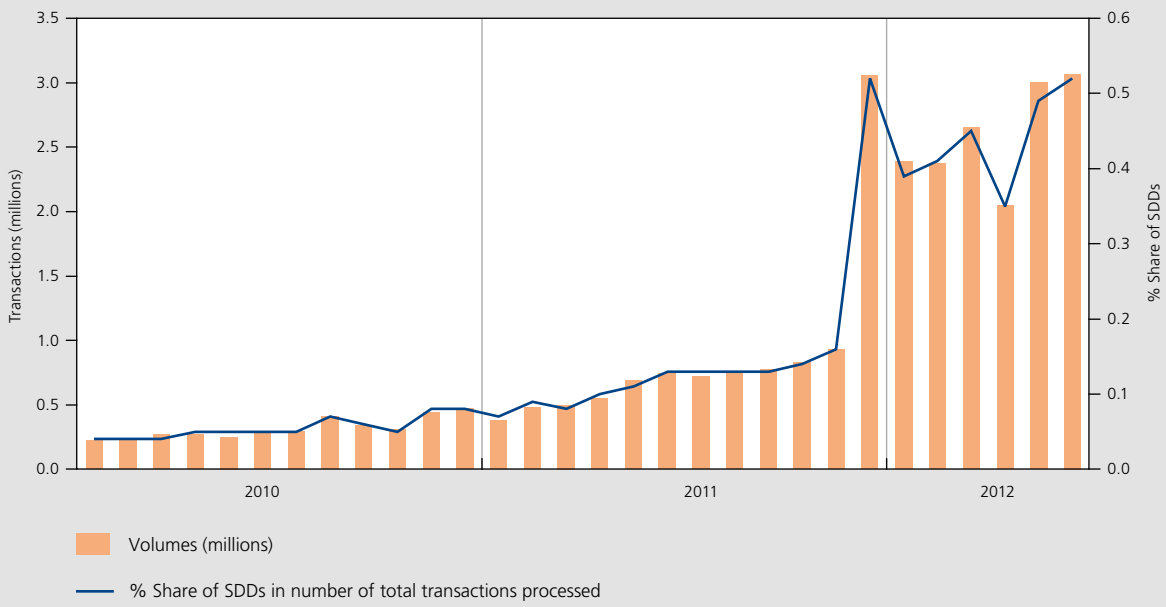


CHART 6 TOTAL EUROPEAN DIRECT DEBIT TRANSACTIONS EXECUTED IN THE EURO AREA



Source : ECB.

adapted for the administration of direct debit mandate data by creditor firms. Software solutions for mandate management are also offered by other companies and banks in the market.

Belgian banks process European direct debits using the Euro Banking Association's European payment system, EBA/STEP2.

In contrast to European credit transfers, which are handled by the CEC, the banks use the European EBA/STEP2 payment system to process European direct debits. Cross-border direct debits (and cross-border credit transfers) for which one of the parties is a customer of a bank in another SEPA zone country are also processed via EBA/STEP2.

In the chart above, the increase in the figures in November 2011 marks the arrival of one of Belgium's biggest billers. This migration obviously has a very small impact on the total share of European direct debits in the total number of direct debits in Europe, which is still only marginal (up from 0.2 % to 0.5 %).

4.2.3 The European direct debit in Belgium and other countries

Belgium is by far the European frontrunner when it comes to using European direct debits.

Belgium's share in the use of the new payment collection schemes in Europe is substantial (data from April 2012) : in the Core Scheme, 79 % of domestic and cross-border direct debits were initiated by a creditor with a bank operating in Belgium. In the case of the B2B scheme, Belgium's share stands at 55.7 %. (see chart 7).

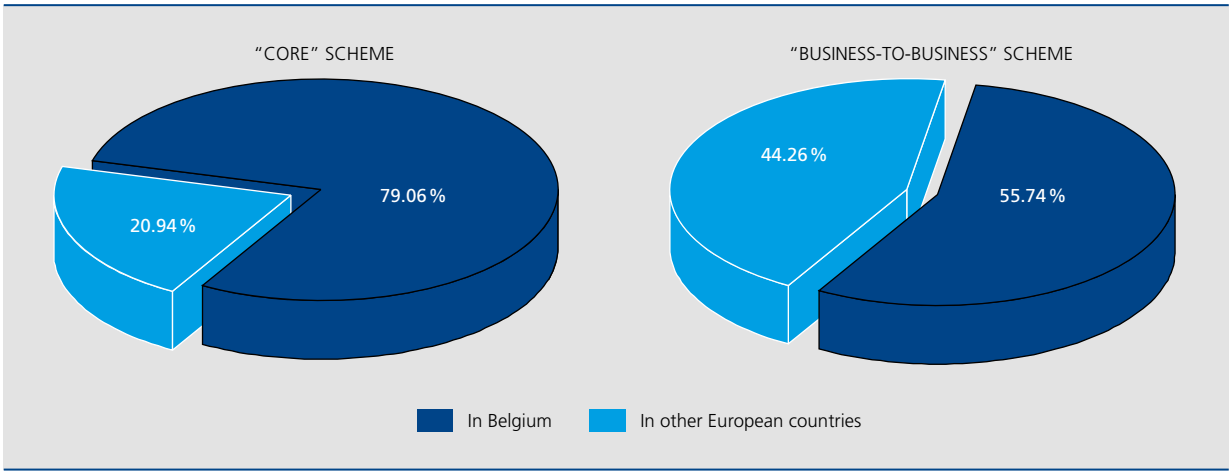
In Belgium, more than 1.8 million European direct debits are recorded per month, roughly 80 000 of which are B2B transactions. This scheme, reserved for business use, did not exist before and clearly meets a definite market demand. Several big companies (notably in the oil sector) have migrated to the B2B scheme and have since been collecting payment for their daily deliveries in the European format.

5. Payment systems infrastructure

Slowly but surely, radical changes are taking place in the retail payment systems landscape in Belgium. On the one hand, a process of unbundling is under way in the field of payment card handling, while clearing of domestic retail payments has been contracted out to a major foreign service provider.

The arrival of SEPA has led to profound changes in the payment systems infrastructure. In the domestic card payments industry, as in many other economic sectors, there

CHART 7 PERCENTAGE OF EUROPEAN DIRECT DEBITS MADE BY THE EBA/STEP2 PAYMENT SYSTEM
(April 2012)



Source: EBA. These are direct debits sent by banks active in Belgium and those transmitted by banks from other European Union countries (domestic and cross-border direct debits).

is a move towards unbundling of operational processes in the traditional process chain. While Banksys used to be a card processor with full horizontal and vertical integration, the operational card processing division has been sold off to ATOS Origin, which renamed Banksys as ATOS Worldline. Ownership of the BancontactMisterCash and Proton card schemes has been transferred to a new entity called "BancontactMisterCash sa/nv". This means that multiple, competing operators can now handle the BancontactMisterCash (BCMC) card scheme, which can only boost efficiency on the debit card market.

Processing of traditional payment instruments – credit transfers, direct debits and cheques – has been outsourced to another automated clearing house, operated by a foreign entity. As a result, Belgium is one of the first countries to have achieved the planned consolidation of clearing arrangements.

5.1 Centre for Exchange and Clearing (CEC)

The Belgian banks have selected the "CORE" platform of the French payment system STET [1] ***to take over processing of Belgian retail payment transactions from the beginning of 2013.***

Since the launch of the Single Euro Payments Area (SEPA) project, Belgian banks have undertaken to migrate from the CEC, the Belgian retail payments system, to an international, pan-European payment infrastructure for processing their retail payment transactions. According to the Belgian banks, the CEC is not large enough for conversion to a pan-European system.

After a call for tenders ("Request For Proposal") involving four potential pan-European retail payment systems, the French STET system was chosen as the preferred partner. The aim of the project is to migrate in four successive stages over the period from February to March 2013.

The CEC non-profit institution is being retained as a legal structure, and the service agreement concluded with the National Bank of Belgium has been replaced by a service contract with the French payment system STET. The current role of the National Bank is being adapted accordingly, and will from now on be limited to oversight of the CEC as a payment system.

In view of the switch to the new platform, the banks consulted one another on their status in the CEC payment system. Several foreign banks which participate directly (direct members) will amend their status to become indirect participants, and their payment messages will be sent by another (direct member) bank to the CEC.

5.2 ATOS Worldline

ATOS Worldline is currently adapting its central infrastructure to the new SEPA environment.

(1) Systèmes technologiques d'échange et de traitement.

ATOS Worldline will have the technical capacity to cater for all types of payment schemes, both those corresponding to the SEPA standards and other schemes. The payment terminals will be adapted to accept several types of cards and acquirers on the ATOS network.

5.3 BancontactMisterCash SA/NV (BCMC SA)

The BancontactMisterCash (BCMC) domestic debit card scheme is being retained and will become SEPA compliant.

Following the takeover of Banksys by ATOS Worldline, a "scheme company" called BancontactMisterCash Company NV/SA, owned by five Belgian banks, was established and the intellectual property of the BancontactMisterCash and Proton card schemes was transferred to it. This company is also in charge of the day-to-day management of these payment schemes. The legacy domestic debit card scheme, BCMC, has not been abandoned, but will be adapted in order to comply with the SEPA rules and will consequently become a European debit card scheme. This major project will be completed between now and 2014 and comprises the following sub-projects:

- adaptation of the scheme's rules (licence structures and technical and management rules);
- establishment of a new card-switch available to all card issuers and acquirers wishing to participate in the BCMC scheme;
- migration to the EMV technology[(1)];
- development of a new settlement method.

5.4 ISABEL

As mentioned in section 4.1.2.2, the non-SEPA solution ISABEL (Business Suite 5.0) has been discontinued, and all customers should have migrated to the SEPA-compatible solution, "ISABEL 6", by the end of July 2012.

By the end of June, 87 % of ISABEL users had already switched to the SEPA-compatible solution, known as ISABEL 6. But that does not necessarily mean that a company which brings the new platform into use can immediately start processing its payments in the SEPA format. It is quite likely that a number of "tardy" customers rushed to introduce ISABEL 6 at the last minute, without giving priority to the SEPA migration. In any case, shutting down the old version of ISABEL Business Suite 5.0 is likely to trigger a mass movement among ISABEL users, which will boost the share of SEPA payments considerably over the next few months.

(1) Europay MasterCard Visa is the standardised international protocol for implementing CHIP & PIN security for transactions made by payment card.

5.5 The European payment card (SEPA card)

Since the launch of the SEPA project, the European authorities have suggested that the process of migration to SEPA should lead to the emergence of a European payment card scheme.

Although the payment card market is big enough to allow greater competition, there has been very little progress in this area. As regards the Payfair scheme initiated in Belgium, Monizze and E-Kena, the new operators issuing electronic luncheon vouchers in Belgium, began using Payfair several months ago for the acquiring of the vouchers by various retailers.

Conclusion

The SEPA project, being self-regulated, was unable to achieve a swift transition to the European credit transfers and direct debits. The European authorities therefore took the initiative and passed legislation to bring about the migration to the Single Euro Payments Area. The European Parliament and the Council adopted the Regulation establishing technical and business requirements for credit transfers and direct debits in euro and amending Regulation (EC) N° 924/2009. This Regulation, which entered into force on 31 March 2012, sets a common end-date, 1 February 2014, after which credit transfers and direct debits must be executed in the European (SEPA) format, as defined by the technical requirements set out in the Regulation.

As for progress with the SEPA migration in Belgium, European credit transfers accounted for almost 60 % of the total number of credit transfers made in October 2012, a much higher proportion than in most other European countries. The public authorities and the majority of big-billing companies have completed their migration; it is now up to small and medium-sized enterprises to make the switch to SEPA.

In the case of the European direct debit, the migration is proving more laborious. Initially, it was offered only in its B2B version, to meet existing demand in the market from businesses wanting to use direct debits for their mutual payments. As a result, the volumes were very small. However, at the end of last year, one of Belgium's biggest billers started using the European direct debit Core Scheme,

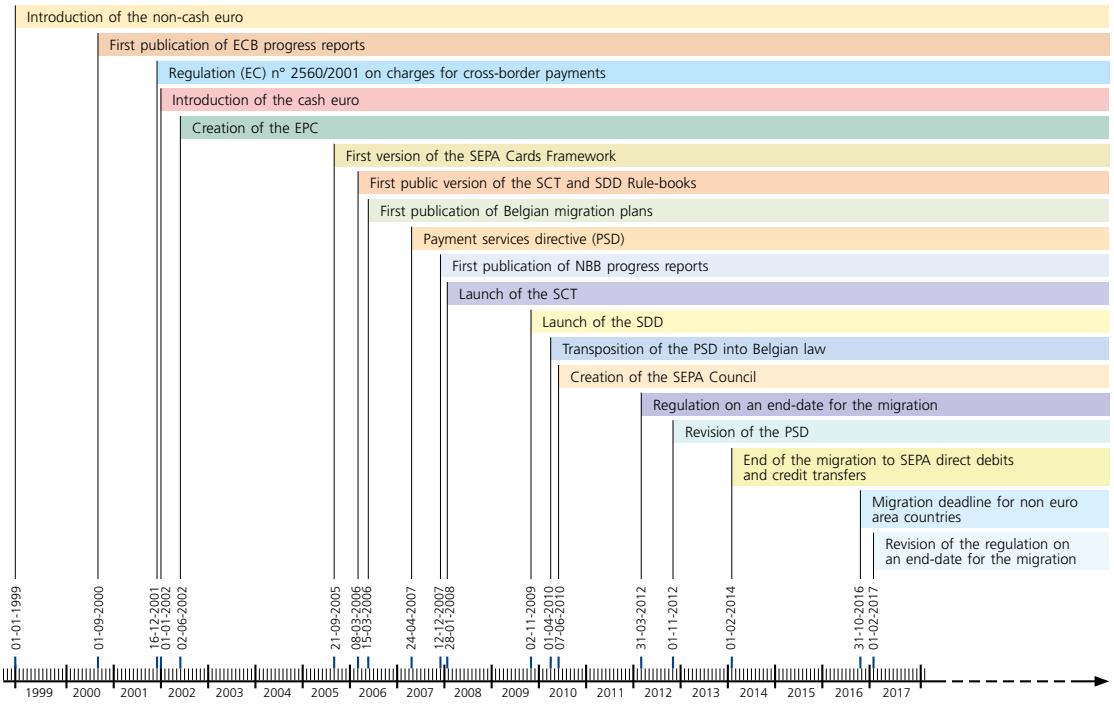
thus boosting the proportion of European direct debits to between 12 and 15 % of all Belgian direct debits. The conversion was successfully completed and all customers have migrated to the European format without any problems.

Just a very few of these creditors administer the bulk of the direct debits. A swift and efficient migration to the European direct debit therefore depends on a relatively small number of firms. The advantage is that the group of creditors which must be the focus of attention for achieving almost total migration is only small, so that communication can be specifically targeted. Up to now, active communication on SEPA has been fairly limited, pending publication of the European Parliament and Council Regulation designed to speed up the migration to the European payment instruments.

This Regulation has effectively cleared up the uncertainty: all credit transfers and direct debits must be executed in the European format by February 2014. Many small and medium-sized enterprises have yet to embark on their migration. A speedy and smooth transition is only possible if they are given all the information they need. All stakeholders dealing with the smaller payment service users must make sufficient effort to pass on information about SEPA to them in good time.

Slowly but surely, the Belgian payment systems landscape is adapting to the reality of the Single Euro Payments Area. On the one hand, the process of unbundling is under way in the processing of card transactions. In this context, the BancontactMister Cash (BCMC) domestic debit card system is being retained and will be adapted to the SEPA standards. In addition, the clearing system for retail payments has been outsourced to a major foreign supplier of payment services. Belgium is thus one of the first countries to have achieved the planned consolidation of clearing arrangements.

Box 4 – Key milestones in the Single Euro Payment Payments Area (SEPA)



And after the migration of European direct debits and credit transfers ?

SEPA does not end with the migration of European direct debits and credit transfers. SEPA is an on-going process of standardising payments and payment instruments. Just as standardisation is a continuous process in national markets, so SEPA will also continue constantly progressing towards an integrated payments market. For instance the European Commission is currently taking steps to revise the payment services directive. In regard to the regulation on the end-date for the migration, the Commission will submit a report by 1 February 2017 on the implementation of that regulation (if appropriate, accompanied by a proposal) to the European Parliament, the Council and the ECB.

The following issues receive, more and more, particular attention of the authorities.

THE EUROPEAN PAYMENT CARD

The third SEPA payment instrument, the payment card, does not yet have a European SEPA version. Although much progress has already been made in this area concerning the technical standards, there is not yet a European alternative to the various existing national payment card schemes. This is one of the areas which the authorities consider a priority, where progress is to be made in the next few years.

E-MANDATES

The European direct debit was designed on the basis of a mandate issued direct by the debtor to the creditor. Under the old Belgian direct debit system, the debtor could send the mandate to his bank. This paper flow could be managed more efficiently if debtors could issue mandates electronically over the internet; that implies the establishment of an EU-wide application for processing electronic mandates. Ways in which debtors might give electronic consent to requests from creditors for the collection of direct debits from their accounts are currently under consideration. This is no easy task. There needs to be a central application linking all creditors using direct debits to the banks of those creditors.

ON-LINE INTERNET PAYMENTS

The number of payments effected direct between consumers and traders on-line, via the internet, is constantly increasing. The way in which this operates, and particularly the associated security aspects, are becoming ever more important. For consumers, it is vital to have confidence in the internet payment solutions. On-line traders, be they firms or public institutions, wanting to be paid over the internet also attach a great deal of importance to that. In the coming years, this area will require greater attention on the part of regulators, central banks and other authorities.

MOBILE PAYMENTS (M-PAYMENTS)

Mobile (or gsm) payments are payments initiated and effected via mobile communication. In view of the widespread use of mobile phones, this payment method is sure to become very popular. Consequently, it is important to examine, for example, how the SEPA standards can be used to support this payment method.

ELECTRONIC INVOICING OR E-INVOICING

Electronic invoicing involves sending invoices electronically to the debtor who can confirm them electronically. The subsequent processing is totally automated.

This undoubtedly offers a great advantage for billers who therefore no longer need to maintain any paper invoicing system. There will have to be close collaboration here between the banking sector and firms.

CONTACTLESS PAYMENTS

One of the latest trends concerns contactless payments. With this technology there is no longer any physical contact between the customer's payment instrument (payment card) and the seller's point of sale (terminal). Near Field Communication (NFC) enabling customers to pay by passing their chip card device close to the seller's terminal is likely to progress, while the security aspects are already attracting close attention.

All these new developments indicate the ample scope for modernisation and future innovation in the payments market. SEPA will require a coordinated approach to ensure properly organised support for all these trends, and all stakeholders, market players and authorities will have to play their part.

Annex – NBB's SEPA communication plan, March 2012 – Februari 2014

Q1 2012

- Drafting of a communication plan for 2012-2014
- Draft 4th progress report
- Consultation of working groups on 4th progress report

Q2 2012

- Plenary meeting of the Steering Committee:
  - Validation of the 4th SEPA progress report
  - Discussion of national communication plan
- Organisation of National SEPA Committee sub-groups:
  - ERP/IT providers sub-group
  - Establishment of a new "Federation coordination" sub-group

Q3 2012

- Organisation of National SEPA Committee sub-groups:
  - Businesses sub-group
  - Consumers sub-group
  - Public authorities sub-group
- Publication of SEPA article in the Bank's Economic Review

Q4 2012

- Informal briefing for journalists/press
- Hospitals information meeting
- School authorities information meeting
- Big billers sub-group

Q1 2013

- ERP/IT providers sub-group
- Accountancies information meeting
- Businesses sub-group
- Preparation of the 5th progress report

Q2 2013

- Plenary meeting of the Steering Committee
- Publication of the 5th progress report
- Consumers sub-group
- Public authorities sub-group
- Information meeting for Federations/Federation Coordination

Q3 2013

- Identification of players who have not yet migrated
- Definition of a possible radio/TV campaign to provide general information for the public (depending on the progress of the migration)
- Federation Coordination information meeting
- Businesses sub-group

Q4 2013

- Information meeting for players who have not yet migrated
- Informal briefing for journalists/press
- Big billers sub-group

Q1 2014

- Warn last firms which have not migrated
- Possibly: radio/TV campaign to provide general information for the public.

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National SEPA Committee France :
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De Nederlandsche Bank :
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Results and financial situation of firms in 2011

David Vivet

Introduction

Each year, in the December issue of the Economic Review, the National Bank describes the developments reflected in the annual accounts of non-financial corporations. By the autumn, the Central Balance Sheet Office already has a representative sample of annual accounts for the previous year. The conclusions based on that sample can therefore be fairly reliably extrapolated to the population as a whole.

This article is in four parts. Part 1 gives a brief description of the methodology and the population studied. Starting this year, the "head office activities" branch is excluded from the population because it significantly impacts the aggregate statistics but has only a marginal impact on the real economy.

Part 2 presents an extrapolation of the main items in the operating account for the 2011 financial year. The extrapolations concern value added, staff costs, depreciation and the operating result. Details are given according to company size, with a breakdown by the main branches of activity. This section also offers a regional analysis of the operating account, with a breakdown by sector of growth in the three Regions over the past decade.

Part 3 assesses the financial position of companies in terms of profitability and solvency. A section is devoted to recent changes regarding the notional interest deduction. Since taking effect, this measure has had a significant influence on companies' financial structure.

Finally, Part 4 analyses recent inventory trends, which have played an important role in the cyclical fluctuations of the past few years. The analysis focuses principally on their structure and turnover rate.

1. Methodology and description of the population

1.1 Methodology

Since the late 1970s, the Central Balance Sheet Office has collected the accounts of non-financial corporations. To that end, firms are required to submit their annual accounts using a standard form, no later than seven months after the end of the financial year. The data are then checked and adjusted if necessary to meet the required quality standards. By September, an analysis is then possible.

However, every year the population of annual accounts relating to the latest year considered, in this case 2011, is incomplete. The reason is that many sets of annual accounts are filed late or do not pass the arithmetical and logical checks conducted by the Central Balance Sheet Office.

To overcome this problem, a constant sample is used to estimate data for 2011. This year's constant sample comprises firms which filed annual accounts for a 12-month financial year for both 2010 and 2011. The method consists in extrapolating the 2011 results on the basis of developments observed in the constant sample, which are assumed to be representative of those affecting the population as a whole. As verified in previous editions of this article, that assumption is broadly correct : in the vast

TABLE 1 COMPOSITION AND REPRESENTATIVENESS OF THE 2010-2011 CONSTANT SAMPLE

(sample drawn on 21 September 2012)

	Companies in the 2010-2011 sample	Total companies studied, 2010	Representativeness of the 2010-2011 sample (in %)	*p.m. Representativeness of the 2009-2010 sample*
Number of companies	**242 474**	**316 951**	**76.5**	***58.0***
Large firms	16 238	19 251	84.3	*71.2*
SMEs	226 236	297 700	76.0	*56.8*
Manufacturing industry	17 056	21 595	79.0	*58.8*
Non-manufacturing branches	225 418	295 356	76.3	*57.6*
Value added (€ million)[1]	**150 519**	**167 741**	**89.7**	***84.0***
Large firms	118 818	126 389	94.0	*93.2*
SMEs	31 701	41 352	76.7	*58.6*
Manufacturing industry	43 724	46 834	93.4	*94.1*
Non-manufacturing branches	106 795	120 907	88.3	*80.4*

Source: NBB.
(1) For companies in the constant sample, the value added used is that of 2010.

majority of cases, the estimates give a good indication of the direction and scale of the actual movements.

This year's sample was drawn on 21 September 2012. It comprises 242 474 companies, or 76.5 % of the annual accounts filed in respect of financial year 2010 (see Table 1). In terms of value added, its representativeness is much higher, being 89.7 %. Compared with previous years, the Central Balance Sheet Office's new ICT system significantly improved the representativeness of the sample, especially with respect to smaller companies. As a reminder, last year's sample was drawn much later and covered 58 % of annual accounts and 84 % of value added.

1.2 Description of the population studied

In previous editions of this article, the population studied corresponded to all non-financial corporations as defined by the Central Balance Sheet Office. Starting this year, the population will exclude head office activities (NACE-BEL 70.100). This branch, previously made up of coordination centres, now contains several hundred companies that generally provide banking or treasury management services within a group of companies. In recent years, these companies have seen substantial capital inflows due to the creation of the notional interest deduction. Consequently, in 2010 the head office activities branch represented more than one-third of companies' equity capital, but barely more than 1 % of value added and employment. This means that this branch has a significant impact on certain aggregate financial statistics but a limited real economic impact. As a result, it has been definitively excluded from the statistics presented in this article. The population studied now corresponds to the PU400 group on the statistical CD-ROM published by the Central Balance Sheet Office.

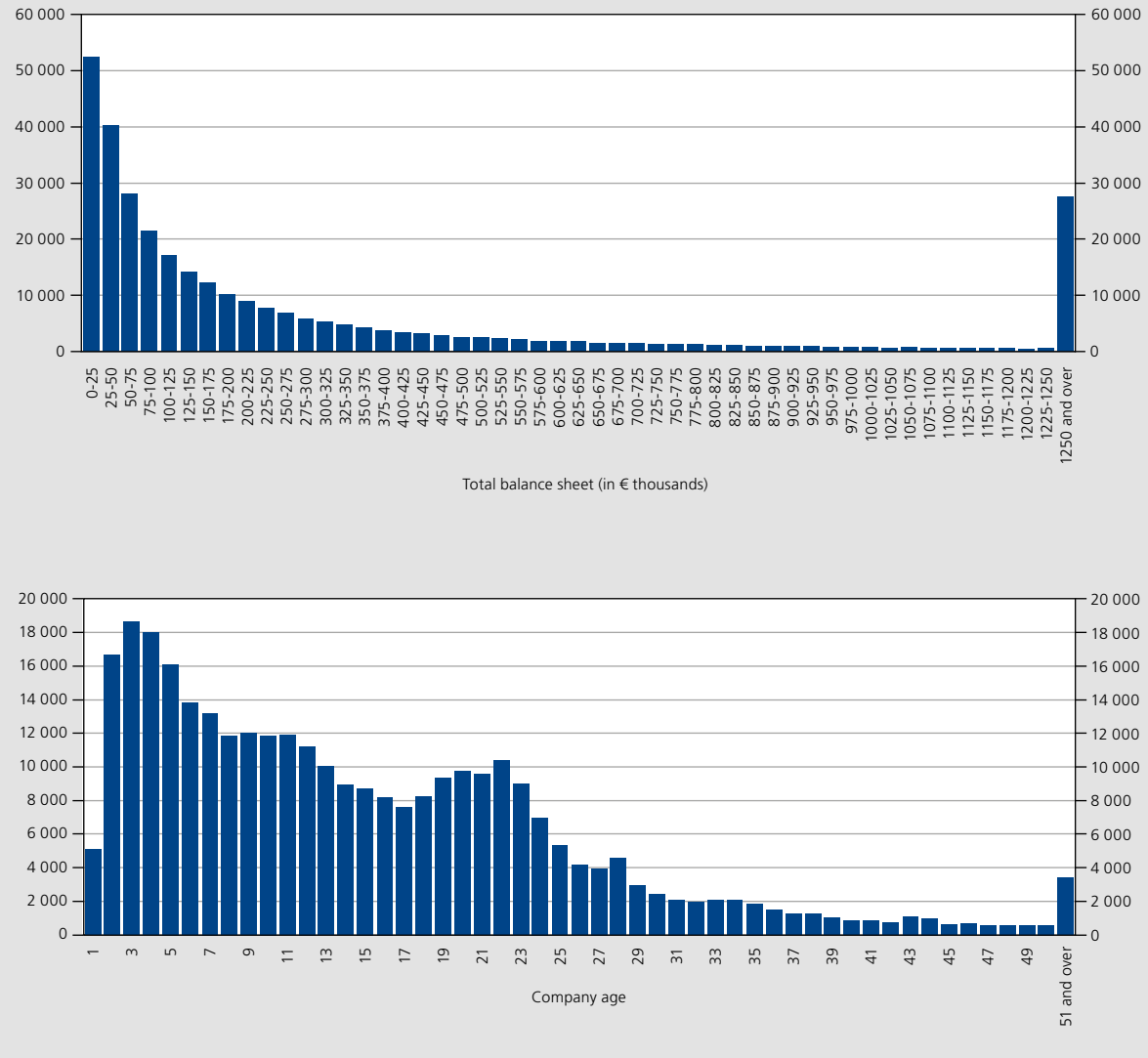
Annex 1 sets out the NACE codes of the branches of activity covered. Sectoral categories are based on the NACE-BEL 2008 nomenclature. For presentation and interpretation purposes, the structure used in this article differs slightly from the official structure of the nomenclature.

The article also distinguishes between companies according to their size. In accordance with the Company Code, companies filing their annual accounts in the full format are regarded as large firms. Other companies, i.e. those filing their annual accounts in the simplified format, are regarded as SMEs.

In Belgium, virtually all businesses operating as a company are required to file annual accounts. As a result, the population studied includes a large number of small companies: in 2010 close to 30 % of companies (i.e. 93 000 observations) reported a total balance sheet of less than € 50 000 (see the first part of Chart 1). At the other extreme, the population also includes the country's largest companies: in 2010, just under 1 000 annual accounts had a total balance sheet of over € 100 million.

CHART 1 DISTRIBUTION OF ANNUAL ACCOUNTS AS A FUNCTION OF TOTAL BALANCE SHEET AND COMPANY AGE

(number of annual accounts, 2010



Source: NBB.

The distribution of companies according to their age allows us to identify other characteristics of the population. For a given annual account, a company's age is defined as the difference between the closing date and the date on which the company was formed, as shown in the Crossroads Bank for Enterprises. That difference, expressed as a number of years, is rounded up to the next unit.

According to this definition, 43 % of the companies studied (or 137 000 observations) have been operating for fewer than ten years, and close to three-quarters of them (or 231 000 observations) have been operating for fewer than 20 years (see second part of Chart 1). As with size, the distribution according to age is clearly asymmetrical: 3 392 companies are more than 50 years old, and 102 were formed over a century ago. As a reminder, the oldest company studied is the real estate company Financière Patience Beaujonc (founded in 1860 under the name "Société anonyme des charbonnages de Patience et Beaujonc réunis"), followed by Compagnie Immobilière de Belgique ("Immobel", 1863) and Solvay (1863).

2. Trends in components of the operating result

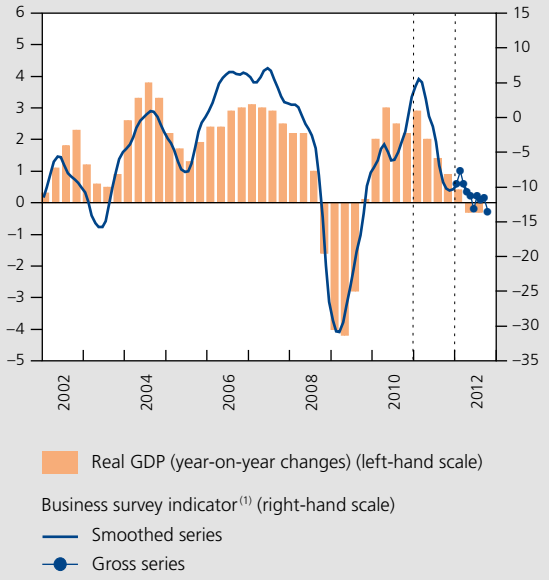
2.1 Economic climate

In 2011, international economic and financial conditions again exerted a strong, but mixed, influence on the Belgian economy. Building on the recovery that began in mid-2009, the consolidation of economic activity continued in early 2011 : after averaging 2.4 % in 2010, year-on-year volume growth of GDP strengthened in the first quarter of the year under review. It lost a bit of momentum in the second quarter, before dipping sharply in the second half of the year as the business climate took a turn for the worse. Thus despite a strong start, the volume growth of GDP averaged 1.8 % in 2011 (see Table 2).

Just as their rebound drove the recovery two years earlier, exports of goods and services were among the first demand components to experience a cyclical slowdown. The slowdown was partly the result of weaker exports to neighbouring countries, but it was also due to markets outside of Europe. Over the full year 2011, growth in the volume of goods and services exports came to 5.5 %, compared with 9.6 % in 2010. The slower growth of exports affected the demand for imported goods and services, because scattered production chains require inputs from units in other countries. Overall, year-on-year growth in imports slowed from 8.9 % in 2010 to 5.7 % in 2011. All in all, net exports' contribution to GDP growth was marginally negative (–0.1 percentage point).

CHART 2 QUARTERLY CHANGE IN GDP AND ECONOMIC INDICATOR

(data restated for seasonal variations and calendar effects, unless otherwise stated)



Source : NBB.
(1) Data restated for seasonal variations.

TABLE 2 GDP AND PRINCIPAL EXPENDITURE CATEGORIES

(volume data restated for seasonal variations and calendar effects ; percentage changes compared to the previous year, unless otherwise stated)

	2007	2008	2009	2010	2011
Final household consumption expenditure (1)	1.7	2.0	0.6	2.7	0.2
Final government consumption expenditure	1.9	2.7	1.9	0.7	0.8
Gross fixed capital formation	6.3	2.0	–8.4	–1.4	4.1
Companies	8.2	4.2	–10.2	–3.2	8.6
Housing	3.3	–2.7	–8.6	3.1	–5.3
Government	1.9	0.3	9.7	–3.1	5.3
Change in inventories (2)	0.2	–0.1	–1.0	0.3	0.7
Net exports of goods and services (2)	0.0	–0.9	–0.6	0.7	–0.1
Exports of goods and services	5.2	2.1	–11.1	9.6	5.5
Imports of goods and services	5.4	3.4	–10.6	8.9	5.7
GDP	2.9	1.0	–2.7	2.4	1.8

Source : NAI.
(1) Final consumption expenditure of households and non-profit institutions.
(2) Contribution to the change in GDP.

Companies did not fully anticipate the slowing of external demand and so involuntarily accumulated unsold products and unused intermediate goods. In the economic surveys conducted by the Bank, this observation is confirmed by the large number of manufacturing industry managers reporting abnormally high inventory levels. As a result, inventories made a big contribution to GDP growth in 2011, equal to 0.7 of a percentage point. Recent inventory trends are analysed in Part 4 of this article.

Considering the drop in trade with the rest of the world, GDP growth relied almost entirely on domestic demand, more specifically on capital expenditure. Business investment in particular experienced its largest increase since 2007, gaining 8.6 % over the full year 2011 after falling by a cumulative 13.1 % over the previous two years. Public investment also rose considerably, up 5.3 %, ahead of local elections. Government final consumption expenditure rose by 0.8 %.

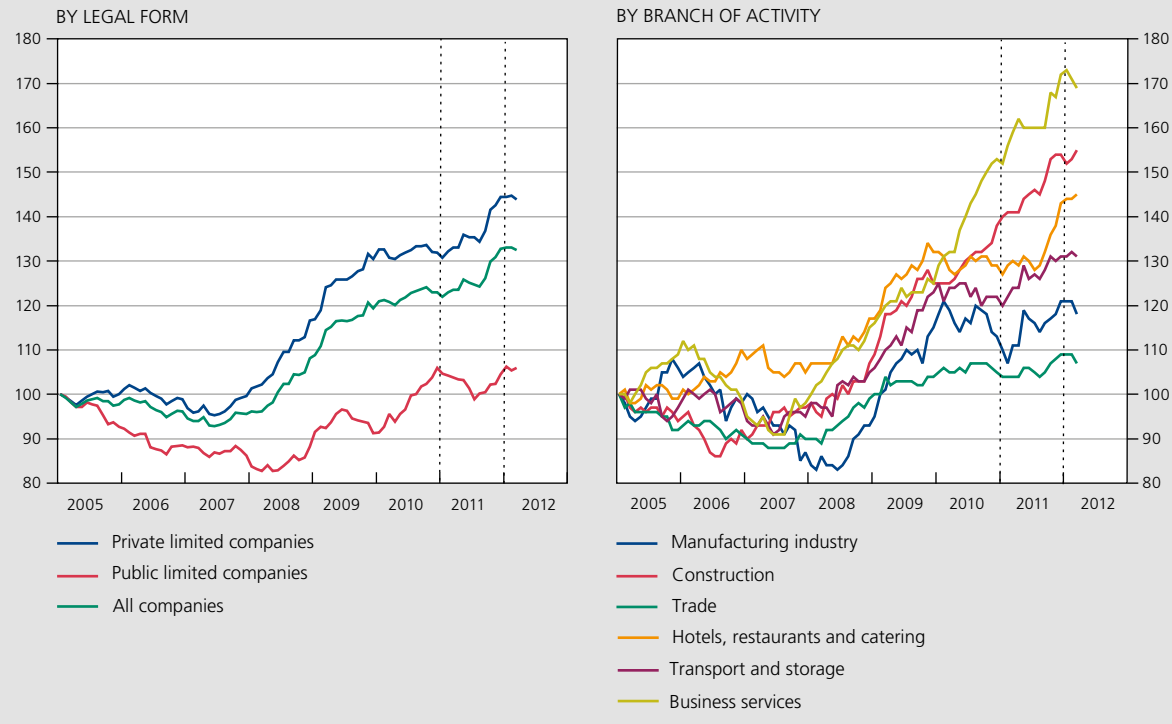
Conversely, household demand slowed in 2011. After growing by 2.7 % in 2010 in the midst of the economic recovery, private consumption expenditure rose only 0.2 %, which is well below the rates seen in the years leading up to the crisis. Housing investment, which had picked up in 2010, contracted by 5.3 %.

These macroeconomic developments were reflected in the vulnerability of Belgian companies, as is evident from the bankruptcies declared by the commercial courts to the Crossroads Bank for Enterprises (Chart 3). Whereas the increase in the number of bankruptcies was largely contained by the economic recovery in 2010 (+3 %), it accelerated throughout 2011 (+8 %). Most of the renewed vulnerability was felt over the final third of the year (+19 % compared with the year-earlier period). Over the full year, the branches most exposed were business services (+13 %), construction (+11 %), and hotels, restaurants and catering (+11 %). Conversely, the trade branch (+3 %) was relatively unscathed.

Most of these fluctuations were attributable to private limited companies, which as in previous years represented more than 75 % of bankruptcies. Bankruptcies of public limited companies fell during the first half of 2011, then spiked in the second half. Over the full year, they fell marginally, down 1 %. It is important to point out that, counter to the general trend, public limited companies experienced

CHART 3 NUMBER OF BUSINESS BANKRUPTCIES IN BELGIUM

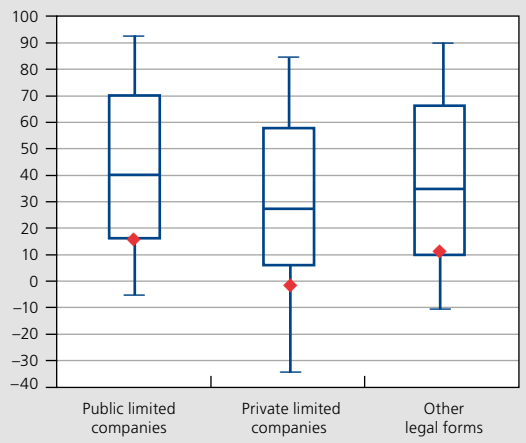
(12-month moving average, indices January 2005=100)



Sources: FPS Economy, SMEs, Self-employed and Energy; own calculations.

CHART 4 BOX PLOTS OF DEGREE OF FINANCIAL INDEPENDENCE ACCORDING TO LEGAL FORM (1)

(in %)



Source : NBB.

(1) The top and bottom ends of the boxes correspond to the 3rd and 1st quartile, respectively. The line inside the box corresponds to the median. The bottom end of the lower whisker and the top end of the upper whisker correspond to the 1st and 9th decile, respectively. Lastly, the red dot corresponds to the mean winsorised at the 1st and 99th percentiles.

a pronounced increase in bankruptcies in 2010 (+16 %) at a time when economic conditions were improving.

In this respect, a look at recent years shows that public limited companies have been less immediately affected by the economic cycle. The negative correlation between quarterly GDP growth and the increase in bankruptcy numbers is much more pronounced for private limited companies (–0.87) than it is for public limited companies (–0.59). Among other explanations, public limited companies generally start from a more solid financial position, which makes them – at least temporarily – better able to absorb cyclical fluctuations. Overall, private limited companies' degree of financial independence is much more distributed towards the heavily negative values. For instance, we note that the 1st decile of private limited companies reaches –35 % compared with –6 % for public limited companies (see Chart 4).

2.2 General developments in the operating account

For the most part, the data presented in this article describe the situation of businesses for the period 1 January to 31 December 2011. Owing to the sharp contrast in economic conditions during that period, the offsetting effects between the first and second half of the year make analysis challenging. Even so, the collected data reveal the weakening economy's impact on companies' performance.

Over the full year 2011, the total value added created by non-financial corporations, i.e. the difference between sales revenues and the cost of goods and services supplied by third parties, rose 3.1 % at current prices (see Table 3). The pace of growth was slower than in 2010, when value added rebounded by 5.5 %. Two factors combined to cause this slowdown. On the one hand, purchases continued to rise strongly, mainly because of a significant rise in input prices. As a reminder, on average in 2011, energy commodity prices increased 31.3 % and industrial commodity prices rose 14.3 % (source : Belgostat). On the other hand, revenues fell slightly, even though companies managed to pass on a portion of the increased costs in their selling prices.

The value added a firm generates enables it to cover its operating expenses, the surplus being recorded as a net operating result. The latter reflects the routine commercial efficiency of the firm, leaving aside its financing policy and any exceptional items.

Staff costs usually make up the major part of the operating costs : in 2010 they represented 57 % of the value added of non-financial companies. After two years of virtual stagnation, they bounced back in 2011, rising 4.8 %. On the one hand, full-time equivalent employment increased 2.3 %. On the other hand, hourly wages in the private sector rose 2.5 % in 2011, compared with 0.7 % in 2010. The indexing of salaries reflected the acceleration of inflation, which, as a reminder, was 3.1 % in 2011, compared with 2.3 % in 2010 and 0.0 % in 2009.

After staff costs, the biggest operating expense items are depreciation and write-downs on tangible and intangible fixed assets. After slowing markedly in 2010, their growth picked back up in 2011 (+2.9 %) as companies began to invest again. According to the quarterly national accounts, there was a particularly large amount of new investment in the first half, when companies still had a favourable outlook for demand and production capacity utilisation rates had climbed relatively high.

Net investment in tangible fixed assets rebounded by 6.6 % in 2011 after contracting by a total of 12.4 % over the two previous years. As a result, the investment rate of non-financial corporations (i.e. the ratio between acquisitions of tangible fixed assets and value added) bounced back in 2011 to 21.3 %. However, it remains well below the record of 23.9 % set in 2008.

For companies filing full-format accounts, the annex to the annual accounts permits an assessment of the intensity of research and development activities (R&D). In 2011, the percentage of companies involved in these

TABLE 3 TRENDS IN THE MAIN COMPONENTS OF THE OPERATING ACCOUNT

(current prices)

	Percentage changes compared to the previous year					In € million	In % of value added
	2007	2008	2009	2010	2011 e	2011 e	2011 e
Value added	**4.8**	**2.6**	**–3.6**	**5.5**	**3.1**	**172 912**	**100.0**
Staff costs (–)	5.0	5.0	–0.3	0.6	4.8	98 484	57.0
Depreciation and write-downs[1] (–)	5.9	6.4	6.2	1.9	2.9	31 536	18.2
Other operating expenses (–)	–11.2	11.1	–5.2	2.9	5.1	10 794	6.2
Total operating expenses	*3.8*	*5.8*	*0.7*	*1.1*	*4.4*	*140 814*	*81.4*
Net operating result	**8.7**	**–8.6**	**–21.2**	**28.7**	**–2.4**	**32 097**	**18.6**

Source: NBB.
(1) On tangible and intangible fixed assets and start-up costs (item 630).

activities recovered to 4.3 %, up from 4.1 % in 2010. Net investment in R&D rose 14 %, from € 3.1 billion in 2010 to € 3.6 billion in 2011. This vigorous growth is chiefly attributable to the pharmaceutical industry, which every year represents more than half of R&D spending, and to technology industries.

Total operating costs, determined mainly by staff costs and depreciation, rose by 4.4 % in 2011, a much stronger increase than in the previous two years. Furthermore, as in 2008 and 2009, the increase in total operating costs exceeded the rise in value added.

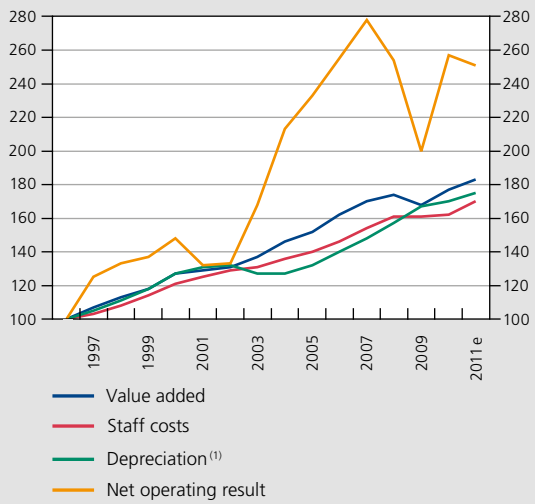
The combination of rising costs and weaker economic growth resulted in a slight decline in net operating result in 2011 (–2.4 %) following the brisk rebound in 2010 (+28.7 %). Net operating result thus came to just over € 32 billion. While this is below the level prior to the 2008-09 recession (€ 35.5 billion in 2007), it is important to keep in mind that the figure had more than doubled between 2001 and 2007.

Over the long term, moreover, the increase in operating result has been much more robust than that of other aggregates: over the past 15 years, it has climbed by 151 %, compared with 83 % for value added, 70 % for staff costs and 75 % for depreciations and write-downs (see Chart 5). It was chiefly after the 2001-02 economic downturn that operating result decoupled from the other components.

These trends have had repercussions on the breakdown of value added. Between 1996 and 2011, the share of net operating result in value added increased by 5.1 points, from 13.5 % to 18.6 %. The flip side of this increase was, for the most part, the decrease in the share of staff costs, which fell from 61.4 % to 57 % over the same period. The share of depreciation and write-downs has been relatively stable, falling just 0.8 of a point since 1996.

CHART 5 TRENDS IN THE MAIN COMPONENTS OF THE OPERATING ACCOUNT OVER THE PAST 15 YEARS

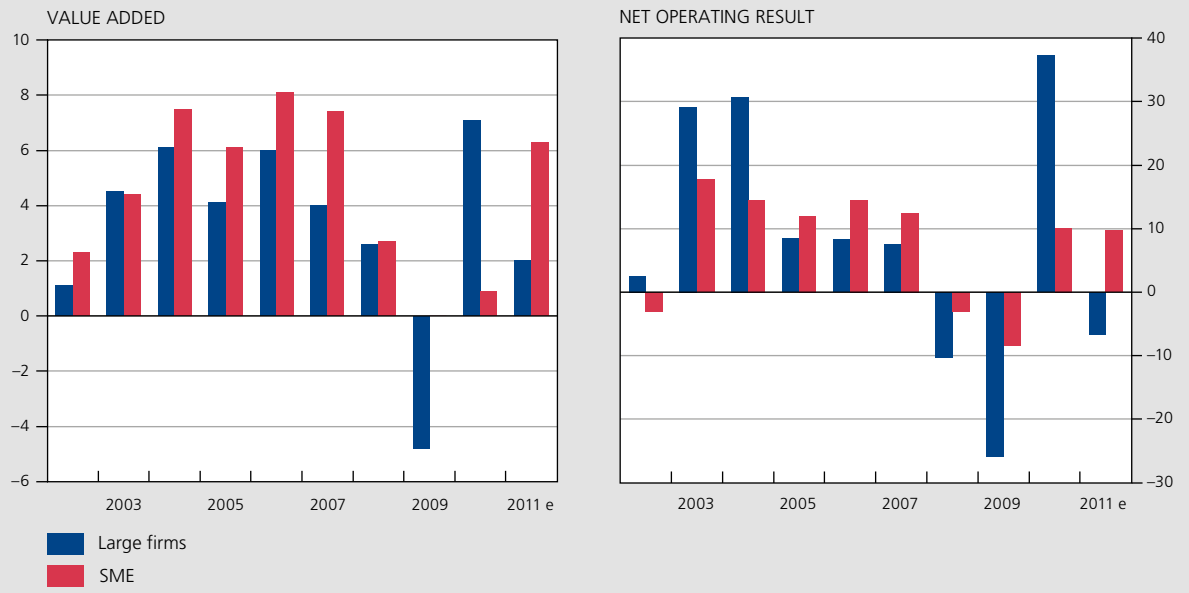
(indices 1996=100)



Source: NBB.
(1) On tangible and intangible fixed assets and start-up costs (item 630).

CHART 6 VALUE ADDED AND NET OPERATING RESULT BY SIZE OF FIRM

(percentage change compared to the previous year)



Source: NBB.

Lastly, overall trends must be broken down according to company size. As shown in Chart 6, SMEs exhibited much more favourable operating account trends in 2011: their value added rose 6.3 %, compared with 2.0 % for large firms. Similarly, whereas the operating result of large firms contracted by 6.8 %, the operating result of SMEs increased by 9.7 %. Large firms were thus significantly more affected by the economic weakening in 2011, but they also benefited much more from the recovery of 2010.

In general, large firms are more sensitive to business cycles because they are more focused on industrial activities and international trade. As a reminder, the manufacturing industry and wholesale trade – the most cyclical branches of the economy – currently represent 47 % of the value added of large firms, compared with 22 % of the value added of SMEs.

2.3 Results per branch of activity

2.3.1 Manufacturing industry

In 2011, the slowdown in trade and rise in commodity prices undermined industry's wealth creation: manufacturing value added stagnated (–0.2 %) after rebounding strongly in 2010 (+8.2 %). While growth in most branches remained positive, in some cases it slowed considerably, especially in metalworking, chemicals and metallurgy. The pharmaceutical industry experienced a sharp correction (–13.5 %) by comparison with the substantial revenues of 2010, linked to, among other things, royalties and the flu pandemic vaccine.

Overall, industrial activity is still not back to where it was before the financial crisis: in 2011 the value added of manufacturing branches was still 2.5 % below the 2007 peak. From a longer-term perspective, the manufacturing industry's share of total value added has fallen from 37.5 % in 1996 to 27 % in 2011.

Even though activity was flat, staff costs rose 2.8 % in 2011, a pace well above that observed in the three previous years. This trend is attributable to the rise in hourly wage costs (see above) and the slight rebound in the number of workers. After dipping slightly in 2010 (–0.3 %), depreciation rose 1.8 % in 2011, reflecting brisk net acquisitions of tangible (+10 %) and intangible fixed assets (+18.8 %). As we emphasised above, these new investments took place primarily during the first half of 2011. The manufacturing industry's operating costs were also marked by a much diminished reduction in value of the inventories of pharmaceutical activities. This decrease helped limit the overall rise in operating costs to 1.3 %.

TABLE 4 VALUE ADDED AND OPERATING RESULT PER BRANCH OF ACTIVITY

(percentage changes compared to the previous year)

	Value added		Net operating result		*p.m. Branch's share, in % of total value added in 2011 e*
	2010	2011 e	2010	2011 e	
Manufacturing industry	**8.2**	**–0.2**	**54.7**	**–6.1**	***27.0***
of which:					
Agri-food industries	–2.0	0.8	–6.7	–11.5	*4.0*
Textiles, clothing and footwear	2.6	–4.3	100.7	–22.0	*0.8*
Wood, paper and printing	–0.6	2.6	23.4	5.9	*1.8*
Chemical industries	13.5	2.1	107.4	0.5	*4.0*
Pharmaceutical industries	13.4	–13.5	2.1	–37.8	*2.8*
Metallurgy and metalworking	12.2	2.1	n.s.	–21.1	*3.9*
Metal manufactures	14.2	0.1	110.7	14.8	*5.3*
Non-manufacturing branches	**4.5**	**4.3**	**20.9**	**–0.9**	***73.0***
of which:					
Wholesale trade	9.5	2.6	61.1	–7.3	*13.0*
Retail trade	4.2	3.9	11.3	2.4	*6.5*
Transport and storage	1.4	0.6	n.s.	–148.0	*8.4*
Hotels, restaurants and catering	6.3	4.3	189.6	8.3	*1.9*
Information and communication	3.1	2.6	0.6	2.4	*7.0*
Real estate activities	1.2	5.3	–3.8	5.5	*2.9*
Business services	4.8	6.8	16.2	6.5	*13.6*
Energy, water and waste	6.7	6.1	11.1	6.8	*6.0*
Construction	1.2	6.1	7.2	0.1	*7.5*
Total	**5.5**	**3.1**	**28.7**	**–2.4**	***100.0***

Source: NBB.

Following a robust recovery in 2010 (+54.7 %), lower value added combined with higher costs to reduce the manufacturing industry's operating result by 6.1 % in 2011. The biggest contractions were seen in the pharmaceutical industry (–37.8 %), metallurgy (–21.1 %), textiles (–22.0 %) and agri-food (–11.5 %).

2.3.2 Non-manufacturing branches

Economic developments caused a shift in growth from the branches most dependent upon external demand to those most focused on the domestic market, among them most of the non-manufacturing branches. Unlike industry, these branches posted value added growth in 2011 (+4.3 %) on a par with that of 2010 (+4.5 %).

The most pronounced increase in activity was seen in business services, which were buoyed principally by temporary employment and recruitment agencies. Conversely, certain non-manufacturing branches turned in a mixed performance in 2011 owing to their significant exposure to industrial activity, chiefly transport and wholesale trade.

In construction and real estate, growth strengthened materially in 2011 following a relatively sluggish 2010. Construction was bolstered by local public authorities' investments and renovation work, which again benefited from incentives. In general, in recent years the Belgian real estate market has been spared the kind of severe correction that hit Ireland and Spain.

Unlike in 2010, the increase in non-manufacturing branches' staff costs (+5.5 %) outpaced that of value added in 2011. To begin with, the number of employees rose by 3 %, amplifying the rebound that began in 2010 (+1.5 %). In addition, as in industry, rising inflation had

an impact on index-linked salaries. The growth in depreciation was very close to the level posted a year earlier (+3.3 %).

After taking into account other cost components, total operating costs rose 5.6 % in 2011, which was a clear acceleration compared with the previous two years. As a result, the net operating result of the non-manufacturing branches fell marginally (–0.9 %). However, this result masks significant disparities between branches : whereas operating result declined in wholesale trade and actually plunged in transport, it increased in the vast majority of other non-manufacturing branches.

2.3.3 Sector trends since 2007

Chart 7 shows sectoral trends since the onset of the financial crisis. It compares the growth in value added and that of net operating result between 2007 and 2011.

In general, it appears that branch trends have depended largely on their exposure to global economic conditions.

2.3.3.1 Manufacturing industry

Thus, the two branches that have lost the most ground since 2007 are textiles and metallurgy. Textiles have long had to deal with international competition, particularly from low-cost countries. Metallurgy, on the other hand, was especially affected by the impact of the 2008-09 recession, such as the closing of certain production units.

Conversely, value added increased substantially in the pharmaceutical industry. To begin with, its production has continued to increase in recent years. Furthermore, because the industry relies on innovation, its rate of value added (the ratio of value added to revenues) is significantly higher than those of other industrial branches : in 2010, the pharmaceutical industry's value added accounted for 46.2 % of revenues, compared with 19.3 % for all other manufacturing branches.

Agri-food also held up better than most other industrial branches. It was bolstered by its focus on the domestic market, reflected in an export rate among the lowest of the industrial branches.

Other branches, such as metal manufactures and chemicals, posted more lukewarm results. In metal manufactures, strong momentum in certain technological industries was offset by the repercussions of multiple restructurings. In chemicals, companies had to deal with very divergent market conditions, largely stemming from the nature of their production processes.

2.3.3.2 Non-manufacturing branches

In keeping with the long-term trend, recent cyclical developments have generally been much kinder to non-manufacturing branches.

The energy, water and waste branch experienced the most pronounced increases in value added and operating result. This performance is primarily attributable to electricity (which represents two-thirds of the branch's value added) and water. To a lesser extent, business services, real estate, retail trade, hotels and restaurants also generated above-average growth. These branches have all benefited from relatively firm domestic demand since 2008. In addition, it is worth noting that over the long term, the trend towards outsourcing non-core tasks has stimulated the growth of certain service branches, especially that of business services.

Wholesale trade, by contrast, was directly affected by fluctuations in international trade, which influences the vast majority of its sub-branches. However, some activities held up better, particularly those linked to food, chemical and pharmaceutical products.

In construction, even though business grew for most of its sub-branches, operating result has fallen slightly since 2007 owing to certain specialised segments, notably those linked to industry and transport. In more traditional activities (electrical work, plumbing and insulation), however, operating result continued to climb, even in 2008 and 2009.

The information and communication category also turned in mixed results. On the one hand, weaker margins in telecommunications and troubles at certain publishing companies worked to undermine profitability. On the other hand, growth remained robust in IT activities, particularly in programming, consulting and data processing.

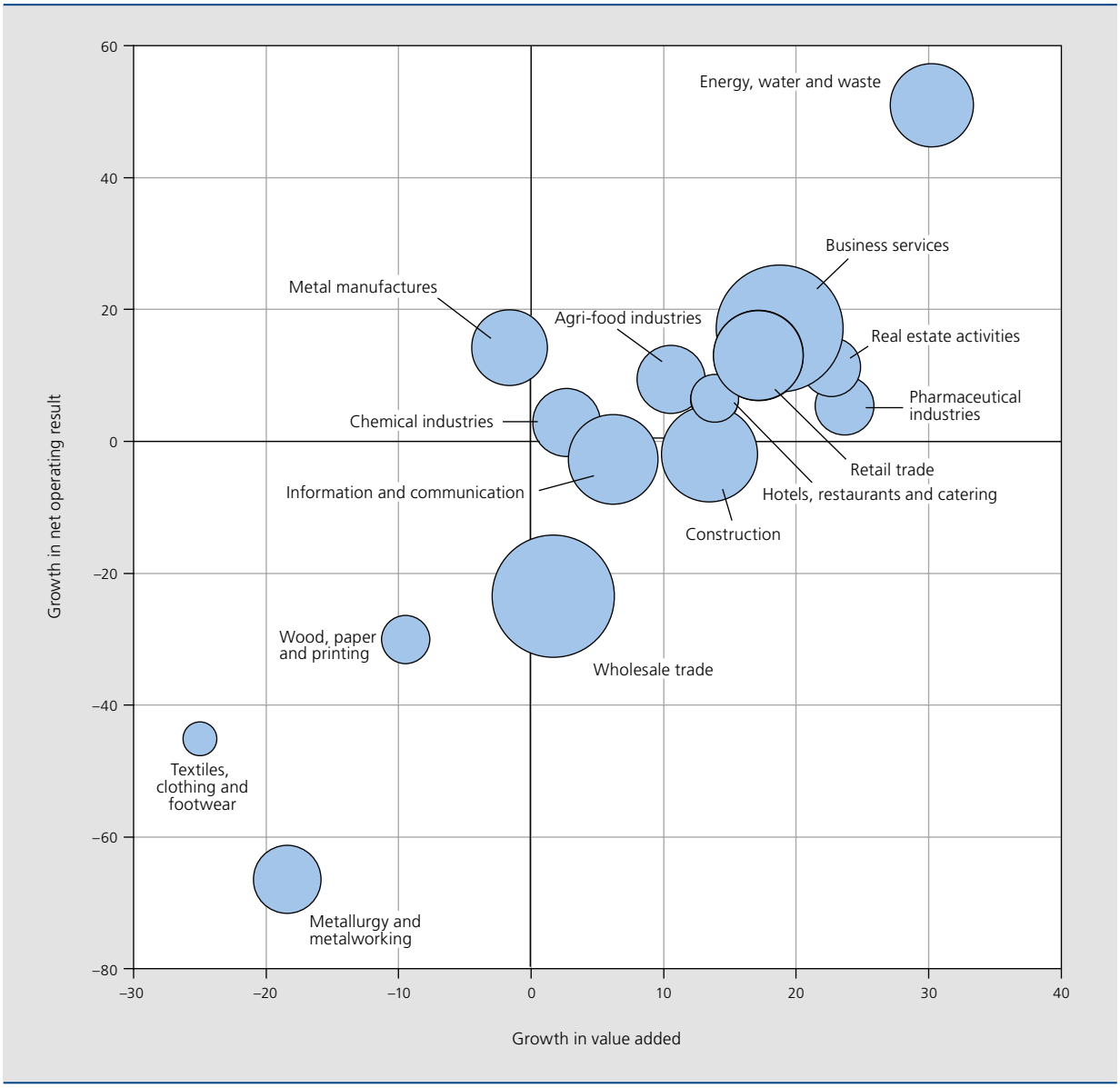
Lastly, it is important to note that virtually all branches of the economy experienced growth in the four years leading up to 2008 and that, overall, the growth was much more rapid than during the period 2007-11 : total value added and net operating result rose by respectively 24.2 % and 65.3 % in 2003-07, compared with 7.6 % and –9.5 % in 2007-11.

2.4 Regional perspective

This section breaks down the sectoral contributions to growth in value added in each region for the period 2001-11.

CHART 7 TRENDS IN VALUE ADDED AND OPERATING RESULT BETWEEN 2007 AND 2011 (1)

(in %)



Source: NBB.

(1) Circle size is proportional to each branch's share of total value added in 2011.

2.4.1 Methodology

For the purposes of the regional analysis, the annual accounts are broken down according to the Region where the firms are located. The regional breakdown of the annual accounts is based on data from the National Accounts Institute (NAI).

Single-region firms, i.e. companies whose registered office and operating establishment(s) are located in one and the same Region, are automatically assigned to a Region. For multi-region firms, the annual accounts items are broken down in proportion to the number of jobs in each Region, which amounts to assuming that jobs are proportionate to the items in the accounts. Multi-region firms represent just over a quarter of total value added (see below), so that this assumption does not affect the main part of the regional breakdown. The National Accounts Institute also uses the proportional method for compiling the regional accounts.

The implications of this method were spelled out in detail in the December 2011 Economic Review. It was pointed

TABLE 5 REGIONAL STRUCTURE OF VALUE ADDED IN 2011

(in % of the total, unless otherwise stated)

	Brussels	Flanders	Wallonia	Belgium
Manufacturing industry	**9.4**	**30.5**	**29.7**	**27.0**
of which:				
Agri-food industries	1.7	4.5	4.2	4.0
Textiles, clothing and footwear	0.3	1.1	0.3	0.8
Wood, paper and printing	0.5	2.1	2.0	1.8
Chemical industries	1.4	4.9	3.3	4.0
Pharmaceutical industries	0.9	2.4	5.4	2.8
Metallurgy and metalworking	0.6	4.3	5.0	3.9
Metal manufactures	3.0	6.0	5.2	5.3
Non-manufacturing branches	**90.6**	**69.5**	**70.3**	**73.0**
of which:				
Wholesale trade	15.0	13.4	10.1	13.0
Retail trade	5.2	6.0	9.0	6.5
Transport and storage	5.6	9.1	8.1	8.4
Hotels, restaurants and catering	3.6	1.5	1.6	1.9
Information and communication	15.4	5.4	5.5	7.0
Real estate activities	5.3	2.5	2.0	2.9
Business services	18.6	13.4	10.3	13.6
Energy, water and waste	10.2	4.6	7.1	6.0
Construction	4.4	8.1	8.2	7.5
Total	**100.0**	**100.0**	**100.0**	**100.0**
p.m. Total value added in 2011 (in € million)	*27 110*	*109 704*	*36 093*	*172 907*

Source: NBB.

out that, because the Brussels-Capital Region is a metropolitan area, it is highly specialised in non-manufacturing branches (more than 90 % of its value added, see Table 5), particularly telecommunications, IT services, business services and real estate. On the other hand, construction and transport are less developed in the capital.

Flanders and Wallonia are generally more similar to one another in their regional structure, with a much larger proportion of manufacturing industry, in the order of 30 %. Nevertheless, there are still structural differences between the two Regions in several respects. For example, in the chemical and pharmaceutical industries category, Wallonia is active mainly in pharmaceuticals while Flanders is more involved in basic chemicals. Comparatively speaking, the wholesale trade is also more developed in Flanders, particularly in commodities and industrial products. Lastly, in metal manufactures, the automobile industry is mostly concentrated in Flanders, whereas Wallonia has a much more developed aerospace industry.

Apart from these sectoral differences, it should be noted that the proportion of value added generated by SMEs is lower in Brussels (16 %) than in Flanders (26 %) and Wallonia (27 %). In terms of the number of businesses, on the other hand, Brussels has more very small firms: 35 % of Brussels firms generate value added of less than € 10 000, compared with 23 % of Flemish firms and 25 % of those in Wallonia.

Since these structural differences have a direct influence on regional trends, the data presented below must be interpreted with caution. In particular, the findings for Brussels firms must be considered in the light of their specific features.

2.4.2 Sector contributions between 2001 and 2011

2.4.2.1 Manufacturing industry (Table 6)

Brussels is the only Region where manufacturing value added declined over the past 10 years (–25.3 %). As we pointed out above, however, the Brussels Region is not very dependent upon industrial activities, so the downturn has had only a limited impact on its economy. Most of the manufacturing sub-branches made negative contributions to Brussels' growth, but the most heavily negative came from metal manufactures, owing to restructuring in the automobile industry.

By contrast, manufacturing value added increased in Flanders and Wallonia between 2001 and 2011, by respectively 16.1 % and 19.5 %. In both Regions, the vast majority of sub-branches contributed positively to growth, with the key exception of the textile industry.

The contributions of metallurgy and refining ("other manufacturing branches") were much more significant in the north of the country. There, metallurgy notably benefited from its more advantageous location and greater demand for steel, while the Region's refining activities were supported by rising oil prices.

Conversely, Walloon metallurgy businesses were hit particularly hard by the recent economic slowdown and thus contributed almost no growth over the period under review. The pharmaceutical industry, on the other hand, made a substantial contribution to Walloon growth as a result of rising sales and margins, which have climbed even in recent years.

2.4.2.2 Non-manufacturing branches (Table 7)

In the non-manufacturing branches, Brussels stands out because of the substantial contribution of business services (more specifically legal activities, leasing and security) and energy, two categories that play key roles in the capital's economy. To a lesser extent, the hotels, restaurants and catering category and real estate activities also made larger contributions than in the other two Regions. By contrast, wholesale trade, transport and construction had much more limited, or even negative, contributions.

Business services, driven by its principal sub-branches (temporary employment agencies, consulting, legal and accounting services, engineering, security and cleaning, etc.), were also the biggest contributors to non-manufacturing growth in Flanders and Wallonia. Compared with Brussels, the two Regions had a much more pronounced contribution from wholesale trade. A detailed analysis reveals some regional differences within this branch: in Flanders, its growth was driven primarily by trade in commodities and industrial products, whereas in Wallonia, the biggest contribution came from trade in pharmaceutical products.

TABLE 6 SECTOR CONTRIBUTIONS TO GROWTH IN MANUFACTURING INDUSTRY VALUE ADDED BETWEEN 2001 AND 2011

(in percentage points of the total change, unless otherwise mentioned)

	Brussels		Flanders		Wallonia	
	Contribution	Rank	Contribution	Rank	Contribution	Rank
Agri-food industries	0.2	2	4.3	1	5.4	2
Textiles, clothing and shoes	–3.4	5	–2.4	8	–1.2	8
Wood, paper and printing	–3.8	6	0.1	7	–0.2	6
Chemical industry	–4.1	7	2.2	6	3.4	4
Pharmaceutical industry	–0.4	3	3.1	3	8.1	1
Metallurgy and metalworking	–1.9	4	3.4	2	0.4	5
Metal manufactures	–13.3	8	2.7	4	4.1	3
Other manufacturing branches	1.5	1	2.7	5	–0.4	7
Total [1]	**–25.3**		**16.1**		**19.5**	
p.m. Manufacturing industry's share of regional value added in 2011 (in %)	*9.4*		*30.5*		*29.7*	

Source: NBB.

(1) Percentage change between 2001 and 2011, at current prices.

TABLE 7 SECTOR CONTRIBUTIONS TO GROWTH IN NON-MANUFACTURING BRANCH VALUE ADDED BETWEEN 2001 AND 2011

(in percentage points of the total change, unless otherwise stated)

	Brussels		Flanders		Wallonia	
	Contribution	Rank	Contribution	Rank	Contribution	Rank
Wholesale trade	–0.7	10	8.2	2	8.1	2
Retail trade	1.9	3	4.7	5	6.7	4
Transport and storage	0.3	9	5.2	4	2.7	8
Hotels, restaurants and catering	1.1	5	1.0	10	1.3	10
Information and communication	0.8	8	4.1	6	3.5	7
Real estate activities	0.9	6	1.7	9	1.4	9
Business services	4.9	1	11.3	1	9.0	1
Energy, water and waste	3.9	2	1.9	8	4.1	6
Construction	0.9	7	5.7	3	5.1	5
Other non-manufacturing branches	1.9	4	3.5	7	7.6	3
Total[1]	**15.9**		**47.2**		**49.5**	
p.m. Non-manufacturing branches' share of regional value added in 2011 (in %)	*90.6*		*69.5*		*70.3*	

Source: NBB.

(1) Percentage change between 2001 and 2011, at current prices.

Flanders is furthermore characterised by transport-related activities (particularly storage and related services), which is primarily attributable to the dedicated infrastructure located in the Region. Lastly, the relatively significant contribution of "other non-manufacturing branches" in Wallonia stems mostly from companies supplying auxiliary financial services, such as those specialising in international payment systems and financial data transmission.

3. Trends in the financial situation of firms

The financial analysis which follows is based on the theory of interpretation of the annual accounts, from which several ratios have been borrowed. They are defined in detail in Annex 2.

The financial ratios are presented in the form of global figures and medians. The globalised ratios are obtained by taking the sum of the numerators of all companies and dividing it by the sum of their denominators. The median is the central value in an ordered distribution: for a given ratio, 50 % of firms have a ratio above the median and 50 % have a ratio below the median.

The two measures are complementary since they focus on different points of interest. Since it takes account of the weight of each firm in the numerator and in the denominator, the globalised figure primarily reflects the situation of the largest firms. In contrast, by indicating the position of the central firm, the median reflects the picture for the population as a whole: it is in fact influenced equally by every firm, regardless of size.

For a statistical analysis of financial ratios, the micro-economic measurement of the median is much more preferable than a simple average. With a simple average, distributions are affected by a certain number of extreme values which, while not meaningful, have a considerable influence on the average. For example, in the case of return on equity, the median and the globalised figure for large firms are respectively 7 % and 6 %, whereas the average is –97 % (see Table 8). This discrepancy is attributable to the extreme ends of the distribution: the minimum ratio is –1.7 million percent, the maximum 74.7 thousand percent. In the vast majority of cases, these types of aberrant values are attributable to a small numerator, which may imply a particularly pronounced volatility. In this case, both the minimum and the maximum ratio involve a numerator equal to € 1. The rarity of these occurrences is confirmed by the much less extreme values seen in

TABLE 8 DISTRIBUTION OF FINANCIAL RATIOS
(in %)

	Return on equity[1]		Degree of financial independence	
	Large firms	SME	Large firms	SME
Maximum	74 706	2 486 200	100	100
99th percentile	346	399	100	100
3rd quartile	19	23	63	62
Median	7	6	34	31
Average	–97	–31	–1 566	–3 703
1st quartile	0,0	–4	14	8
1st percentile	–320	–486	–1 319	–1 515
Minimum	–1 702 462	–1 878 700	–8 439 000	–696 783 600
Globalised figure	6	8	43	37

Source : NBB.
(1) Excluding exceptional results.

the 1st wand 99th percentiles. The discrepancy between the average and the median is even more pronounced in the degree of financial independence. While this ratio has an upper bound of 100, its lower extremity dips down well into negative territory.

3.1 Profitability

In previous editions of this article, profitability was primarily assessed on the basis of the net return on own funds. This figure, also referred to as return on equity, divides the net result after tax by the equity capital. This ratio indicates the return which shareholders receive after deduction of all expenses and taxes. From a strictly financial standpoint, it is thus the ultimate measure of profitability.

In recent years, owing mainly to the creation of the notional interest deduction (see section 3.3.2), the globalised version of the ratio has been undermined by the massive increase in equity capital. Thus, as a complement to return on equity, this section presents some other profitability measures : net margin on sales, return on operating assets, and return on total assets.

The net margin on sales is equal to the ratio of net operating result to revenues. It expresses the commercial performance of a business unit, independent of financing, exceptional results and tax considerations. For SMEs, the ratio can only be calculated if revenues are reported in the annual accounts.

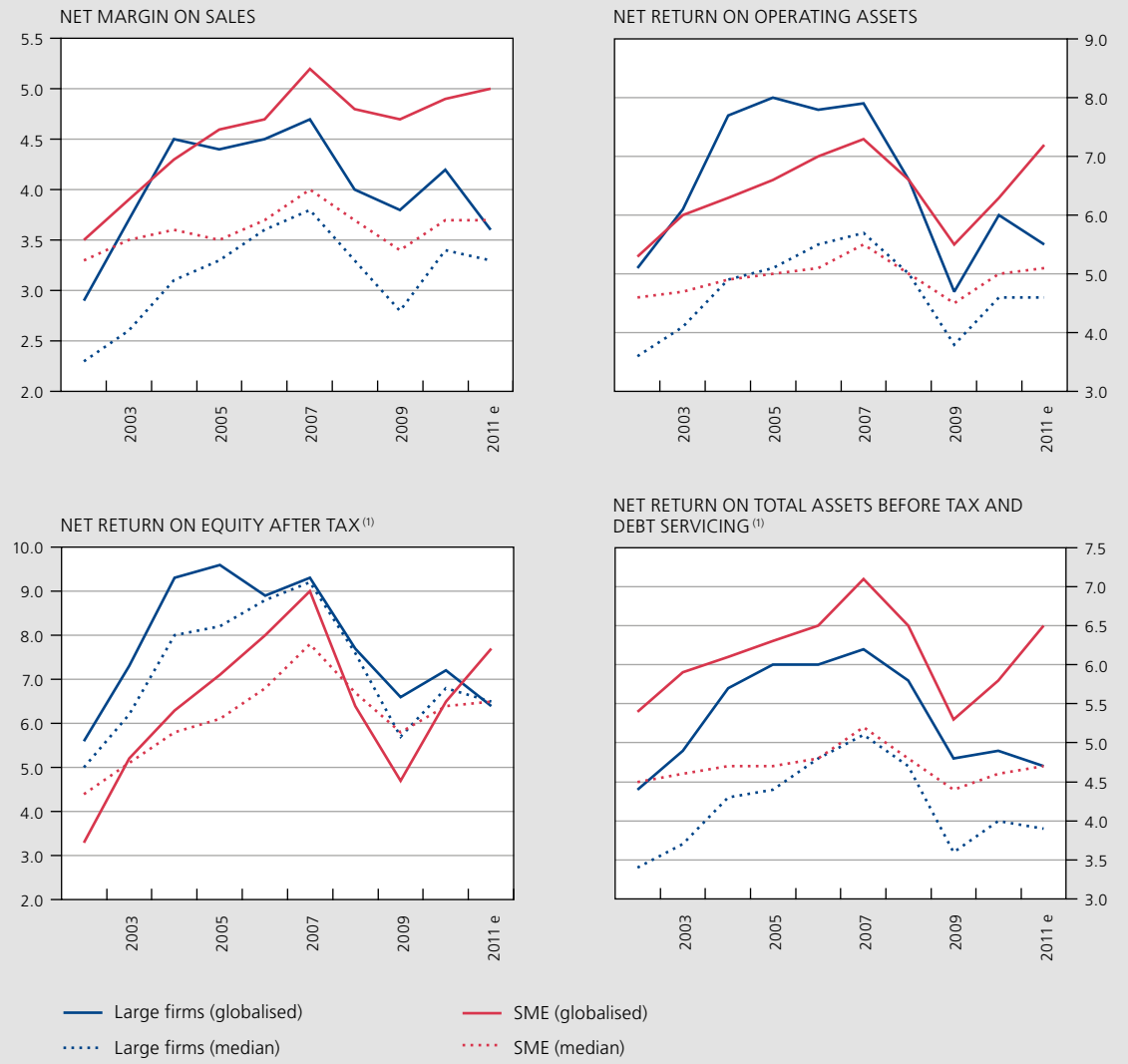
The net return on operating assets is the ratio of net operating result to operating assets. The latter are defined as the sum of non-financial fixed assets, inventories, receivables at less than one year and adjustment accounts[1]. Other assets are regarded as financial assets and are not included in the ratio's denominator. Thus, the ratio expresses commercial performance relative to the balance sheet items directly involved in operations.

Lastly, the net return on total assets before taxes and debt interest measures the firm's profitability relative to all of the resources at its disposal. Profits are considered before taxes and debt interest so as to be independent of taxation and financing structure. As a result, the ratio is sometimes called "economic return".

Chart 8 shows the trend in the four ratios we have defined here. In 2011, by every measure, SMEs' profitability continued the recovery that began in 2010. Over the past two years combined, SME profitability has made a sizeable recovery when measured by the globalised ratios, in some cases returning to the levels seen before the 2008-2009 recession. Conversely, the profitability of large firms contracted in 2011, causing three of the four globalised ratios to fall below the low point of 2009. Large firms notably saw their margins plummet in 2011, especially in the branches most exposed to the global economy and higher commodity prices (i.e. the manufacturing industry, transport and wholesale trade).

(1) This is the definition proposed in Ooghe and Van Wymeersch (2006), *Traité d'analyse financière*, Intersentia, Antwerp-Oxford.

CHART 8 PROFITABILITY TRENDS
(in %)



Source : NBB.
(1) Excluding exceptional results.

Regardless of company size, globalised profitability generally proved to be greater than median profitability. This is largely attributable to the weaker profitability of small companies, which weighs on the median figure but has only a negligible impact on the globalised figure.

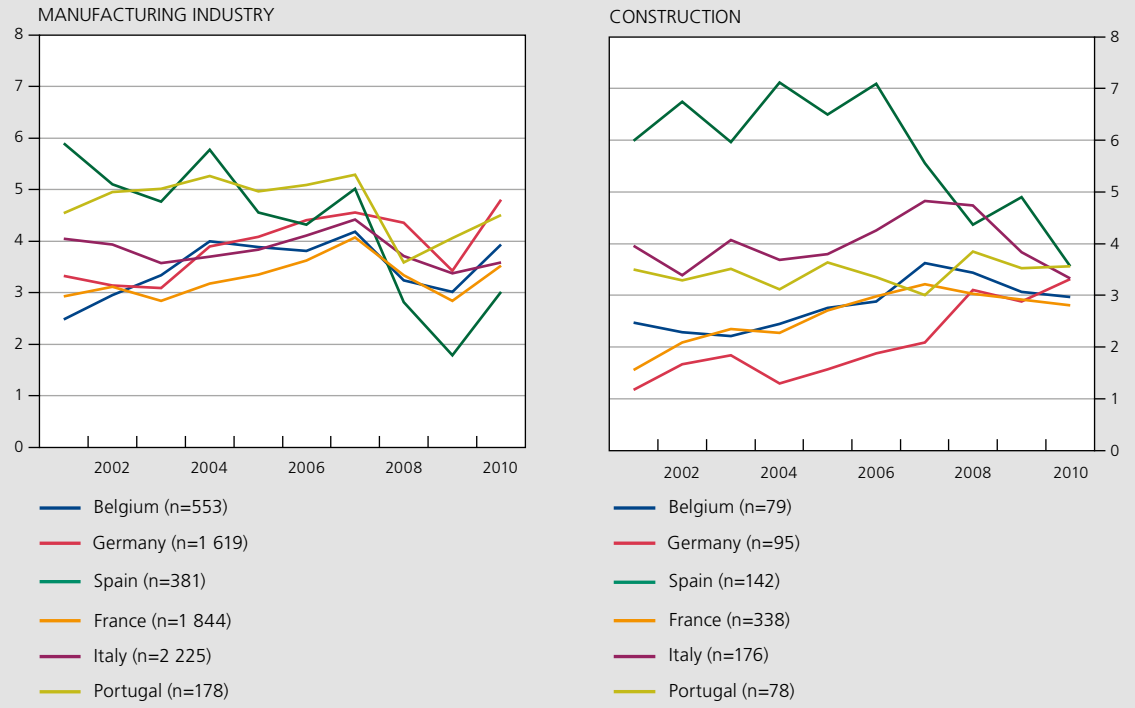
3.2 International comparison

The BACH (Bank for the Accounts of Companies Harmonised) database contains harmonised statistics compiled from the annual accounts of non-financial companies in nine European countries. It was created in 1987 by the European Committee of Central Balance-Sheet Data Offices (ECCBSO), in collaboration with the European Commission, in order to compare the financial structure and performances of companies at the international level.

BACH aggregates balance sheet and income statement items by branch of activity and by size category. In 2010 it was merged with the European Sectoral references Database (ESD), which contains dispersion and globalisation statistics for 28 financial ratios.

These data are harmonised using a detailed comparative study of national accounting systems. This study led to

CHART 9 NET MARGIN ON SALES IN LARGE FIRMS [1] [2]
(medians, in %)



Source: NBB.
(1) In the BACH database, large firms are defined as those with revenues over € 50 million.
(2) The number of firms in brackets is for 2010.

the creation of a table for converting between national models and a single model common to all countries, directly based on the one established by the fourth European Company Law Directive on the annual accounts of companies.

To give an idea, Chart 9 presents the median changes in net margin on sales in industry and construction for six ECCBSO member countries up to 2010 (most recent available year). In virtually every country, industrial companies' margins fell in 2008 and 2009, then rebounded in 2010. In construction, margins have been much more stable in recent years, except in Spain, where companies have been hit by a bursting real estate bubble.

It is worth noting that the completeness and representativeness of the populations are directly dependent upon the national systems for collecting annual accounts. Whereas the population covers all commercial firms in Belgium and Portugal, the scope is sometimes much more limited in other countries. This is why the number of firms is listed in the key to Chart 9.

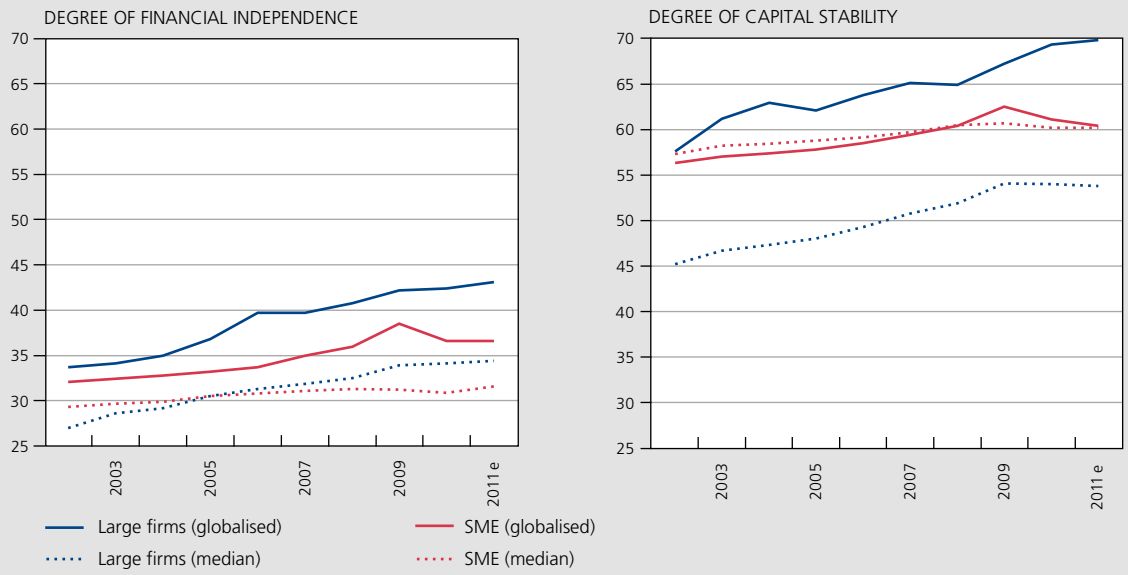
3.3 Solvency

Solvency concerns the ability of firms to honour their short- and long-term liabilities. In this article, it is assessed according to four concepts: the degree of financial independence, the stability of equity capital, the degree to which borrowings are covered by cash flow, and interest charges on financial debts.

3.3.1 Financial independence and capital stability

The degree of financial independence is equal to the ratio between the equity and the total liabilities. If the ratio is high, the firm is independent of borrowings, and that has two positive effects: first, interest charges are low and therefore do not weigh heavily on profits; second, new debts can easily be contracted if necessary, on good terms. The degree of financial independence can also be interpreted as a measure of the financial risk incurred by the firm, since the remuneration of third parties is fixed, in contrast to the firm's results, which fluctuate over time.

CHART 10 FINANCIAL INDEPENDENCE AND CAPITAL STABILITY
(in %)



Source : NBB.

In 2011, the globalised ratio for large firms increased 0.7 point to 43.1 %, whereas the ratio for SMEs stabilised at 36.6 % (see Chart 10). The entire distribution again experienced an upward movement : the median ratio for large firms rose 0.3 point, that of SMEs, 0.7 point. These movements are part of a long-term trend that has been strengthened, since 2005, by the creation of the notional interest deduction (see section 3.3.2).

While Chart 10 gives the image of steadily improving solvency, a detailed look at the distribution paints a more nuanced picture. Thus, the increase has primarily benefited the most solvent strata of the population, and numerous companies have gone against the majority tide, particularly among the SME group. We note, for example, that over the past ten years, the first decile of SMEs experienced a significant deterioration (–12.7 points). This kind of development results in a steady increase in the percentage of companies with negative equity : the figure rose from 15.4 % in 2002 to 17.3 % in 2011.

Another measure of solvency is the degree of capital stability. This ratio divides the sum of equity capital, provisions and long-term debt by total liabilities. It expresses the stability of the funds which the firm can draw upon to develop its activities. As shown in Chart 10, the ratio has been rising over the past decade, especially for large firms. Conversely, short-term indebtedness fell over the same period. This change in the financing structure can be considered favourable, because it limits the risks inherent in short-term debt. Furthermore, work related to the model of financial health developed by the Bank shows that short-term debt is a much better predictor of bankruptcy than long-term debt.

3.3.2 The notional interest deduction

In recent years, financial independence has received a boost from the notional interest deduction. This measure was created by the Law of 22 June 2005 and took effect in tax year 2007. It allows companies to deduct from taxable income a fictitious amount of interest, calculated based on their "adjusted" equity capital. The goal of the measure is to reduce the difference in the tax treatment of debt and equity financing. The law also aims to offer an alternative to the disappearance of the special tax schedule for Belgian coordination centres[1], which the European Commission deemed incompatible with rules governing State assistance.

The Law of 22 June 2005 also scrapped the 0.5 % registration fee for contributions to companies[2]. It also

(1) As a reminder, the tax schedule for coordination centres applied to companies formed to manage financial flows within a multinational group.
(2) This elimination targets nearly all cases of capital increases, with the notable exception of the contribution of a place of residence.

TABLE 9 EFFECTIVE INTEREST RATE APPLICABLE IN THE NOTIONAL INTEREST DEDUCTION

(in %)

Tax year	Base rate	Higher SME rate
2007	3.442	3.942
2008	3.781	4.281
2009	4.307	4.807
2010	4.473	4.973
2011	3.800	4.300
2012	3.425	3.925
2013	3.000	3.500

Source : NBB.

contains several measures aimed at ensuring fiscal neutrality. According to the estimates presented during parliamentary work on the legislation[1], the principal offsetting provision has to do with the exemption for realised capital gains, for which only the net amount (after fees incurred in their realisation) is now exempt. Other offsetting measures include the elimination of the deduction for investment (with the chief exception of investments in environmental conservation) and the abolition of the tax credit for new shareholders' equity.

The venture capital tax deduction applies to all companies subject to Belgian corporation tax or non-resident corporation tax, except for companies that enjoy certain exemption schemes. Furthermore, SMEs that continue to use the investment reserve scheme may not benefit from the notional interest deduction.

The equity capital to take into consideration is the figure that appears in the annual accounts, adjusted for a certain number of amounts. These adjustments are basically aimed at avoiding duplicate use and certain abuses. Any change in equity capital occurring during the tax period is taken into account on a pro-rata basis.

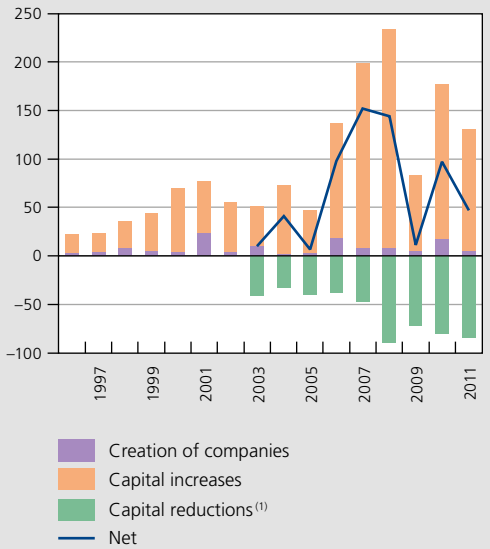
The fictitious interest rate applied to the adjusted equity capital figure is equal to the average rate on 10-year OLO bonds issued by the Belgian government in the next-to-last year preceding the tax year. This means, for example, that for the 2007 tax year, it was the average rate in 2005 that applied, i.e. 3.442 %. For SMEs, the rate is increased by 0.5 percentage point.

Table 9 shows applicable rates since 2007. They increased through 2010 due to the progressive rise in OLO yields. Since then, various provisions have reduced the measure's impact. For tax years 2011 and 2012, the rate was capped at 3.800 %. This is a maximum rate, so the effective rate calculated based on OLO yields may be lower, as was the case in 2012. From 2013 onwards, the cap will be lowered to 3.000 %. Had there not been a limit, the effective rate would have exceeded 4 % for 2013. Lastly, a measure has been adopted preventing companies from carrying interest amounts that exceed the taxable base forward into later years from 2013 onwards[2].

It is now acknowledged that the adoption of the notional interest deduction has resulted in a pronounced increase in the equity capital of Belgian companies. Net capital contributions, i.e. the difference between the growth in capital resulting from capital increases and the creation of companies on the one hand, and the contraction in capital resulting from capital reductions on the other hand, reached record levels between 2006 and 2008 (see Chart 11). In recent years, more than 60 % of net contributions have come from abroad and have thus strengthened the equity capital of Belgian companies in

CHART 11 CHANGE IN EQUITY CAPITAL OF BELGIAN COMPANIES

(in %)



Source : NBB.

(1) Capital reductions have only been recorded since 2003.

(1) See Chamber of Representatives of Belgium (2005), Parliamentary document 51 1778/04 of 31 May.

(2) The deferred interest not yet deducted before 2013 will remain available for a maximum of seven years. However, the maximum amount that can be deducted per tax year will be limited to 60 % of taxable income (except for the first million euros in profits).

consolidated terms. Capital contributions began to subside from 2009. Running at full steam in the early years undoubtedly diminished some of the measure's potential. In addition, capping the deduction rate and removing the deferral option further reduced its appeal.

3.3.3 Coverage of borrowings by cash flow

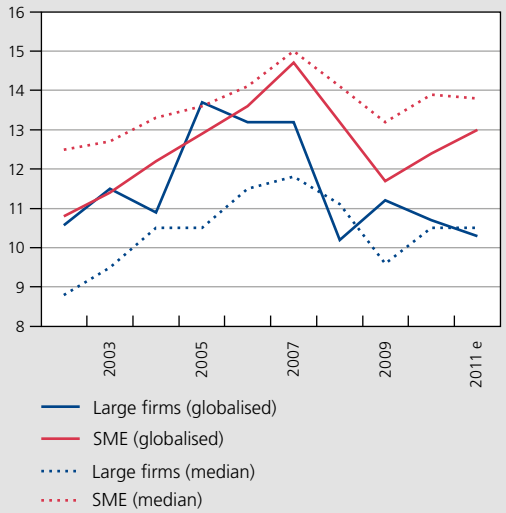
Repayment potential can be measured by the degree to which borrowings are covered by cash flow, i.e. the percentage of debts which the firm could repay by allocating the whole of the year's cash flow to that purpose. The inverse of that ratio gives the number of years which it would take to repay all the debts if the cash flow remained constant.

The trend in coverage of borrowings was mixed in 2011. The globalised ratio for large firms again fell slightly due to the combined effect of weaker cash flow (–1.5 %) and increased borrowings (+2.5 %). The globalised ratio for SMEs, on the other hand, continued the recovery that began in 2010 as a result of increased cash flow (+10.4 %), which again outpaced growth in borrowings (+5.9 %). Median ratios indicate a stabilisation of the distribution for both types of companies in 2011.

A joint analysis of financial independence and coverage of borrowings also shows that, while SMEs are generally less financially independent than large firms, they have a greater repayment potential.

CHART 12 DEGREE TO WHICH BORROWINGS ARE COVERED BY CASH FLOW

(in %)



Source : NBB.

3.3.4 Financing costs

The average interest charges on financial debts can be used to assess the cost of recourse to external sources of funding. The ratio divides charges on debts by the sum of short- and long-term financial debt. The ratio is no longer calculated for SMEs because their income statements make it impossible to pinpoint the charge on debt[1].

Over 2009 and 2010, as a result of euro area monetary policy easing, the globalised ratio of large firms declined substantially, from 5.9 % to 3.7 %. The median ratio also fell, but to a lesser extent, from 6.2 % to 4.9 %.

In 2011 the globalised ratio picked back up slightly as a result of monetary policy tightening throughout most of the year. In early 2011, to prevent upward pressure on price stability from materialising at a time when economic activity was just getting going again, the ECB Governing Council raised key interest rates on two occasions. After being held at a historical low of 1 % for two years, the principal key rate was raised to 1.25 % on 7 April and 1.50 % on 7 July. Late in the year, following a downward revision in growth forecasts, the Governing Council lowered the principal key rate to 1.25 % on 3 November, then 1 % on 8 December[2].

The median ratio again fell slightly in 2011, reflecting a majority of companies' lesser exposure to the monetary policy decisions taken over the course of the year.

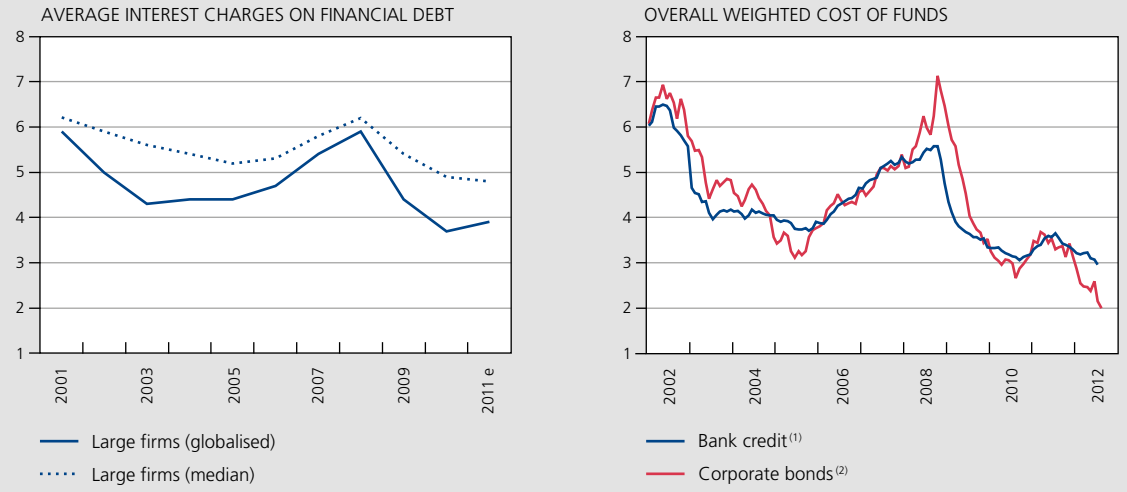
It is also worth noting that, according to a qualitative survey conducted by the Bank, companies continued to have a positive overall view of borrowing conditions in the first half of the year, but that this view began to deteriorate from the third quarter onward. Managers' more negative view was motivated by the caps on lending and guarantees adopted by the banks ; on the other hand, their view of interest rates improved marginally.

Lastly, the ratio drawn from the annual accounts may be compared with the financing cost calculated based on MIR surveys and data on corporate bond yields. These financing costs are calculated monthly and weighted by outstandings. It is interesting to note that their trend over the period is similar to that of the ratio drawn from the annual accounts.

(1) In the simplified format, charges on debt are encompassed in the "financial charges" line (item 65).
(2) For more details on ECB monetary policy in 2011, see the Bank's annual report.

CHART 13 FINANCING COSTS

(in %)



Sources: NBB, Thomson Reuters Datastream.

(1) Weighted average rate applied by Belgian banks on loans to businesses, as reflected in the MIR survey. The weighting is based on amounts outstanding for different types of credits.

(2) Yield of an index of euro-denominated bonds issued by non-financial corporations in the euro area, all maturities combined; index weighted by outstandings.

4. Recent inventory trends

4.1 Inventory size and composition

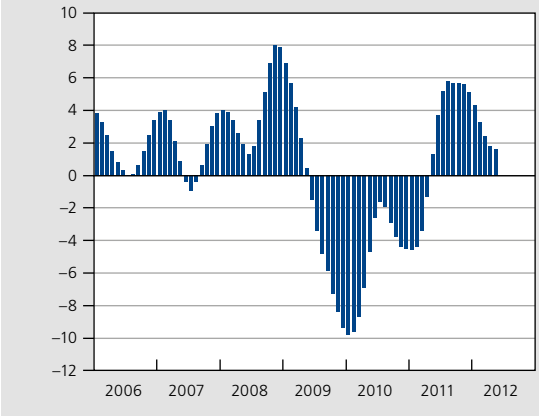
This section discusses recent inventory trends. We define inventory as goods used in the course of companies' operations, either to be consumed when they are used, or to be sold as-is or following a production process.

In operating a business, inventory management is an ongoing challenge subject to competing constraints. On the one hand, the business must avoid overstocking so as not to tie up funds unnecessarily. On the other hand, it must have enough inventory on hand so that it does not run out. The cyclical fluctuations of recent years, in which inventories have played an important role, illustrate this dilemma.

For example, more than one-third of the decline in GDP in 2009 was attributable to massive inventory drawdowns by companies after the start of the recession. In the economic surveys conducted by the Bank, this procyclical trend was visible in the historically high number of managers reporting below-normal inventory levels (Chart 14). In 2011, conversely, inventory rebuilding was accountable for over one-third of GDP growth. As explained in section 2.1, companies did not fully anticipate the economic slowdown that took place over the course of 2011 and so involuntarily accumulated unused or unsold goods. This is confirmed by the clear increase, in 2011, of the number of managers reporting above-normal inventory levels.

CHART 14 ASSESSMENT OF INVENTORY LEVELS IN THE MANUFACTURING INDUSTRY

(balance of "above normal" and "below normal" responses, data seasonally adjusted and smoothed)



Source: NBB.

TABLE 10 SECTORAL BREAKDOWN OF INVENTORIES AND ORDERS IN PROGRESS

(2011, in € million, unless otherwise stated)

	Inventories at year-end	In % of total	*p.m. Inventories in % of value added*[1]
Manufacturing industry	**24 885**	**30.3**	***53.7***
of which:			
Agri-food industries	3 139	3.8	*45.3*
Textiles, clothing and footwear	1 187	1.4	*83.9*
Wood, paper and printing	1 173	1.4	*37.1*
Chemical industries	3 176	3.9	*45.7*
Pharmaceutical industries	2 285	2.8	*47.2*
Metallurgy and metalworking	5 046	6.2	*75.9*
Metal manufactures	4 863	5.9	*53.7*
Non-manufacturing branches	**57 150**	**69.7**	***45.2***
of which:			
Wholesale trade	19 333	23.6	*84.7*
Retail trade	7 527	9.2	*66.1*
Transport and storage	2 552	3.1	*17.8*
Hotels, restaurants and catering	283	0.3	*8.7*
Information and communication	1 049	1.3	*8.7*
Real estate activities	4 156	5.1	*83.1*
Business services	2 696	3.3	*11.7*
Energy, water and waste	2 187	2.7	*21.6*
Construction	9 713	11.8	*73.7*
Total	**82 036**	**100.0**	***47.5***

Source: NBB.
(1) In % of calculated for companies with an accounting year of 12 months.

Inventory size and composition differs considerably from one branch to the next, as a function of the operating cycle. In an industrial company, it looks like this:

Purchases → Inventory → Processing → Inventory → Sales

In a wholesale or retail trade company, it looks like this:

Purchases → Inventory → Sales

In a services company, finally, the nature of the business means that inventory levels are low.

Table 10 shows the sectoral distribution of inventories as reported in the annual accounts. Most inventories are concentrated in wholesale and retail trade (32.7 % of the total in 2011), manufacturing industry (30.3 %) and construction (11.9 %). Excluding trade and real estate, the services branches are naturally characterised by relatively low inventory levels: in hotels and restaurants, telecommunications and business services, inventories at year-end represent less than 12 % of value added. The proportion is much higher in wholesale trade (84.7 %), retail trade (66.1 %), real estate (83.1 %), construction (73.7 %), and manufacturing industry (53.7 %).

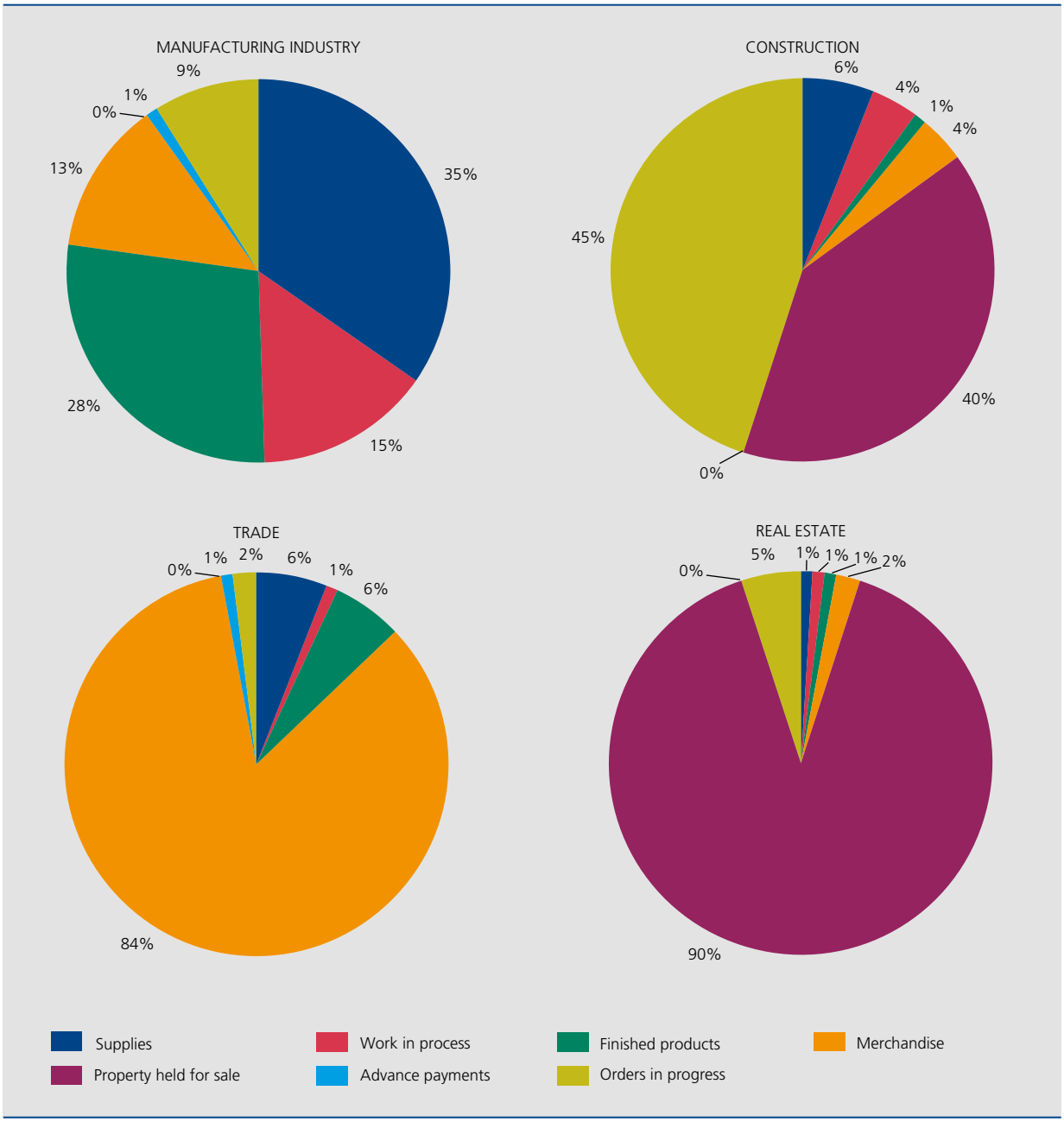
Analysis of inventories based on the annual accounts depends upon the type of format submitted by the companies. SME accounts merely distinguish between inventories and orders in progress, whereas the accounts of large firms distinguish among the following sub-items: supplies, work in process, finished products, merchandise, properties held for sale, and advance payments.

Briefly, these items are defined as follows:

- supplies include raw materials and consumables;
- works in process are products made by the company that have not yet reached the stage of finished product;
- finished products are products that are made by the company for sale and are ready for sale, including sellable semi-finished products;
- merchandise are tangible goods purchased by the company to be resold as-is or after minor alterations;
- properties held for sale are buildings that the company has bought or built with the intention of selling them;
- advance payments are payments made on inventories that the supplier has not yet delivered;
- Contracts in progress include work being performed, products being made, and services being delivered that were specifically ordered by a third party and have not yet been fully received or delivered.

CHART 15 BREAKDOWN OF INVENTORIES AND CONTRACTS IN PROGRESS PER BRANCH OF ACTIVITY

(2011, large firms)



Source: NBB.

Annex 3 presents the breakdown of inventories among these items for all of the population studied. In 2011, the total amount of inventories and contracts in progress was just over € 82 billion, of which € 60 billion at large firms and € 22 billion at SMEs. According to large firms' accounts, merchandise was the principal component (42 % of the total), ahead of supplies (18.7 %), finished products (13.2 %), contracts in progress (10.9 %), properties held for sale (7.3 %) and work in process (7.3 %). Advance payments represented a very small proportion of the total (0.6 %).

The breakdown of inventories is the most diversified in industry (see Chart 15). The manufacturing branches stand out because of their much greater share of supplies, finished products and work in process inventories. In construction, almost all of the inventory was made up of contracts in progress and properties held for sale. Lastly, trade and real estate were highly specialised in, respectively, merchandise and properties held for sale.

4.2 Recent trends

This section describes the recent trends seen in industry, construction and trade, the most significant branches in terms of inventories. Since the onset of the financial crisis, inventories have not fluctuated by much in retail trade or construction. Changes have been much more pronounced in industry and wholesale trade. Due to their exposure to variations in world trade, these two branches reduced inventories substantially in 2009, then rebuilt them in 2010 and 2011. It is worth noting that the pharmaceutical industry is the only manufacturing branch in which inventories have steadily increased in recent years, even during the 2008-09 recession.

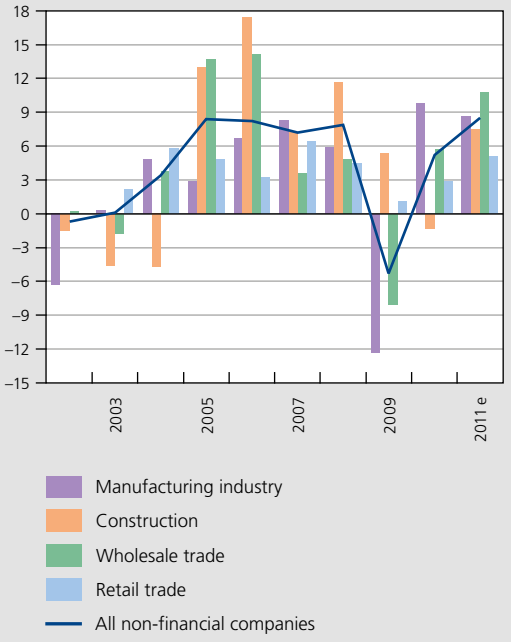
The way companies manage their stocks can be discerned by looking at their turnover ratios, which measure how quickly inventory is used and replaced. We generally distinguish between two separate ratios: purchased inventory turnover and produced inventory turnover. These ratios can only be calculated using full-format accounts.

Purchased inventory turnover relates to supplies, merchandise, property held for sale[1] and advance payments. The ratio is calculated by dividing the cost of supplies and merchandise (item 60 in the income statement) by the total value of these inventories recorded as balance sheet assets.

Produced inventory turnover relates to work in process, finished products and contracts in progress[2]. The ratio is calculated by dividing the cost of goods sold by the total value of these inventories recorded as balance sheet assets. The cost of goods sold is used rather than the selling price because inventories themselves are recorded at cost price.

CHART 16 TRENDS IN INVENTORIES AND CONTRACTS IN PROGRESS PER BRANCH OF ACTIVITY

(percentage changes compared to the previous year)



Source: NBB.

It should be noted that turnover ratios are not entirely without ambiguity. From a strictly financial standpoint, a high turnover is favourable because it means that inventories are liquid, which minimises storage costs and the risk of obsolescence. However, a high turnover rate can also mean that inventory levels are inadequate, giving rise to disruptions and frequent ordering, the cost of which can exceed the savings on storage costs.

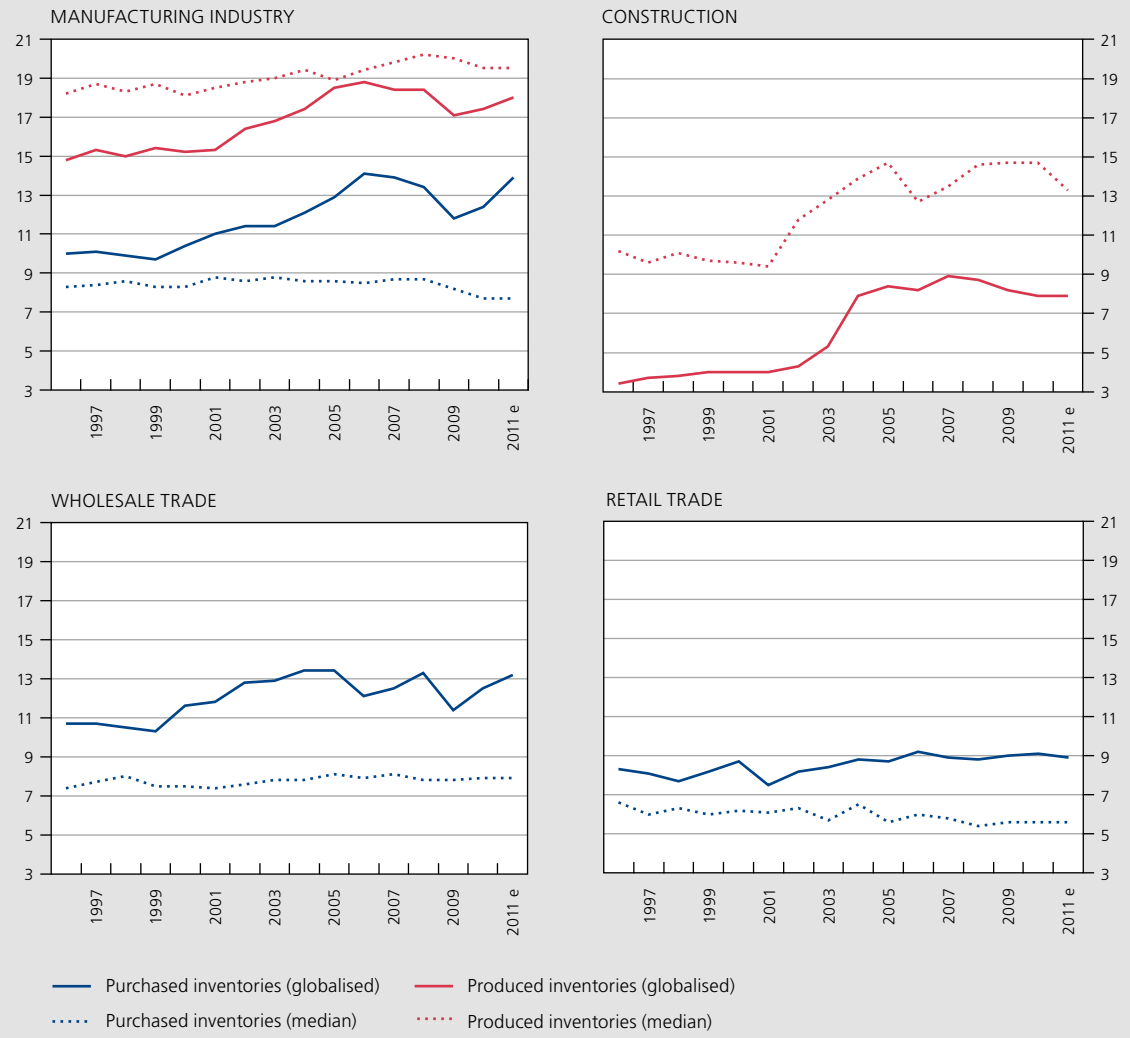
Chart 17 shows trends in the ratios. In trade and construction, only one of the two ratios is calculated. As shown in Chart 15, inventories in these two branches are highly specialised, respectively in purchased inventories and produced inventories.

In industry, the globalised turnover of both inventory categories rose significantly between the end of the 1990s and the mid-2000s, meaning that for a given level of

(1) Except for construction companies.
(2) As well as properties held for sale for construction companies.

CHART 17 INVENTORY TURNOVER PER BRANCH OF ACTIVITY

(in %)



Source : NBB.

activity, inventories fell. This trend reflects stricter inventory management marked by, among other things, the rising popularity of strategies such as just-in-time. Turnover then declined as a result of the 2008-09 recession and because companies had a hard time anticipating business trends. The recovery of globalised turnover in 2010 and 2011, however, shows that inventory management had adapted to the new economic conditions. Overall, over the past 15 years, globalised turnover increased significantly in the manufacturing industry. It climbed from 10.0 to 13.9 for purchased inventories and from 14.8 to 18.0 for produced inventories. In median terms, purchased inventory turnover was flat over the period, whereas produced inventory turnover rose from 18.2 to 19.7.

A change took place in construction in the early 2000s. At the request of the Belgian Construction Association, companies were authorised to record on their balance sheets the net balance between the amount of contracts in progress and that of advance payments on orders. This exemption from general accounting practices was granted by the Economic Affairs Minister in order to bolster construction companies' solvency, given that advance payments are recorded as borrowings. Solvency is a criterion in the awarding of public contracts, so Belgian construction companies had been at a disadvantage because the adjustment was already allowed in neighbouring countries. As a result of the exemption, the amount of orders in progress declined significantly in the branch, which boosted both

the globalised and median turnover ratios. Excluding this regulatory influence, inventory turnover was relatively stable over the past 15 years.

In wholesale trade, the globalised ratio followed trends similar to those observed in industry, although to a lesser extent. The ratio's trend can be irregular, because purchasing volumes are sometimes inflated by buy and sell deals that do not accurately represent real business activity. The median ratio remained particularly stable over the period, which means that most companies did not alter their inventory management significantly.

Lastly, in retail trade, inventory turnover remained very stable over the period covered. The globalised ratio improved marginally before stabilising from 2006 onwards, whereas the median ratio eroded a bit over the course of the past 15 years.

Still, it is important to note that the degree of turnover is heavily dependent upon companies' business activities. In construction, for example, owing to the longer operating cycle, produced inventories are greater in proportion to the volume of activity than they are in industry. We also note substantial differences among the manufacturing branches. For example, turnover is higher in agri-food because the branch deals in perishable goods.

Conclusion

over the full year 2011, the total value added of non-financial corporations rose 3.1 % in current prices. This was a slowdown compared with 2010, when the figure rebounded by 5.5 %. Two factors combined to cause the slowdown. On the one hand, purchases continued to increase robustly, due notably to the significant rise in commodity prices. As a reminder, energy commodity prices increased on average by 31.3 % in 2011, and industrial commodity prices rose by an average of 14.3 %. Furthermore, sales growth fell marginally, even though companies were able to pass on a portion of the higher costs in their selling prices.

At the same time, staff costs rose sharply in 2011 under the impact of job growth and higher hourly wages. Depreciation picked back up amid renewed investment. Overall, operating costs rose by 4.4 % in 2011, a much faster pace than in either of the previous two years. This combination of rising costs and less robust activity caused a slight drop in net operating result in 2011 (–2.4 %) following the vigorous recovery in 2010 (+28.7 %). Overall, company performances were thus affected by the economic downturn, which got progressively worse from the second half of 2011.

An analysis by company size shows that trends were clearly more favourable to SMEs : their value added increased by 6.3 % in 2011, compared with 2.0 % for large firms. Similarly, large firms' operating result fell by 6.8 %, while that of SMEs rose by 9.7 %. So, while large firms were much more affected by the economic downturn, it must be kept in mind that they benefited much more from the 2010 recovery. Large firms are generally more sensitive to economic cycles because they are more present in industrial activities and international trade.

These trends had implications for company profitability. By every available measure, SME profitability in 2011 continued the recovery that began in 2010. Over the past two years, SMEs' recovery has been particularly notable with respect to globalised ratios, to the extent that in certain cases ratios are back to levels last seen before the 2008-09 recession. Conversely, the profitability of large firms contracted in 2011 to the extent that multiple ratios fell below the low point of 2009. Large firms notably saw their margins fall in 2011, especially in the branches most exposed to international conditions and higher commodity prices (i.e. the manufacturing industry, transport and wholesale trade).

Analysis of sector trends since the onset of the financial crisis shows that branches gained or lost ground largely as a function of their degree of exposure to fluctuations in world trade. For example, the two branches that have fallen the furthest since 2007 are textiles and metallurgy. Textiles have long had to deal with international competition, particularly from low-cost countries. Metallurgy, on the other hand, was especially affected by the impacts of the 2008-2009 recession, such as the closing of certain production units. Conversely, value added increased substantially in the pharmaceutical industry because of continued production growth and the branch's high rate of value added. Building on long-term trends, cyclical fluctuations in recent years have generally been more favourable to the non-manufacturing branches. The biggest performance improvements were generated by the energy and water branches. To a lesser extent, business services, real estate, retail trade, hotels and restaurants also posted above-average growth. Overall, these branches have benefited from relatively firm domestic demand since 2008.

The article also discusses sector contributions to the growth of each of Belgium's three Regions over the period 2001-2011. This breakdown reveals a certain number of regional specificities. For example, Flanders stands out for the larger contributions made by transport, metallurgy,

refining and trade in commodities and industrial goods. In Wallonia, the pharmaceutical industry and auxiliary financial services made much bigger contributions than in the other two Regions. Lastly, owing to the specific nature of its economy, Brussels was supported solely by the services sector – particularly business services – energy, and, to a lesser extent, real estate, hotels and restaurants. By contrast, wholesale trade, transport and construction made much more limited contributions in the capital city.

The last part of the article describes recent inventory developments. With respect to turnover, the most significant fluctuations in recent years have taken place in the manufacturing industry. Within this category, globalised turnover increased significantly between the end of the 1990s and the mid-2000s, meaning that for a given level of activity, inventories fell. This trend reflects stricter inventory management marked by, among other things, the rising popularity of strategies such as just-in-time. Turnover then declined as a result of the 2008-2009 recession and because companies had a hard time anticipating business trends. The recovery of globalised turnover in 2010 and 2011, however, shows that inventory management had adapted to the new economic conditions. In other branches of activity, inventory turnover remained fairly flat over the period.

Annex 1

SECTORAL GROUPINGS

	NACE-BEL 2008 divisions
Manufacturing industry	**10-33**
of which:	
Agri-food industries	10-12
Textiles, clothing and footwear	13-15
Wood, paper products and printing	16-18
Chemical industries	20
Pharmaceutical industries	21
Metallurgy and metalworking	24-25
Metal manufactures	26-30
Non-manufacturing branches	**01-09, 35-82, 85.5 and 9** (1)
of which:	
Wholesale trade (2)	46
Retail trade (2)	47
Transportation and storage	49-53
Accommodation and food service activities	55-56
Information and communication	58-63
Real estate activities	68
Business services (3)	69-82
Energy, water supply and waste	35-39
Construction	41-43

(1) Except 64, 65, 70100, 75, 94, 98 and 99.
(2) Excluding automobiles and motorcycles.
(3) Excluding head office activities (70100).

Annex 2

DEFINITION OF THE RATIOS

	Item numbers allocated	
	in the full format	in the abbreviated format
1. Net margin on sales		
Numerator (N)	9901 + 9125	9901 + 9125
Denominator (D)	70 + 74 – 740	70
Ratio = N/D × 100		
Condition for calculation of the ratio:		
Simplified format: 70 > 0		
2. Net return on operating assets		
Numerator (N)	9901	9901
Denominator (D)	20 + 21 + 22/27 + 3 + 40/41 + 490/1	20 + 21 + 22/27 + 3 + 40/41 + 490/1
Ratio = N/D × 100		
Conditions for calculation of the ratio:		
12-month financial year		
20 + 21 + 22/27 + 3 + 40/41 + 490/1 > 0 (1)		
3. Return on equity, excluding exceptional result		
Numerator (N)	9904 – 76 + 66	9904 – 76 + 66
Denominator (D)	10/15	10/15
Ratio = N/D × 100		
Conditions for calculation of the ratio:		
12-month financial year		
10/15 > 0 (1)		
4. Net return on total assets before tax and debt servicing, excluding exceptional result		
Numerator (N)	9904 + 650 + 653 – 9126 + 9134 – 76 + 66	9904 + 65 – 9126 + 67/77 – 76 + 66
Denominator (D)	20/58	20/58
Ratio = N/D × 100		
Condition for calculation of the ratio:		
12-month financial year		
5. Degree of financial independence		
Numerator (N)	10/15	10/15
Denominator (D)	10/49	10/49
Ratio = N/D × 100		
6. Degree of capital permanence		
Numerator (N)	10/15 + 16 + 17	10/15 + 16 + 17
Denominator (D)	10/49	10/49
Ratio = N/D × 100		

(1) Condition valid for the calculation of the median but not for the globalised ratio.

DEFINITION OF THE RATIOS (continued)

	Item numbers allocated	
	in the full format	in the abbreviated format
7. Degree to which borrowings are covered by cash flow		
Numerator (N)	9904 + 630 + 631/4 + 6501 + 635/7 + 651 + 6560 – 6561 + 660 + 661 + 662 – 760 – 761 – 762 + 663 – 9125 – 780 + 680	9904 + 631/4 + 635/7 + 656 + 8079 + 8279 + 8475 – 8089 – 8289 – 8485 – 9125 – 780 + 680
Denominator (D)	16 + 17/49	16 + 17/49
Ratio = N/D × 100		
Condition for calculation of the ratio:		
12-month financial year		
8. Average interest expense on financial debt		
Numerator (N)	650	
Denominator (D)	170/4 + 42 + 43	
Ratio = N/D × 100		
Condition for calculation of the ratio:		
12-month financial year		
9. Purchased inventory turnover		
Numerator (N)	60	
Denominator (D)	30/31 + 34 + 35 (1) + 36	
Ratio = N/D × 100		
Condition for calculation of the ratio:		
12-month financial year		
10. Produced inventory turnover		
Numerator (N)	60/64 – 71 – 72 – 740 – 9125	
Denominator (D)	32 + 33 + 35 (2) + 37	
Ratio = N/D × 100		
Condition for calculation of the ratio:		
12-month financial year		

(1) Except for construction companies.
(2) Only for construction companies.

Annex 3

DETAIL OF INVENTORIES AND ORDERS IN PROGRESS RECORDED AS BALANCE SHEET ASSETS (2011)

	In € million	In % of the total
Simplified formats		
Inventories	20 791	93.0
Orders in progress	1 572	7.0
Total	**22 362**	**100.0**
Full formats		
Inventories	53 193	89.1
Supplies	11 149	18.7
Work in process	4 350	7.3
Finished products	7 901	13.2
Merchandise	25 072	42.0
Property held for sale	4 344	7.3
Advance payments	377	0.6
Orders in progress	6 480	10.9
Total	**59 674**	**100.0**
All non-financial companies		
Inventories	73 984	90.2
Orders in progress	8 052	9.8
Total	**82 036**	**100.0**

Source : NBB.

The 2011 social balance sheet

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P. Heuse
H. Zimmer

Introduction

The information contained in the social balance sheet can be used to analyse trends in the workforce, working time and staff costs, and the effort firms devote to training their workers.

This article is in three parts. Part 1 describes the trend in employment from 2010 to 2011, for all firms on the one hand, and then for firms required to submit a more detailed full-format account on the other hand. Part 2 examines the training indicators, and the third discusses the finance and insurance branch, which has undergone far-reaching changes, amplified in recent years by the economic and financial crisis.

The findings discussed in parts 1 and 2 were obtained from a reduced population[1] of firms, whereas part 3 covers the total population of firms that filed a social balance sheet in 2010. The reduced population comprises 49 006 firms, or 60 % of the total population of firms in 2010. The firms included filed a social balance sheet for both 2011 and 2010, enabling measurement of the changes in a range of variables between these two financial years. However, use of a constant population does have its limitations. New companies and those which have ceased trading are automatically excluded, which can lead to some discrepancies between the changes seen in the reduced population and those that will be recorded later in the total population. Nevertheless, the lengthy time lag before the information is available for all firms and the guarantees offered by the representativeness of the reduced population in terms of jobs justify the adoption of such an approach. Since the constant population contains proportionately more large firms than the total population, the 1 586 930 persons employed by firms in the reduced population represented 81 % of workers in the total population.

1. Trend in employment

1.1 All firms

In a context where GDP growth was starting to slow, the national accounts showed a 1.5 % increase in private sector employment[2] in 2011. Private sector employment tends to react to fluctuations in activity with a certain delay.

The average change in the number of workers in the reduced population of firms filing a social balance sheet paints the same picture. In 2011, the number of both full-time and part-time workers increased, in similar proportions. Because economic conditions tended to deteriorate over the course of the year, the job growth situation at 31 December 2011 was more modest, at 1 % ; the slowdown was more pronounced for full-time workers.

(1) In view of the time which firms are given to fulfil their accounting obligations and the time needed to audit the accounts, the full set of social balance sheets for the year ending 31 December 2011 was not available on 13 September 2012, the date on which the data needed for the analysis were extracted. Annex 1 summarises the methodological principles governing the construction of these analysis populations and their regional distribution. The breakdown by branch of activity is based on the sections and divisions of the NACE-BEL Nomenclature (2008 version) presented in Annex 2. The official headings have been abbreviated in the body of the text for the reader's convenience. Annexes 3 to 10 contain a series of detailed indicators per branch of activity. Annexes 11 to 13 break down some of the findings according to the Region to which the firms belong.

(2) Institutional sectors S11 (non-financial corporations), S12 (financial corporations) and S15 (non-profit institutions serving households), with the exception of NACE-BEL 78 branches (employment-related activities), 84 (public administration and defence; compulsory social security) and 85 (education) in order to use the same sectors and branches as the ones covered by the analysis population.

TABLE 1 CHANGE IN EMPLOYMENT BETWEEN 2010 AND 2011

(reduced population)

	Full-time		Part-time		Total	
	In units	In %	In units	In %	In units	In %
Annual average	16 106	1.5	7 711	1.6	23 817	1.5
As at 31 December	10 099	0.9	6 294	1.3	16 393	1.0
Men	5 742	0.7	–97	–0.1	5 645	0.6
Women	4 357	1.4	6 391	1.7	10 748	1.6

Source: NBB (social balance sheets).

Women were the primary beneficiaries of the job growth observed at year's end, with 10 748 additional workers out of a 16 393 total. The number of women working part-time increased somewhat faster than the number working full-time, at respectively 1.7 % and 1.4 %. The number of male workers only increased in the full-time category. At end-2011, women represented 43.4 % of workers on companies' staff registers, an increase of 0.2 of a percentage point compared with the previous year. Male workers were still in the majority, at 56.6 %.

Net job creation was the most dynamic in SMEs. In small firms with 50 or fewer FTE workers, the number of employees rose 2.1 % between end-2010 and end-2011; in those with more than 50 to 250 FTE workers, growth was 0.9 %; and in large firms with over 250 FTE workers – which account for more than half of all jobs – growth was 0.5 %.

The number of temporary workers increased significantly, by 5.2 %, the equivalent of an extra 5 007 people. Our definition of temporary staff includes persons on a fixed-term contract, substitution contract or contract concluded for a specific project. Employees on a permanent contract also made a positive contribution, although their growth rate was more modest, at 0.8 %. This represented 11 386 additional workers, bringing the percentage of these contracts to 93.7 % of employees on the staff register.

The underlying staff movements indicate that employee turnover rose in 2011, with an increase in both recruitment and departures of workers, up respectively 6.1 % and 8.8 % compared with 2010, although the departures remained lower than recruitment. As a result, total net recruitment reached 18 539 workers[1] in 2011. The breakdown of flows according to working arrangements suggests that, as in previous years, some full-time workers switched to a reduced working time arrangement during the year. In fact, the increase in full-time staff recorded between 31 December 2010 and 2011 was half that of

(1) Owing to errors in the social balance sheets filed, year-on-year changes in the staff employed as at 31 December are not always equal to the balance of staff recruitment and departures.

TABLE 2 BREAKDOWN OF EMPLOYMENT BY TYPE OF CONTRACT

(data as at 31 December, reduced population)

	Change between 2010 and 2011		Level in 2011	
	In %	In units	In % of the botal	In units
Workers recorded in the staff register	1.0	16 393	100.0	1 610 139
Permanent workers	0.8	11 386	93.7	1 508 962
Temporary workers[1]	5.2	5 007	6.3	101 177

Source: NBB (social balance sheets).

(1) Workers on fixed-term contracts, substitution contracts or contracts concluded for a specific project.

TABLE 3 STAFF RECRUITMENT AND DEPARTURES
(units, reduced population)

	Recruitment		Departures		Net recruitment	
	2010	2011	2010	2011	2010	2011
Full-time	400 850	438 400	369 150	415 234	31 700	23 166
Part-time	298 846	303 708	295 818	308 335	3 028	–4 627
Total	**699 696**	**742 108**	**664 968**	**723 569**	**34 728**	**18 539**

Source: NBB (social balance sheets).

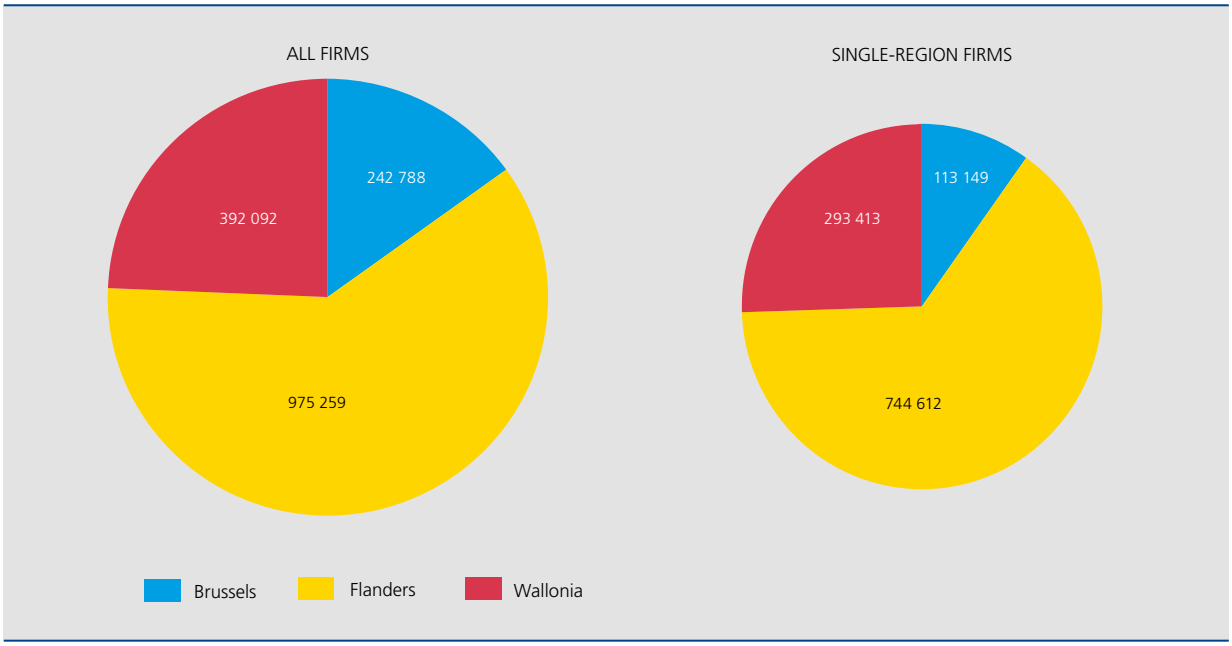
net recruitments, whereas there was an increase in the number of part-time workers over the same period, in contrast to net departures of this type of worker recorded on the basis of staff movements.

Overall, the rate of part-time work was virtually unchanged between end-2010 and end-2011, at 30.3 %. While it has steadily increased over the past ten years, the rate of part-time work among men remains considerably lower than it does among women, at 12.3 % compared with 53.7 %.

1.2 Regions

Single-region firms are those whose head office and operating establishment(s) are located in just one of Belgium's three Regions. They accounted for 98 % of firms in the reduced population in 2011, or 48 057 firms. These companies are generally fairly small: on average, they employed 24 workers. The other 949 companies – referred to as multi-region firms – have establishments in more than one Region. They employed 483 workers on average.

CHART 1 REGIONAL BREAKDOWN OF EMPLOYMENT IN ALL FIRMS AND IN SINGLE-REGION FIRMS IN 2011
(data as at 31 December, in units, reduced population)



Source: NBB (social balance sheets).

The workforce is apportioned among the Regions using the formula applied by the NAI to compile the regional employment accounts[1]. At end-2011, 60.6 % of workers in the reduced population of firms were employed in Flanders, 24.4 % in Wallonia and 15.1 % in Brussels. These proportions are very similar to what was observed in the national accounts in 2010.

Single-region firms accounted for 72 % of workers in the reduced population in 2011. This figure varies considerably from one Region to another. Because Brussels is home to more multi-region firms' head offices, single-region firms employ less than half of this Region's workers, whereas single-region firms located exclusively in either Flanders or Wallonia account for around three-quarters of each Region's jobs.

The two types of firms also differ with respect to areas of specialisation[2]: around three-quarters of single-region firms' jobs are divided evenly among industry, trade and transport, and health and social work. Brussels stands out for the prominence of its services sector. Hence, around one-third of workers in single-region firms in Brussels work in information and communication, finance and insurance, real estate, and business services, whereas single-region firms in Flanders and Wallonia exhibit a breakdown by activity close to the average. The principal branch of employment among multi-region firms is trade and transport, which accounts for one-third of jobs. Industrial firms represent 18 % of jobs, and financial firms, 17 %.

Growth in employment was stronger in single-region firms, with a 1.7 % increase in workers between 31 December 2010 and 2011, or 18 787 additional jobs. Conversely, staff employed by multi-region firms fell 0.5 %, a net decrease of 2 394 workers. Overall, employment rose by 1 %. As in the previous year, growth was driven principally by the health and social work branch, at 0.4 of a percentage point. Industry and business services also combined to bolster net job creation, contributing 0.4 point. Other branches made more modest or in some cases zero contribution.

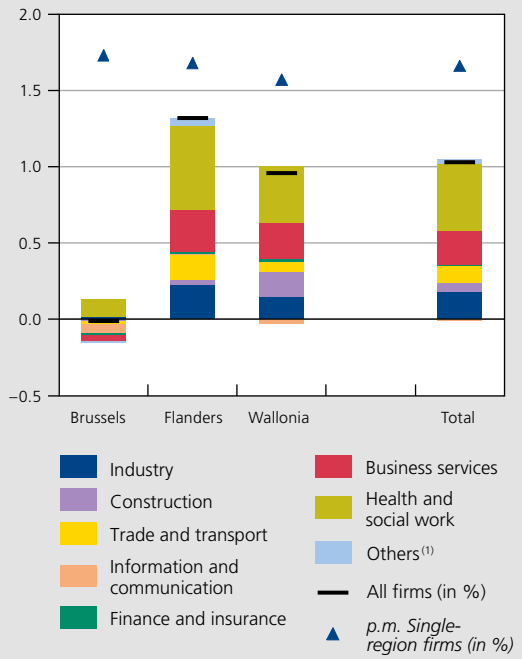
Employment grew at different rates from one Region to the next. It was stable in Brussels, as growth in the health and social work branch was offset by job losses in most other branches. Flanders posted the strongest expansion, at 1.3 %, and employment increased by 1 % in Wallonia. The health and social work branch made the strongest contribution to job growth in both those Regions (respectively 0.6 and 0.4 of a percentage point), followed by business services (respectively 0.3 and 0.2 of a percentage point). Industry, like trade and transport, was also in the plus column, although to a lesser extent in Wallonia, which in return got a boost from the jobs created in the construction branch.

(1) It is based on the data per establishment collected by the NSSO which enable the NAI to break down employment according to the districts where the firm has its head office and operating establishment(s). Such a formula is relevant for the regional employment breakdown, but it cannot be applied to all the items in the social balance sheet.

(2) For more details, see Annex 1.

CHART 2 CONTRIBUTION OF THE BRANCHES OF ACTIVITY TO THE CHANGE IN EMPLOYMENT IN THE REGIONS BETWEEN 2010 AND 2011

(data as at 31 December, in percentage points, unless otherwise stated, reduced population)



Source: NBB (social balance sheets).
(1) Agriculture, real estate, other services.

1.3 Firms filing full-format accounts

The information supplied by firms filing full-format accounts can be used to identify more detailed characteristics of the labour force and the changes taking place. In particular, these social balance sheets contain information on the use of external workers – whether agency workers or seconded workers – and the reasons for staff departures.

1.3.1 External workers

If we add in agency and seconded workers, the average number of FTE workers rose by 16 542 units in 2011,

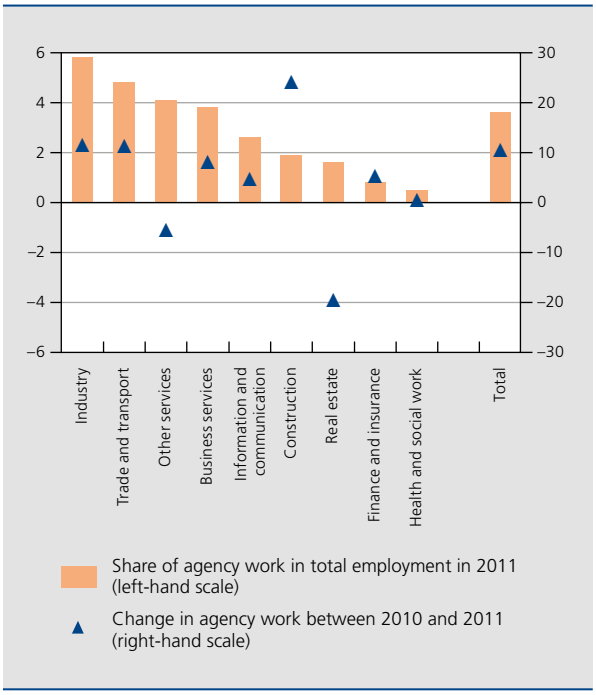
which represents year-on-year growth of 1.4 %. It was driven mainly by the number of workers on the staff register, which rose by 12 862 FTEs. In 2011, this class of workers accounted for 95.5 % of the volume of work expressed in FTE reported by companies filing full-format accounts. Following the upswing in activity, those companies reported a notable 10.4 % increase in agency workers between 2010 and 2011, or 4 033 FTEs. Agency workers represented 3.6 % of total FTE workers in 2011. The number of seconded workers, which accounted for less than 1 % of the total, fell by 3 %, or 352 units.

The relative share of agency workers in total employment differs significantly from one branch of activity to another. It ranges from 0.5 % in health and social work to nearly 6 % in industry. Over 80 % of firms in the latter branch used agency workers in 2011, the highest proportion of any branch of activity. The share of agency workers in the trade and transport and other services branches also exceeded 4 %, and over half of firms in those branches used these external workers. The use of agency work in finance and insurance came to 0.8 % of total employment; that level is almost as low as in health and social work. In those two branches only one-third of companies use agency workers, compared with 59 % on average.

The strongest rate of growth in the number of FTE workers under this system was in the construction branch, at 24.1 %, but the share of agency workers in the branch still did not reach 2 % in 2011. Their number rose by more than 11 % in industry, as in the trade and transport branch. In other branches, the rate of growth failed to top 8 % and in some cases was actually negative, as in real estate and other services, two branches of minimal importance where the decline in the number of agency workers was the equivalent of only about ten FTEs.

CHART 3 CHANGE IN THE NUMBER AND RELATIVE SHARE OF AGENCY WORKERS EXPRESSED AS FTE IN FIRMS FILING FULL-FORMAT ACCOUNTS, BY BRANCH OF ACTIVITY

(annual average, in %, reduced population)



Source: NBB (social balance sheets).

1.3.2 Reasons for departures

Gross departures of workers from companies filing full-format accounts increased by 8.3 % in 2011, an outflow of 30 456 persons. Temporary contracts coming to an end and spontaneous departures, which are typically the main reasons for departures, rose by respectively 6.4 % and 21.3 %: in 2011, they represented respectively 57 %

TABLE 4 BREAKDOWN OF EMPLOYMENT IN FTES IN FIRMS FILLING FULL-FORMAT ACCOUNTS

(annual average, reduced population)

	Change between 2010 and 2011		Level in 2011	
	In %	In units	In % of the total	In units
Workers recorded in the staff register	1.1	12 862	95.5	1 144 431
Agency workers	10.4	4 033	3.6	42 783
Workers seconded to the firm	–3.0	– 352	0.9	11 207
Total	**1.4**	**16 542**	**100.0**	**1 198 421**

Source: NBB (social balance sheets).

TABLE 5 BREAKDOWN OF STAFF DEPARTURES IN FIRMS FILING FULL-FORMAT ACCOUNTS, BY REASON
(reduced population)

	Change between 2010 and 2011		Level in 2011	
	In %	In units	In % of the total	In units
Retirement	23.0	2 268	3.1	12 132
Early retirement[1]	–23.7	–2 162	1.8	6 958
Redundancy	–7.5	–3 059	9.6	37 945
End of temporary contract	6.4	13 554	57.0	225 505
Other reasons[2]	21.3	19 855	28.6	113 162
Total	**8.3**	**30 456**	**100.0**	**395 702**

Source: NBB (social balance sheets).
(1) The early retirement scheme became the unemployment benefit with company supplement scheme on 1 January 2012. This new designation was introduced in the new social balance sheet forms applicable from the financial year 2012 onwards.
(2) Spontaneous departures, death in service.

and 28.6 % of the total. Starting from a much lower level, the number of staff taking retirement increased by a quarter, whereas staff taking early retirement fell by a similar amount. Redundancies were also less numerous than in 2010, down 7.5 %. The share of redundancies in total staff departures came to 9.6 % in 2011, whereas retirements and early retirements together represented just under 5 %.

2. Training

2.1 Training firms

The number of firms in the reduced population having completed one of the three sections related to vocational training[1] rose from 11 890 to 12 982 between 2010 and 2011. Respectively 80 % and 74 % of training companies identified in 2010 and 2011 reported training activities in the two consecutive years. The upshot is that the figures for training vary due to both changes in companies' training policies and in the population of training firms.

In 2011, more than one in four companies in the reduced population offered training. This ratio has been increasing steadily since the new format of the social balance sheet was introduced. It requires much more specific reporting on firms' various training efforts. This upward trend is the result of actions implemented at the sectoral level and by public authorities to encourage companies to strengthen and develop their workers' skills. In the total population, the rate of training firms increased from 18.5 % in 2008 to 21.1 % in 2010. In 2011, the proportion in the reduced population rose by 2.2 percentage points. The increase was particularly robust for companies reporting formal training, the share of which increased from 19.5 % to 22 % of the total. It was more limited for those reporting less formal or informal training, whereas the proportion of those reporting initial training fell[2]. It is worth noting that nearly one-third of training firms combined different types of training.

2.2 Private sector training targets

For many years, there have been quantitative targets for the training efforts of private sector employers. Regarding participation, the aim is that one in every two workers should take part in training. In terms of cost, training expenditure should account for 1.9 % of the wage bill. Failure to meet that target makes sectors falling behind in their training efforts liable for a fine in the form of an addition social contribution intended to finance the paid training leave scheme. There are plans to allow for greater flexibility in the penalty system, which originally sanctioned all of the companies in sectors that had not concluded a collective bargaining agreement specifying an increase in the financial investment in training or in the participation rate.

(1) Formal training covers courses and practical classes designed by training staff in premises separate from the workplace. Less formal and informal training includes other apprenticeship activities, planned according to the learners' needs, and including training in the workplace. Initial training is intended for workers under schemes alternating training and practical work experience, with a view to acquiring a diploma.
(2) Trends in initial training seem to indicate that there are errors affecting the social balance sheets of certain firms, which is why this type of training, ultimately marginal, is not taken into consideration here.

The results presented in this article differ from those published by the Central Economic Council (CEC), which annually assesses the performance of the private sector as a whole and publishes its findings in its Technical Report on the maximum available margins for increases in labour costs. The CEC uses data covering all of the companies that file a social balance sheet in a given year, data which are only available some 18 months after the end of the financial year in question. The reduced population that forms the basis of this article, on the other hand, must meet a range of criteria (including the length of the financial year, the account closing date and the filing of a social balance sheet in 2010 and 2011) which reduces the size of the sample. Even so, the movements observed in the reduced population are good indicators of likely developments for the whole group of firms filing a social balance sheet.

In 2011, 41.3 % of workers employed in firms in the reduced population took part in one or more formal training activities, and 22.5 % were involved in less formal or informal training. These two figures rose compared with 2010, by respectively 1.6 and 0.6 percentage points, but both remained below the 50 % target. It is worth noting that the data available in the social balance sheet do not make it possible to calculate an aggregate participation rate, because workers who take part in formal as well as informal training activities are counted twice.

It should be added that the participation rate, like the level of the other training indicators, is higher in the reduced population than in the total population, because of the proportionately greater number of large firms in the reduced population; large firms invest more in training their employees on average, and more of them report on their training initiatives. For example, in 2010, the formal training participation rate in the reduced population was 58 % among large firms, 35 % among medium-sized firms and 11 % among small firms, and amounted to 40 % on average. For the total population, the numbers were respectively 59 %, 34 % and 9 %, for an average of 37 %.

In 2011, spending related to workers' continuing vocational training amounted to 1.67 % of staff costs in firms in the reduced population. The slight increase of 0.03 of a percentage point was entirely attributable to formal training. Three-quarters of the continuing training budget was devoted to formal training, where the costs came to 1.22 % of the wage bill in 2011. It should be noted that training costs recorded in the social balance sheet are net costs: subsidies and other financial benefits are subtracted from gross training costs. Furthermore, with respect to formal training, net costs also include social security contributions and payments to collective funds to fulfil legal or sectoral obligations. The latter corresponded on average to 0.06 % of staff costs reported in 2011, well below the CEC estimate of 0.16 % of the wage bill. We note both a large number of firms reporting no amount in the corresponding field, including among the largest companies, and a significant variability in the contribution rates among those that did report an amount. A communication effort and more systematic controls of this information will be needed in the future. Subsidies and other financial benefits linked to formal training activities represented 0.08 % of staff costs; they covered on average 6.1 % of the corresponding gross costs.

TABLE 6 CONTINUING VOCATIONAL TRAINING INDICATORS FOR ALL FIRMS
(reduced population)

	Formal training		Informal training		Total	
	2011	Change between 2010 and 2011, in percentage points	2011	Change between 2010 and 2011, in percentage points	2011	Change between 2010 and 2011, in percentage points
Participation rate (in % of average employment)	41.3	1.6	22.5	0.6	–	–
Net training costs[1] (in % of staff costs)	1.22	0.03	0.45	0.00	1.67	0.03
Duration of training (in % of hours worked)	0.81	0.01	0.45	0.02	1.26	0.03

Source: NBB (social balance sheets).
(1) Net training costs are calculated as the gross costs less subsidies and other financial benefits. The net costs of formal training include, in addition, contributions and payments to collective funds.

The share of working hours devoted to workers' training rose from 1.23 % to 1.26 % between 2010 and 2011 among firms in the reduced population. The increase was more pronounced for informal training, which is less costly on average, as its relative importance is much greater in terms of hours (36 %) than it is in terms of cost (27 %).

2.3 Other training indicators

While the average number of hours of learning that each formal training participant received was virtually identical to the time spent on informal training, at respectively 26.4 and 26.9 hours in 2011, the costs related to formal training – which include, in addition to the salaries of the trainers and of the workers receiving the training, the cost of the training premises and materials, as well as, in some cases, travel, catering and accommodation expenses for the trainees – remained much higher than the costs of informal training. In 2011, an hour of formal training cost € 56.3 on average (up by almost 5 % compared with a year earlier), i.e. 50 % more than an hour of informal training. The average cost per trainee was € 1 414 for formal training and € 1 004 for informal training.

TABLE 7 COST AND DURATION OF TRAINING IN TRAINING FIRMS

(reduced population)

	Formal training	Informal training
Net cost[1] per participant (in €, unless otherwise stated)		
2010	1 387	994
2011	1 414	1 004
Change (in %)	2.0	0.9
Net cost[1] per hour of training (in €, unless otherwise stated)		
2010	53.7	37.6
2011	56.3	37.3
Change (in %)	4.9	–0.9
Duration of training per participant (in hours, unless otherwise stated)		
2010	27.1	26.4
2011	26.4	26.9
Change (in %)	–2.9	1.9

Source : NBB (social balance sheets).

(1) Net training costs are calculated as the gross costs less subsidies and other financial benefits. The net costs of formal training include, in addition, contributions and payments to collective funds.

3. Employment and employee management trends in the finance and insurance branch

3.1 Composition of the branch

The social balance sheet is an integral part of the annual accounts that credit institutions and insurance companies must file with the NBB, although, because of specific accounting requirements, those firms' annual accounts follow a different standardised format that those of non-financial corporations. This part is devoted to examining the information contained in the social balance sheets of firms in the finance and insurance branch[1], which in 2010 accounted for 5.8 % of employment in firms in the total population[2]. The goal is to highlight the branch's specific traits with respect to employment as compared with the other branches of activity.

The fact that the analysis population is not exhaustive compromises an assessment of the branch over the long term : given the degree of concentration of jobs noted in the branch, the absence of a single firm[3] can significantly skew the level of and trend in the variable studied, which is why this part of the study will focus basically on the results recorded for the financial year 2010, the most recent one for which we have complete data. In certain cases, these results will be put into perspective by comparing them with the results from 2001.

In 2001, the finance and insurance branch comprised 2 618 firms employing 120 214 people. In 2010, social balance sheets show only 113 816 workers, even though the number of filing firms had climbed to 3 832.

The number of banks grew from 558 to 815 between 2001 and 2010, but over the same period, employment numbers fell to 72 638, or 64 % of jobs in the finance and insurance branch. The average firm size thus shrank from a staff of 154 in 2001 to 89 in 2010. Despite these trends, employment remains highly concentrated : the

(1) Abbreviated title (see Annex 2). In the NACE-BEL 2008 nomenclature, the branch "finance and insurance activities" is split into three divisions. Division 64 (herein designated "banks" as well as "banking") includes central bank activities and those of other monetary intermediaries, along with the activities of holding companies, those of trusts, funds and similar financial entities and other financial service activities. Division 65 (herein designated "insurers" or "insurance") includes the activities of insurance, reinsurance companies and pension funds, with the exception of compulsory social insurance. Division 66 (herein designated "auxiliary financial services") includes activities auxiliary to financial and insurance services.

(2) The analysis population is neither exhaustive nor constant. The methodology used to create this population (see Annex 1) excludes de facto a series of firms, notably those that do not close their financial year on 31 December, that exhibit differences between the staff recorded in the annual accounts and in the social balance sheet, or whose social balance sheet is deemed insufficient. This being the case, it is possible for a firm to be absent from the analysis population for a given year, even though it is present in other years. The analysis population also varies over time as a result of business starts and closures.

(3) This is the case, for example, with insurance company Axa, which had more than 5 000 workers in 2010, and which did not begin filing a social balance sheet with its annual accounts until 2008.

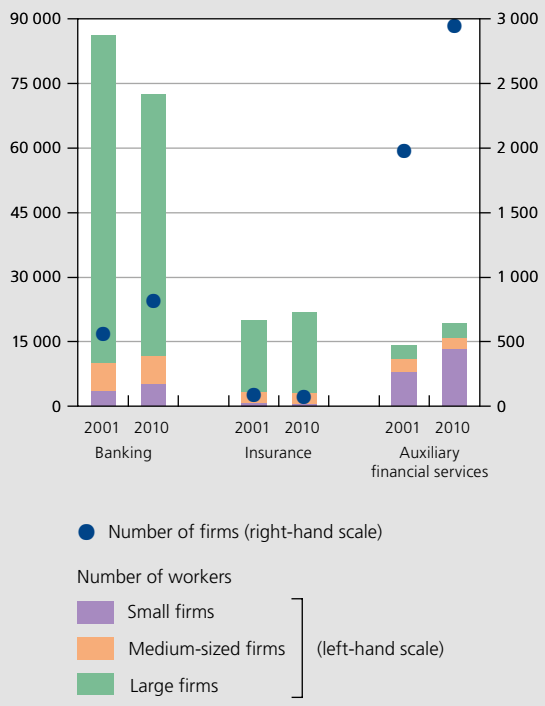
23 biggest firms still represented 84 % of jobs in 2010, compared with 88 % ten years earlier. Small and medium-sized enterprises employed respectively 7 % and 9 % of the workforce.

In insurance, employment was also highly concentrated among a small number of large firms. Overall, 74 firms in the population employed 21 967 workers in 2010, or 19 % of the finance and insurance branch staff. Small firms employed barely 3 % of the workforce, medium-sized firms, 12 %, and large firms, 85 %, a share that had increased only marginally since 2001, unlike what we saw with banks. The average insurance company employed just under 300 people in 2011, compared with 232 in 2001.

The breakdown for auxiliary financial services is completely different. Most jobs, 82 % of the 19 210 workers, are reported at SMEs [1]. Small companies are quite numerous : those employing at most 10 FTE workers represented close to 44 % of jobs in 2010, and those with more than 10 to 50 FTEs 26 %. Medium-sized and large firms employed respectively 12 % and 18 % of the workforce.

CHART 4 BREAKDOWN OF EMPLOYMENT BY TYPE OF ACTIVITY AND COMPANY SIZE IN THE FINANCE AND INSURANCE BRANCH

(in units, total population)



Source : NBB (social balance sheets).

On average, these firms employed 7 people in 2010, unchanged compared with 2001.

3.2 Workers' characteristics

3.2.1 Employment status and qualifications

Whereas 41.5 % of the workers in firms that filed social balance sheets in 2010 were blue-collar workers, only 1.4 % of the workforce in the finance and insurance branch fell into that category. The vast majority of staff, 94.5 %, were clerical workers, compared with an average of 56.3 %. The percentage of executives is also above average, at 3.8 % versus 1.3 %. Staff that do not fall into any of these categories, notably trainees and apprentices, made up only a marginal share of branch workers, i.e. 0.4 % – barely under the percentage for the entire analysis population.

The predominance of intellectual functions in the finance and insurance branch and their high level of specialisation are the reason why highly-skilled workers are over-represented. In fact, 64 % of the workforce held higher education degrees, compared with 29 % on average. The highest concentrations of highly-skilled workers are found in the finance and insurance branch and the information and communication branch, far exceeding the level in the health and social work and business services branches. At the other extreme, we find the agriculture and construction branches, where highly-skilled workers represent only one-tenth of jobs.

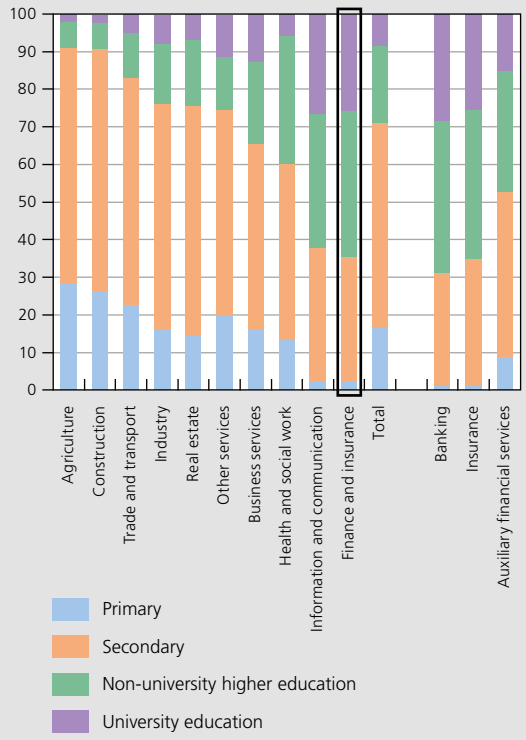
The breakdown of staff by educational level is fairly similar in banks and insurers, but the profile in auxiliary financial services is quite different. Among the latter group of firms, 47 % of the workforce is highly-skilled, compared with 65 % among insurers and 69 % among banks, where the percentage of workers with a university degree is particularly high. Workers with a secondary school diploma are proportionally more numerous in auxiliary financial services than in banking or insurance (44 %, versus respectively 30 % and 34 %). Furthermore, one in ten workers in auxiliary financial services holds nothing more than a primary school diploma, whereas the share of the workforce with this skill level is barely more than 1 % of the total in the two other groups of firms.

It is worth noting that, in the finance and insurance branch, the breakdown by skill level among female workers, who make up just over half of personnel, is quite

(1) Bank branches franchised under the Dexia brand are classified as auxiliary financial services.

CHART 5 WORKERS' EDUCATIONAL LEVEL

(in % of the total number of workers in the staff register at year's end, total population, 2010)



Source: NBB (social balance sheets).

different from that of the male workforce: there is a higher percentage of women with a secondary school diploma (37 %, versus 29 % among men) and a higher percentage of highly-skilled men, with most of the difference among workers with a university degree (21 % for women, versus 31 % for men).

3.2.2 Gender and working arrangements

Women are comparatively more numerous in the finance and insurance branch than in the total analysis population. On average, they accounted for 43.6 % of workers in 2010, compared with 52 % in the finance and insurance branch. The latter figure masks divergent situations: in auxiliary financial services firms, more than 60 % of workers were women, whereas among banks and insurers, men and women were equally represented.

The share of female workers has increased substantially over the past ten years, gaining on average 5 percentage points since 2001. The extent of the increase was comparable in the finance and insurance branch, where it resulted both from a reduction in male employment and a rise in female employment. Contributing to this trend was the ever-increasing number of highly-skilled young women entering the labour market and the departure of a smaller number of female workers at the end of their careers, given the lower rate of female participation among the older cohort of female workers.

This feminisation has been accompanied by a rise in part-time work rate, which increased on average from 21.8 % to 31.1 % between 2001 and 2010. In the finance and insurance branch, where the percentage was 27.7 % in 2010, the increase since 2001 has been more pronounced than in the other branches. The rise, from 3.7 % to 11.1 %, was proportionally more robust among men, but male part-time work remained less common than in the total population (12.9 %). Among women, the ratio increased by 11 percentage points to 42.9 %, a proportion still well below the average of 54.5 %.

Within the finance and insurance branch, part-time work is more prevalent among auxiliary financial services firms, where 32.4 % of staff worked part-time in 2010, than among banks (27.3 %) and insurers (24.7 %). The ranking is the same for female part-time work, whereas among men, part-time work is proportionally a bit more common among banks.

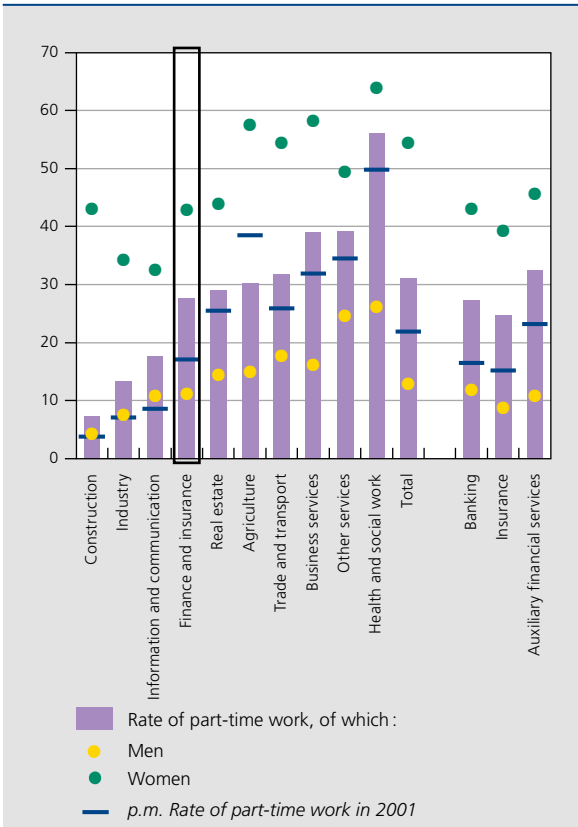
It is worth noting that it is in the finance and insurance branch that the contractual duration of work [(1)] for part-time workers is the longest. The average part-time worker in the branch supplied 69 % of the number of hours worked by a full-time worker in 2010, compared with 62 % for all branches combined. This ratio is particularly low, around 56 %, in the other services and agriculture branches.

However, it is also in the finance and insurance branch that this ratio diverges the most strongly from the effective duration of work performed by a part-time worker expressed as a percentage of the hours worked by a full-time worker. The latter ratio, calculated from the breakdown of hours worked between full-time and part-time workers, was only 64.4 % in 2010, 5 percentage points lower than the result calculated on the basis of the breakdown of workers according to their working arrangement, whereas for all firms, the gap was limited to 0.3 of a percentage point. This observation undoubtedly stems in part from the improper use of the part-time time-credit

(1) Contractual duration of work is calculated on the basis of the breakdown of workers between full-time and part-time and the number of FTE workers. In a firm with 1.5 FTEs, where one worker is full-time and the other is part-time, the contractual duration of work of the part-time worker is 50 %, or half-time.

CHART 6 PART-TIME WORK

(in % of total workers on the staff register at year's end, total population, 2010)



Source : NBB (social balance sheets).

scheme as a way for workers to end their career at certain banking institutions. Workers who benefit from this arrangement collect both a NEO allowance and a part-time salary, but without working the hours stipulated in their contract.

3.3 Duration and cost of work

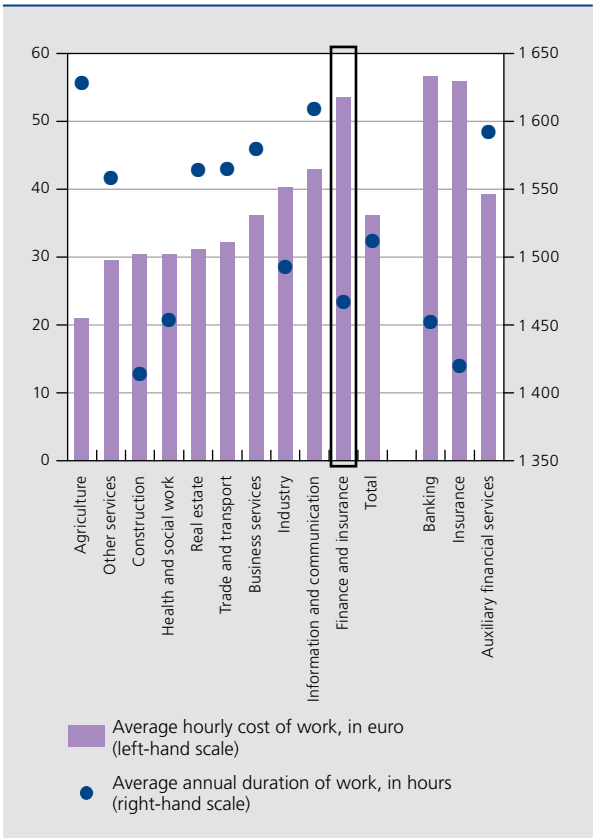
Because part-time employees' effective working time is distorted by inappropriate use of the part-time time-credit scheme, when studying the duration and cost of work, it is preferable to examine only the variables related to full-time workers.

Staff costs for a full-time employee came to € 53.5 per hour worked in the finance and insurance branch in 2010, i.e. € 10.5 more than in the information and communication branch – which ranked second – and € 17.5 more than the overall average. This amount was also higher than in industry (€ 40.3) and business services (€ 36.2). In most other branches, an hour of work costs around € 30, but in agriculture, the hourly cost reached € 21.

At the same time, the average annual number of hours worked in the finance and insurance branch was among the lowest : full-time workers supplied 1 467 hours in 2010, which was 45 fewer than the average. Working time was only shorter in two other branches of activity : health and social work and construction. However, it is important to note that in the latter branch this is partly due to weather conditions, which can disrupt normal levels of activity, particularly during winter months. In the health and social work branch, work during off-hours and the weekend entitles workers to additional time off, which shortens the normal duration of work compared with a traditional day job. This is also the case in some industry jobs, which also show an annual number of hours worked slightly below the average. More or less intense use of temporary lay-offs for economic reasons in

CHART 7 DURATION AND COST OF WORK OF A FULL-TIME WORKER (1)

(total population, 2010)



Source : NBB (social balance sheets).

(1) The 2001 figures are not presented here : the insurance company Axa did not file a social balance sheet for that financial year, which distorts any comparison with the 2010 results.

this branch can also have an impact on the actual number of hours worked in a given year. In other branches, a full-time worker supplied on average between 1 558 and 1 609 hours of work in 2010. In agriculture, the working time reached 1 628 hours, or around 160 more than in the finance and insurance branch.

Whereas the level of hourly wage costs was slightly above the overall average for full-time workers employed by auxiliary financial services firms (€ 39.2 versus € 36.1), an hour of work in both banking and insurance cost around € 56. With respect to the annual number of hours worked, auxiliary financial services firms again stood out relative to the other two groups: full-time workers supplied an average of 1 592 hours in 2010, compared with 1 452 among banks and 1 420 among insurers.

3.4 Employment contracts and workers' turnover

All firms that fill out a social balance sheet are obliged to supply a breakdown of their staff by employment contract at the end of the financial year, as well as a list of all recruitment and departures during the year. Those filing full-format accounts must also distinguish recruitment and departures according to the type of employment contract, and separate departures by reason.

In the finance and insurance branch, 18 % of firms filed full-format accounts in 2010. Most of these were very large companies: the workers they employ represent 88 % of the branch staff. Auxiliary financial services firms filed the fewest full-format accounts: barely 5 % of these companies, covering just over one-third of jobs, used this financial reporting model. By contrast, in banking and insurance, virtually all workers are employed by firms filing full-format accounts, which allows for a more detailed analysis.

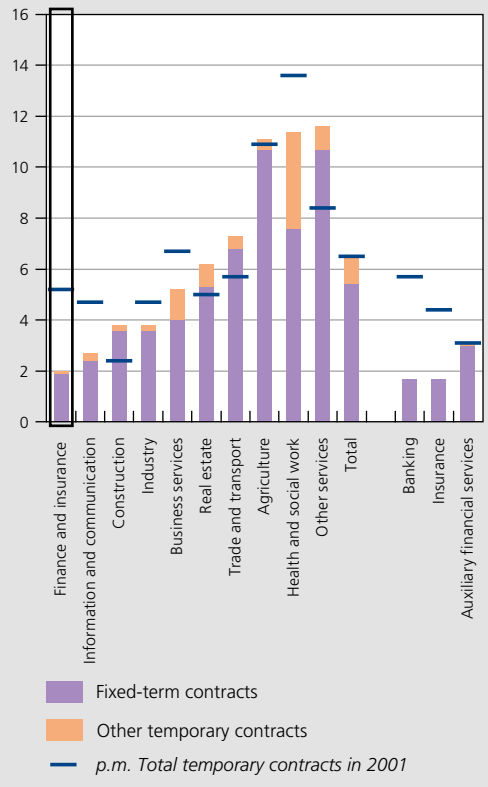
On average, 6.5 % of workers recorded in the staff register of firms in the analysis population were on temporary contracts in 2010, whether fixed-term contracts (5.4 % of the workers), substitution contracts (1 %) or contracts for a specific project (0.2 %). This proportion remained unchanged between 2001 and 2010.

The level of and trend in the proportion of temporary work vary considerably from one branch to another. In other services, health and social work, and agriculture, just over one in ten workers had temporary contracts in 2010. At the other extreme, only 2 % of workers in the finance and insurance branch did not have permanent contracts. Of that 2 %, fixed-term contracts were by far the most prevalent form of temporary work; the other two were virtually non-existent. This was not always the case: in 2001, substitution contracts represented 0.7 % of the total, and fixed-term contracts were much more common as 4.5 % of workers had them. Overall, the share of temporary work fell by 3.2 percentage points, the most pronounced decline of any branch of activity.

The predominance of permanent contracts in the finance and insurance branch explains the relatively small extent of staff movements. The number of jobs at the end of the financial year 2010 was virtually the same as a year earlier, but gross recruitment and departures nevertheless affected around 14 % of average staff in 2010. This may seem like a lot, but in reality it is quite modest: in many branches of activity, gross movements affected more than 30 % of average staff. On average, for all branches, recruitment affected 57 % of staff in 2010 and departures, 54 % [1].

CHART 8 TEMPORARY WORK

(in % of total workers in the staff register at year's end, total population, 2010)

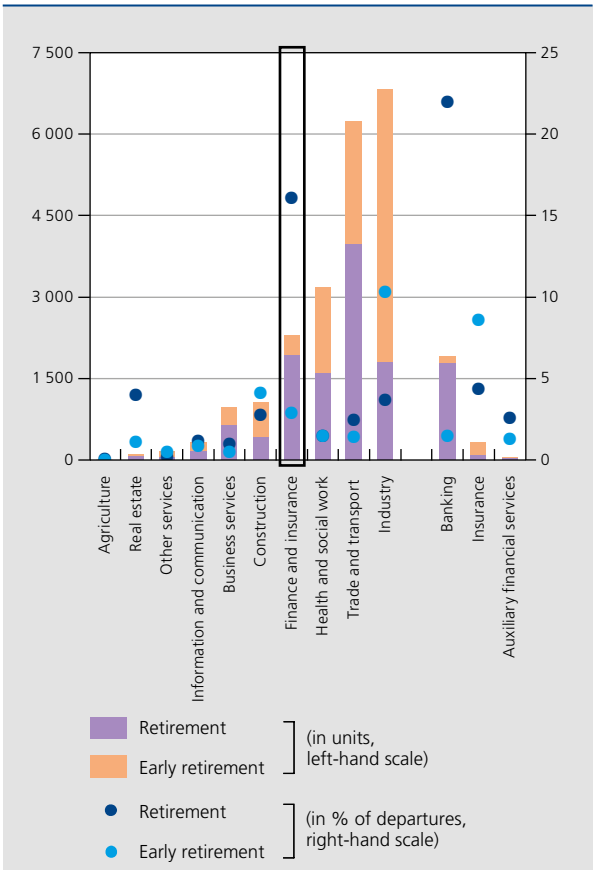


Source: NBB (social balance sheets).

(1) It is worth noting that for some firms, data on gross movements of workers is marred by errors because net flows do not always correspond to the variation in staff from one year's end to the next. This may have a relatively significant impact on the rate of gross recruitment and departures.

CHART 9 WORKERS' DEPARTURES FOR RETIREMENT OR EARLY RETIREMENT[1]

(total population, 2010)



Source: NBB (social balance sheets).

(1) The early retirement scheme became the unemployment benefit with company supplement scheme on 1 January 2012. This new designation was introduced in the new social balance sheet forms applicable from the financial year 2012 onwards.

Looking just at firms filing full-format accounts, gross recruitment and departure rates are generally even more limited, because these firms are often bigger, older and more stable than those filing simplified accounts. Among finance and insurance branch firms filing full-format accounts, recruitment affected 11 % of average staff in 2010, and departures 12 %.

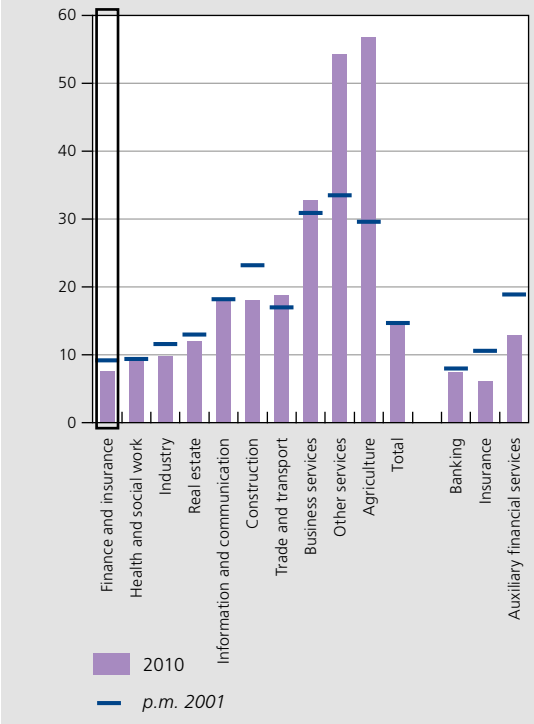
Nearly one departure in five was related to retirement in finance and insurance firms. Moreover, this branch had the highest relative share of retirement-related departures (19 % of the total, or 16.1 % for retirement and a further 2.9 % for early retirement), ahead of industry (14.1 %), where early retirement dominated. In the other branches, retirement and early retirement accounted for less than 7 % of departure volumes, and the percentage was below 2 % in business services, other services and agriculture.

Banks were the principal contributors to the trend observed in the finance and insurance branch: 83.4 % of end-of-career departures were recorded in these companies, compared with 10.3 % among insurers and less than 1 % in auxiliary financial services firms.

While the share of permanent workers reached 98 % in 2010 in finance and insurance firms filing full-format accounts, more than one-third of staff movements in that year involved temporary workers. As a result, movements of permanent staff were very limited. The turnover rate for permanent workers – i.e. the number of gross departures expressed as a percentage of the initial staff level – was the lowest of any branch of activity. In 2010, it came to 7.6 %, compared with 15 % on average for the analysis population. This average was heavily influenced by the rates observed in agriculture, other services (notably due to the particularly high level of mobility of workers in arts, entertainment and recreation activities, which increased strongly compared to 2001) and business services.

CHART 10 TURNOVER RATE[1] FOR PERMANENT WORKERS

(in %, total population, 2010)



Source: NBB (social balance sheets).

(1) Ratio between the number of departures recorded during the financial year and the number of workers at the start of this year.

Within the finance and insurance branch, the greatest stability was in insurance (6.2 %) and banking (7.5 %), whereas permanent workers' turnover in auxiliary financial services (12.8 %) was close to the average.

3.5 Training

On average in 2010, 21.5 % of firms in the analysis population completed at least one of the three sections of the social balance sheet dealing with vocational training. In the finance and insurance branch, this percentage was slightly lower, at 19.4 %. Regardless of the type of training (formal, informal or initial) considered, the relative share of training firms in the branch was lower than the average of the total population.

That said, practices differed considerably within the branch. The highest proportion of training firms was recorded in insurance, with more than eight in ten reporting formal training activities, whether or not they were combined with other types of training initiatives. More than one in three banks held training activities, whereas among auxiliary financial services firms, barely more than one in ten firms reported training initiatives. Among both insurers and banks, firms that offer initial training – one training company in twenty – are rare, whereas one in five auxiliary financial services firms offers initial training.

The small proportion of firms reporting initial training in the finance and insurance branch is attributable to the specific nature of the skills required in the branch, which are acquired either by following specialised courses or via internal or on-the-job training. The educational level of workers, more than two-thirds of whom have higher education degrees, is such that initial vocational training, in which workers alternate training and practical work experience with a view to acquiring a diploma, plays only a marginal role in the branch. As a result, this section will not cover this aspect of vocational training. We will look only at continuing vocational training activities intended to expand or complement workers' skills, whether they are formal initiatives or less formal or informal activities.

An in-depth examination of firms' training efforts shows that the finance and insurance branch clearly stands out from others, regardless of the target in question.

Costs related to formal training activities represented nearly three-quarters of branch spending on continuing vocational training, reaching 1.94 % of staff costs. This is the highest relative share of any branch, well ahead of the figure for information and communication (1.35 %), industry (1.29 %) and trade and transport (1.02 %). Spending on informal training, which represented 0.72 % of staff costs in the finance and insurance branch, were twice what they were in most other branches. Overall, continuing training costs represented 2.66 % of staff costs in the finance and insurance branch, well above the 1.9 % target set for the private sector as a whole. Only industry, where these costs amounted to 1.95 % of the wage bill, also managed to beat the target.

TABLE 8 TRAINING FIRMS

(in % of the total, unless otherwise stated, total population, 2010)

	Total population	of which:			
		Finance and insurance	of which:		
			Banking	Insurance	Auxiliary financial services
Training firms	21.5	19.4	36.4	83.8	13.1
(units)	(17 527)	(745)	(297)	(62)	(386)
of which:					
Firms providing:					
Formal training	16.2	15.6	33.4	83.8	9.0
Less formal or informal training	7.2	7.0	14.6	51.4	3.8
Initial training	5.4	2.3	1.8	4.1	2.4
Firms combining different forms of training	6.6	5.2	12.4	51.4	2.0

Source: NBB (social balance sheets).

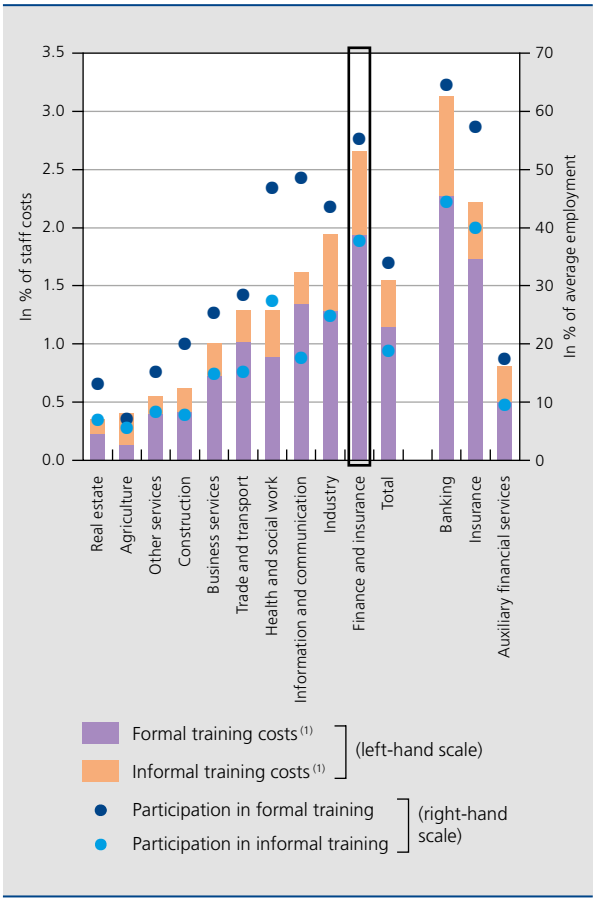
At the same time, it is the finance and insurance branch that devotes the largest proportion of the volume of work to training: in 2010, nearly 2 % of hours worked were devoted to continuing training of workers, of which 41 % were spent on informal training initiatives. In the other branches of activity, workers used between 0.35 % (agriculture, information and communication) and 1.51 % (industry) of their working time for training activities. The finance and insurance branch also boasts the highest spending per hour of training; an hour of formal training in the branch cost € 90, compared with € 53 on average in the analysis population, whereas hourly costs related to informal training initiatives came to € 47, versus € 37 on average. Of course, the costs of training include workers' compensation during time spent in training. Given that hourly wages in the finance and insurance branch are the highest of the analysis population, this component is a significant factor in calculating training costs.

The target for the private sector as a whole is that one in every two workers should attend training every year. While participation rates in formal and informal training cannot simply be added together, as mentioned in part 2, they can be compared between branches. Here again, the finance and insurance branch posts the best results: 55 % of workers participated in one or more formal training activities in 2010, thus beating the target, whereas 38 % received some sort of informal training. With respect to formal training, the information and communication, health and social work, and industry branches also did better than the average of 37 %. The participation rate for informal training was 20 % on average in all firms. It was only exceeded in the health and social work and industry branches.

While training firms are proportionally more numerous in insurance, the level of each of the cost and participation indicators in this group of companies is lower than that of banks. In 2010, banks devoted the equivalent of 3.13 % of their wage bill to continuing vocational training, i.e. 40 % more than insurance companies, which spent 2.23 %. Nearly two in every three workers took part in a formal training initiative in banks, compared with 57 % among insurers. The difference is less pronounced when it comes to informal training (respectively 44 % and 40 %). The continuing vocational training budget of auxiliary financial services firms, however, is much lower than those of the other two groups: at 0.81 % of staff costs, it is more than 0.7 of a percentage point lower than the average for the analysis population in 2010. Workers' participation rates in formal and informal training, at respectively 17 % and 10 %, were also half the average for the analysis population.

CHART 11 CONTINUING VOCATIONAL TRAINING

(total population, 2010)



Source: NBB (social balance sheets).

(1) Net training costs are calculated as the gross costs less subsidies and other financial benefits. The net costs of formal training include, in addition, contributions and payments to collective funds.

Conclusions

The social balance sheet analysis presented in this article was based on a reduced and constant population of 49 006 firms which employed 1 610 747 workers in 2011, a staff increase of 1.5 % compared with the previous year. This improvement was made even though economic growth began to slow, such that between end-2010 and end-2011, the pace of the increase was only 1 %. The biggest contributor to job growth was the health and social work branch, followed by business services and industry.

Two-thirds of the beneficiaries of the rise in employment were women, who represented 43.4 % of staff at end-2011. The number of full-time workers increased by 0.9 % between 31 December 2010 and 2011, and part-time workers, by 1.3 %, as a portion of the former opted

for part-time working arrangements over the course of the year. The rate of part-time work remained nevertheless unchanged at 30.3 %.

Single-region firms represented 98 % of the reduced population and employed nearly 72 % of workers. Job growth in these firms was above average, with staff numbers rising by 1.7 % between 31 December 2010 and 2011. Companies with establishments in more than one Region, larger on average, saw their staff shrink by 0.5 %. Overall, Flanders posted the strongest growth (1.3 %), followed by Wallonia (1 %). Employment in Brussels was stable.

Among the categories of workers hired by firms submitting full-format accounts, agency staff experienced the biggest gains in 2011, up 10.4 %, compared with 1.1 % for workers recorded in the staff register. The latter, however, represented 95.5 % of total employment in 2011. The share of agency work in total employment averaged 3.6 %; among branches, this proportion ranged from 0.5 % in health and social work to nearly 6 % in industry.

In full-format accounts, firms must specify the reasons for staff departures. In 2011, the completion of temporary contracts and spontaneous departures both increased, to respectively 57 % and 28.6 % of the total. Redundancies were less numerous: their share in departures came to 9.6 %, compared with just below 5 % for retirements and early retirements combined. The former fell significantly, whereas the latter sharply increased.

In 2011, 41.3 % of workers took part in formal training and 22.5 % participated in less formal or informal training, an increase in both rates compared with 2010. Training costs amounted to 1.67 % of staff costs. The 0.03 of a percentage point increase in this ratio was entirely attributable to formal training, the budget for which represented three-quarters of spending on continuing vocational training. Working time devoted to training rose from 1.23 % to 1.26 % of hours worked between 2010 and 2011; the increase was greater for informal training, the relative importance of which was significantly greater in terms of hours than in terms of budget.

The finance and insurance branch was the subject of a more detailed analysis this year. The analysis was based on 2010 results, the most recent year for which we have complete data. In 2010, the branch employed 114 000 workers, or 5.8 % of the staff of the total population. Workers were split between banks (64 % of workers), insurers (19 %) and auxiliary financial services firms (17 %). Large companies dominate the first two sub-branches, whereas a majority of workers in the third sub-branch are employed by small firms.

Most of the branch's staff are clerical workers. The proportion of highly-skilled workers is significantly above average, i.e. 64 % versus 29 %. The number of women employed in the branch (52 % of workers in 2010, a higher proportion than in the overall population) increased over the past decade, whereas male employment fell. This feminisation has been accompanied by a rise in part-time work rate, which has increased by 10 percentage points to 27.7 %, a level nevertheless below the average.

Full-time employees in the finance and insurance branch worked an average of 1 467 hours in 2010, or 3 % less than that for the overall population of companies. Conversely, an hour of work in the branch cost € 53.5, the highest of any branch of activity and 50 % above average.

Employment in the finance and insurance branch can be considered stable, given that 98 % of workers have a permanent contract, and recruitment and departures affected only 14 % of staff in 2010, compared with more than 50 % on average. For firms submitting full-format accounts, which is predominantly the case among banks and insurers, more than one-third of departures were attributable to temporary workers, meaning that the turnover among permanent staff is particularly low: in 2010, it was 7.6 %, less than half the average. Owing to extensive restructuring within the branch, nearly one in five departures marked the end of a career, principally due to retirement, compared with just less than 5 % on average among all companies.

While the proportion of training firms in the finance and insurance branch is below the average, its main vocational training indicators are among the highest, generally exceeding the targets set for the private sector as a whole. Branch spending on continuing vocational training (excluding initial training) accounted for 2.66 % of staff costs in 2010, of which 1.94 % for formal training and 0.72 % for informal training. The only other branch that beat the 1.9 % private sector target was industry. The participation rate was 55 % for formal training – above the targeted 50 % – and 38 % for informal training, well above the levels observed in the population as a whole.

Annex 1

Methodological note

1. Methodological principles governing the composition of the populations of firms

The methodological principles that governed the composition of the populations of firms used in the analysis of the social balance sheets are described in detail in Annex 1 to the article "The social balance sheet 2005", which appeared in the December 2006 Economic Review and is available on the website of the National Bank of Belgium (www.nbb.be).

In order to obtain reliable, consistent data, the analysis only considers the social balance sheets of firms which meet a number of criteria. In particular, the financial year must comprise twelve months and end on 31 December; firms must be in the private sector[1]; they must employ at least one full-time equivalent worker; their economic activity and location must be clearly identified[2]; the data reported in the social balance sheet must tally exactly with the data in the annual accounts[3]; firms submitting abnormal values for hourly staff costs or average working time are left out, while any anomalies found in regard to training[4] and the use of agency workers are neutralised.

Application of these methodological principles means that the number of social balance sheets included in the analysis for the purposes of this article is considerably smaller, each year, than the total number of social balance sheets filed with the Central Balance Sheet Office. At the end of the selection process, the total population for 2010 comprised 81 651 firms and 1 965 238 employees.

Moreover, the analysis of the social balance sheets filed for 2011 is based on a reduced[5], constant[6] population, which further diminishes the coverage of the analysis population in regard to the balance sheets filed with the Central Balance Sheet Office. The results presented in this article therefore reflect the changes between 2010 and 2011 recorded in a stable population, so they may differ from those observed following the final closure for all firms filing a social balance sheet[7].

The constant reduced population comprises 49 006 companies which together employed 1 586 930 workers in 2010, corresponding to 81 % of the workforce in the total population, even though the number of firms included in the reduced population represents only 60 % of the total population. The number of workers employed in the firms in the reduced population comes to 61 % of the private sector salaried employment recorded in the national accounts.

Representativeness according to the employment criterion varies from one branch of activity to another. Expressed as a percentage of the number of employees in firms in the total population, it is lower in the branches with a predominance of small firms, whose annual accounts are often filed and/or checked later. This applies particularly in agriculture and in accommodation and food service activities.

(1) Private sector employment is defined as employment recorded in the total economy (S1), less employment in general government (S13) and in the household sector (S14). Firms in NACE-BEL divisions 84 (public administration and defence; compulsory social security), 85 (education) and 78 (employment activities, including activities of employment placement agencies) are also excluded.

(2) Firms whose activity or address is unknown are excluded from the population.

(3) This amounts to excluding firms in which some of the employees work abroad or are not entered in the staff register (statutory staff).

(4) From the year 2010, the Central Balance Sheet Office has introduced stricter quality checks on the items relating to training. The remaining checks are therefore intended primarily to make sure that the changes recorded in firms in the reduced population are not biased by errors or methodological changes.

(5) Firms have seven months starting from the date of the end of the financial year to file their social balance sheets with the Central Balance Sheet Office. In view of the time needed to check the data, the full set of social balance sheets relating to 2011 was not available on 13 September 2012 when the data were extracted.

(6) Firms which did not file a social balance sheet for one of the two years are excluded from the reduced population.

(7) Since the Central Balance Sheet Office gives priority to processing the annual accounts of large firms and there are more small firms that file their accounts late, the results based on this reduced population lead to some distortion in favour of large firms.

TABLE 1 REPRESENTATIVENESS OF THE REDUCED POPULATION IN 2010

	Number of workers			Representativeness of the reduced population	
	In the national accounts[1]	In the social balance sheets[2]		In % of private sector salaried employment[1]	In % of the total population
		Total population	Reduced population		
	(1)	(2)	(3)	(4) = (3) / (1)	(5) = (3) / (2)
According to the employment criterion	**2 621 806**	**1 965 238**	**1 586 930**	**60.5**	**80.8**
Agriculture, forestry and fishing	12 216	5 927	3 713	30.4	62.6
Manufacturing, mining and quarrying and other industry	557 487	438 541	376 089	67.5	85.8
Mining and quarrying	2 917	2 657	2 324	79.7	87.5
Manufacturing	508 597	394 263	337 416	66.3	85.6
Electricity, gas, steam and air conditioning supply	20 701	19 835	19 077	92.2	96.2
Water supply; sewerage, waste management and remediation activities	25 272	21 787	17 272	68.3	79.3
Construction	204 992	147 658	107 462	52.4	72.8
Wholesale and retail trade, transport and storage, accommodation and food service activities	766 456	536 017	409 261	53.4	76.4
Wholesale and retail trade; repair of motor vehicles and motorcycles	476 217	306 761	226 980	47.7	74.0
Transport and storage	194 823	168 044	149 574	76.8	89.0
Accommodation and food service activities	95 416	61 211	32 707	34.3	53.4
Information and communication	89 522	70 699	62 071	69.3	87.8
Financial and insurance activities	127 657	113 816	104 229	81.6	91.6
Real estate activities	16 526	11 809	8 748	52.9	74.1
Professional, scientific, technical, administration and support service activities	298 674	185 060	137 217	45.9	74.1
Professional, scientific and technical activities	135 063	87 135	66 569	49.3	76.4
Administrative and support service activities[3]	163 611	97 925	70 648	43.2	72.1
Human health and social work activities	454 298	410 421	344 987	75.9	84.1
Other services	93 978	45 290	33 153	35.3	73.2
Arts, entertainment and recreation	28 062	15 072	10 652	38.0	70.7
Other service activities	65 916	30 218	22 502	34.1	74.5
According to the criterion concerning the number of firms	**n.**	**81 651**	**49 006**	**n.**	**60.0**

Sources: NAI, NBB (social balance sheets).

(1) Private sector salaried employment, i.e. salaried employment recorded in the total economy (S1), less salaried employment in the general government sector (S13) and in the household sector (S14). This concept also excludes workers employed in NACE-BEL divisions 84 (public administration and defence; compulsory social security) and 85 (education).

(2) Average number of workers, i.e. the sum of items 1001 (full-time workers) and 1002 (part-time workers).

(3) Excluding employment activities (NACE-BEL 78), which comprise in particular activities of employment placement agencies.

Furthermore, certain categories of firms or jobs do not appear in the analysis population. This is true of non-profit-making organisations employing fewer than 20 FTE workers, which are not required to file a social balance sheet. Similarly, employees working for an employer who is not incorporated as a company are not included since the obligation to file a social balance sheet only applies to companies. Consequently, the representativeness of the reduced population

expressed as a percentage of the private sector salaried employment recorded in the national accounts is particularly low in the branches where such firms or workers are numerous, notably in agriculture, accommodation and food service activities, the arts, entertainment and recreation activities, and other service activities.

In the analysis population, the breakdown of firms by branch of activity is based on the NACE-BEL sections and divisions presented in Annex 2. Branch titles have been simplified to make the text easier to read. Overall, workers in the trade and transport branch represent 26 % of the staff in the reduced population, and those in industry 24 %. Health and social work activities employ 22 % of workers. The other branches are relatively less important, at 9 % for business services, 7 % both for finance and insurance and for construction, 4 % for information and communication and 2 % for other services. Real estate activities and agriculture are marginal (less than 1 %).

The classification of firms by size is based on the average number of workers expressed as full-time equivalents (FTEs) in 2010. Small firms with no more than 50 FTEs, or 92 % of companies in the reduced population, employ 27 % of the workforce in that population, well below the figure of 34 % recorded for the total population. Medium-sized companies employing between 50 and 250 FTEs account for 23 % of the workforce in the reduced population, or one percentage point more than the figure for the total population. Conversely, large firms with a workforce of over 250 FTEs employ close to half of the workers in the reduced population, against 45 % for the total population. The developments described on the basis of the reduced population are therefore influenced by the over-representation of large firms.

TABLE 2 CHARACTERISTICS OF THE TOTAL AND REDUCED POPULATIONS IN 2010

(in % of the total, unless otherwise stated)

	Total population		Reduced population	
	Number of firms	Number of workers (1)	Number of firms	Number of workers (1)
p.m. In units	*81 651*	*1 965 238*	*49 006*	*1 586 930*
Breakdown by branch of activity				
Agriculture	0.9	0.3	0.8	0.2
Industry	11.9	22.3	13.2	23.7
Construction	15.5	7.5	14.6	6.8
Trade and transport	39.8	27.3	38.4	25.8
Information and communication	2.7	3.6	2.9	3.9
Finance and insurance	4.7	5.8	4.8	6.6
Real estate	1.9	0.6	1.8	0.6
Business services (2)	13.4	9.4	13.5	8.6
Health and social work	5.2	20.9	6.1	21.7
Other services	4.1	2.3	4.0	2.1
Breakdown by size of firm (3)				
Small firms (up to 50 FTEs)	94.3	33.5	91.9	27.4
Medium-sized firms (over 50 to 250 FTEs)	4.6	21.7	6.5	22.9
Large firms (over 250 FTEs)	1.0	44.8	1.6	49.7

Source: NBB (social balance sheets).

(1) Average number of workers, i.e. the sum of items 1001 (full-time workers) and 1002 (part-time workers).

(2) Excluding employment activities (NACE-BEL 78), which comprise in particular activities of employment placement agencies.

(3) Determined according to the value of item 1003 (FTE workers) in 2010.

2. Methodology governing the regional breakdown of the social balance sheets

The analysis populations were broken down by Regions for the purposes of this article. For the 1998 to 2010 financial years, the apportionment formulas are the ones applied by the NAI to regionalise the national employment accounts in the corresponding year. Since the formula for 2011 is not yet available, the one for 2010 was used to regionalise the reduced population for both 2010 and 2011.

Single-region firms are those which have their head office and operating establishment(s) in one and the same Region. In 2010, the reduced population comprised 48 057 single-region firms, or 98 % of total firms. These are generally fairly small companies: on average, they had 23 employees. The other 949 companies – referred to as multi-region firms – operated in more than one Region. They employed an average of 486 workers.

In the case of multi-region firms, the proportional allocation method, which entails breaking down the social balance sheet data between the various Regions in which the firm is active, was only applied to the number of employees at 31 December (see Part 1, Section 1.2). This is in fact the variable which is most similar to the basic data per establishment collected by the NSSO (i.e. the number of jobs at the end of the fourth quarter), which are used by the NAI to regionalise the national employment accounts. This apportionment formula is not entirely satisfactory for the other social balance sheet items. Such is the case, for example, for employment broken down by gender, level of education or employment

TABLE 3 REGIONAL STRUCTURE OF EMPLOYMENT IN 2010 (1)

(in % of the total, unless otherwise stated, reduced population)

	Single-region firms				Multi-region firms	Total
	Brussels	Flanders	Wallonia	Total		
Number of firms (units)	4 833	31 549	11 675	48 057	949	49 006
Number of workers (units)	109 887	729 273	286 408	1 125 568	461 362	1 586 930
Average number of workers per firm (units)	22.7	23.1	24.5	23.4	486.2	32.4
Breakdown by branch of activity						
Agriculture	0.0	0.4	0.3	0.3	0.0	0.2
Industry	8.6	29.0	25.9	26.2	17.5	23.7
Construction	4.7	8.9	9.1	8.5	2.4	6.8
Trade and transport	22.7	23.1	19.0	22.0	35.0	25.8
Information and communication	7.6	2.7	1.7	2.9	6.3	3.9
Finance and insurance	9.9	1.5	1.4	2.3	17.0	6.6
Real estate	1.9	0.5	1.0	0.8	0.0	0.6
Business services (2)	14.2	7.1	6.5	7.7	11.1	8.6
Health and social work	23.9	24.8	33.1	26.8	9.4	21.7
Other services	6.5	1.9	2.1	2.4	1.2	2.1
Breakdown by size of firm (3)						
Small firms	41.5	37.5	37.1	37.8	2.1	27.4
Medium-sized firms	32.5	28.9	26.4	28.6	8.9	22.9
Large firms	26.0	33.6	36.5	33.6	89.0	49.7

Source: NBB (social balance sheets).

(1) Average number of workers, i.e. the sum of items 1001 (full-time workers) and 1002 (part-time workers).

(2) Excluding employment activities (NACE-BEL 78), which comprise in particular activities of employment placement agencies.

(3) Determined according to the value of item 1003 (FTE workers) in 2010.

contract, as the conduct of the various operating sites belonging to a single firm may vary considerably depending on their activity and their particular method of organisation. In the case of training activities or agency work, the firm's location and the range of training activities or agency workers available may also make a difference. It is therefore inappropriate to use a standard apportionment formula for all the items. Consequently, multi-region firms form a separate group from single-region companies for all the variables, apart from the total number of workers employed as at 31 December.

While single-region firms differ from multi-region firms by being smaller in size, they also specialise in different fields. Multi-region firms employ proportionately more workers than single-region companies in the branches of trade and transport and finance and insurance, while multi-region firms in the branches of industry and business services are proportionately less developed. Within single-region companies, there are also differences in specialisation between firms based in Brussels, which focus more on services, and those in Flanders or Wallonia, which tend more towards industry. This heterogeneity is part of the reason for the differences between the Regions in the indicators presented in Annexes 11 to 13.

Annex 2

Classification of firms by branch of activity

The classification of firms by branch of activity is based on the activity code listed in the directory of firms compiled by the National Bank for the purpose of producing the national accounts; the directory contains a range of administrative data on firms active during the year. The 2010 directory, based on the NACE-BEL 2008 nomenclature, was chosen as the reference to determine the classification by sector and by branch of activity of firms for all financial years from 1998 to 2011. Firms not listed in the 2010 directory retain the activity code which they were given in previous directories or, failing that, the code assigned to them by the Central Balance Sheet Office.

The descriptions in this article are generally based on a ten-branch breakdown. The names of these branches were simplified for the reader's convenience ("Abbreviated title" column). In Annexes 3 to 10, the breakdown into ten branches is detailed to show sections A to S of the NACE-BEL 2008 nomenclature.

CLASSIFICATION USED TO ANALYSE THE SOCIAL BALANCE SHEETS AND LIST OF SECTIONS AND DIVISIONS IN THE NACE-BEL NOMENCLATURE OF ACTIVITIES

Title	Abbreviated title	Section	Division
Agriculture, forestry and fishing	Agriculture	A	01-03
Manufacturing, mining and quarrying and other industry	Industry	B-E	05-39
Mining and quarrying		B	05-09
Manufacturing		C	10-33
Electricity, gas, steam and air conditioning supply		D	35
Water supply; sewerage, waste management and remediation activities		E	36-39
Construction	Construction	F	41-43
Wholesale and retail trade, transport and storage, accommodation and food service activities	Trade and transport	G-I	45-56
Wholesale and retail trade; repair of motor vehicles and motorcycles		G	45-47
Transport and storage		H	49-53
Accommodation and food service activities		I	55-56
Information and communication	Information and communication	J	58-63
Financial and insurance activities	Finance and insurance	K	64-66
Real estate activities	Real estate	L	68
Professional, scientific, technical, administration and support service activities[1]	Business services	M-N	69-82
Professional, scientific and technical activities		M	69-75
Administrative and support service activities[1]		N	77-82
Human health and social work activities	Health and social work	Q	86-88
Other services	Other services	R-S	90-96
Arts, entertainment and recreation		R	90-93
Other service activities		S	94-96

(1) Excluding employment activities (NACE-BEL 78), which comprise in particular activities of employment placement agencies.

Annex 3

CHANGE IN THE NUMBER OF WORKERS RECORDED IN THE STAFF REGISTER BETWEEN 2010 AND 2011 IN FIRMS IN THE REDUCED POPULATION

	Full-time equivalents			Number of persons						
	Average employment		Employment as at 31 December	Average employment						Employment as at 31 December
				Full-time		Part-time		Total		
	Units	%	%	Units	%	Units	%	Units	%	%
Agriculture, forestry and fishing	138	4.3	0.0	132	5.4	–30	–2.4	102	2.8	–1.4
Manufacturing, mining and quarrying and other industry	3 575	1.0	0.8	3 465	1.1	119	0.2	3 584	1.0	0.8
Mining and quarrying	53	2.3	3.1	43	2.0	14	8.0	57	2.5	3.3
Manufacturing	3 170	1.0	0.7	3 170	1.1	–22	–0.0	3 148	0.9	0.7
Electricity, gas, steam and air conditioning supply	93	0.5	0.9	30	0.2	84	5.0	114	0.6	0.8
Water supply; sewerage, waste management and remediation activities	259	1.6	1.9	223	1.5	43	2.1	266	1.5	1.9
Construction	1 696	1.6	0.8	1 395	1.4	409	5.2	1 805	1.7	0.8
Wholesale and retail trade, transport and storage, accommodation and food service activities	3 164	0.9	0.6	3 063	1.1	–58	–0.0	3 005	0.7	0.4
Wholesale and retail trade; repair of motor vehicles and motorcycles	2 541	1.3	0.8	2 552	1.6	–427	–0.6	2 125	0.9	0.9
Transport and storage	–20	–0.0	1.1	117	0.1	–1	–0.0	116	0.1	–0.3
Accommodation and food service activities	644	2.7	–0.3	394	2.6	370	2.1	764	2.3	0.6
Information and communication	214	0.4	–0.0	837	1.7	–838	–7.2	–1	–0.0	–0.3
Financial and insurance activities	252	0.3	0.2	226	0.3	–104	–0.4	122	0.1	0.2
Real estate activities	146	1.9	2.1	94	1.5	127	5.3	221	2.5	1.2
Professional, scientific, technical, administration and support service activities	4 406	3.7	2.9	3 242	3.7	1 603	3.2	4 846	3.5	2.5
Professional, scientific and technical activities	2 478	4.0	3.1	2 210	4.3	291	1.9	2 501	3.8	2.7
Administrative and support service activities[1]	1 929	3.4	2.6	1 032	2.8	1 312	3.8	2 345	3.3	2.3
Human health and social work activities	7 639	2.8	2.1	3 277	2.2	6 191	3.2	9 468	2.7	2.0
Other services	569	2.1	1.3	374	1.8	292	2.3	666	2.0	1.1
Arts, entertainment and recreation	185	2.1	0.4	140	2.0	90	2.4	230	2.2	0.2
Other service activities	384	2.0	1.7	234	1.7	202	2.3	437	1.9	1.5
Total	**21 799**	**1.5**	**1.1**	**16 106**	**1.5**	**7 711**	**1.6**	**23 817**	**1.5**	**1.0**

Source: NBB (social balance sheets).

(1) Excluding employment activities (NACE-BEL 78), which comprise in particular activities of employment placement agencies.

Annex 4

HOURS WORKED BY WORKERS RECORDED IN THE STAFF REGISTER

	In units, per year (total population)									*In percentage change between 2010 and 2011 (reduced population)*		
	2004	2005	2006	2007	2008	2009	2010					
	Per full-time equivalent						Per full-time equivalent	Per full-time worker	Per part-time worker	*Per full-time equivalent*	*Per full-time worker*	*Per part-time worker*
Agriculture, forestry and fishing	1 600	1 561	1 612	1 602	1 628	1 613	1 642	1 628	960	*0.9*	*1.4*	*2.3*
Manufacturing, mining and quarrying and other industry	1 532	1 516	1 520	1 523	1 513	1 447	1 492	1 493	1 019	*0.4*	*0.5*	*–0.4*
Mining and quarrying	1 491	1 464	1 479	1 500	1 509	1 447	1 437	1 436	1 054	*3.2*	*3.1*	*3.0*
Manufacturing	1 537	1 518	1 522	1 524	1 513	1 440	1 490	1 492	1 013	*0.5*	*0.6*	*–0.4*
Electricity, gas, steam and air conditioning supply	1 349	1 368	1 400	1 446	1 465	1 466	1 485	1 484	1 154	*–0.8*	*–0.6*	*–4.0*
Water supply; sewerage, waste management and remediation activities	1 615	1 628	1 597	1 572	1 560	1 547	1 541	1 541	1 041	*0.0*	*–0.0*	*1.0*
Construction	1 472	1 448	1 450	1 452	1 467	1 433	1 420	1 414	993	*3.3*	*3.5*	*0.5*
Wholesale and retail trade, transport and storage, accommodation and food service activities	1 608	1 582	1 579	1 577	1 576	1 555	1 559	1 565	917	*0.0*	*–0.0*	*0.3*
Wholesale and retail trade; repair of motor vehicles and motorcycles	1 610	1 599	1 590	1 590	1 591	1 575	1 579	1 587	974	*0.1*	*–0.2*	*2.0*
Transport and storage	1 615	1 559	1 565	1 560	1 554	1 528	1 530	1 540	980	*–0.2*	*0.2*	*–2.9*
Accommodation and food service activities	1 562	1 562	1 564	1 558	1 556	1 531	1 538	1 515	694	*0.1*	*0.6*	*0.2*
Information and communication	1 631	1 610	1 606	1 602	1 605	1 599	1 600	1 609	1 024	*–0.3*	*–0.3*	*–1.5*
Financial and insurance activities	1 444	1 429	1 424	1 441	1 442	1 430	1 446	1 467	945	*0.1*	*–0.3*	*2.4*
Real estate activities	1 607	1 601	1 589	1 589	1 600	1 573	1 567	1 564	942	*–0.2*	*–0.2*	*–1.5*
Professional, scientific, technical, administration and support service activities	1 606	1 589	1 587	1 590	1 600	1 566	1 567	1 580	948	*–0.1*	*0.3*	*–0.6*
Professional, scientific and technical activities	1 663	1 640	1 637	1 641	1 647	1 623	1 623	1 622	1 062	*–0.2*	*0.1*	*–1.2*
Administrative and support service activities[1]	1 548	1 536	1 533	1 532	1 548	1 506	1 510	1 519	904	*0.1*	*0.5*	*–0.2*
Human health and social work activities	1 524	1 497	1 482	1 490	1 487	1 462	1 469	1 454	922	*–0.7*	*–0.6*	*–0.4*
Other services	1 557	1 569	1 561	1 573	1 571	1 561	1 563	1 558	876	*–0.3*	*0.1*	*–1.0*
Arts, entertainment and recreation	1 592	1 619	1 602	1 617	1 606	1 606	1 592	1 590	765	*0.8*	*1.2*	*–0.8*
Other service activities	1 543	1 547	1 542	1 551	1 554	1 540	1 549	1 546	921	*–0.8*	*–0.5*	*–1.1*
Total	**1 552**	**1 532**	**1 529**	**1 532**	**1 530**	**1 497**	**1 511**	**1 512**	**936**	***0.2***	***0.4***	***–0.1***

Source: NBB (social balance sheets).
(1) Excluding employment activities (NACE-BEL 78), which comprise in particular activities of employment placement agencies.

Annex 5

BREAKDOWN OF THE NUMBER OF WORKERS RECORDED IN THE STAFF REGISTER BY EMPLOYMENT CONTRACT AND BY GENDER

(in % of total employment as at 31 December)

	2004	2005	2006	2007	2008	2009	2010	*2010*	*2011*
	(total population)							*(reduced population)*	
By employment contract									
Permanent contract	94.0	93.9	93.5	93.6	93.5	93.8	93.5	*94.0*	*93.7*
Fixed-term contract	4.9	5.0	5.3	5.3	5.4	5.1	5.4	*4.8*	*5.1*
Agriculture, forestry and fishing	5.6	6.7	6.3	12.8	11.2	10.9	10.7	*9.2*	*5.2*
Manufacturing, mining and quarrying and other industry	3.8	3.9	4.4	4.7	4.4	2.9	3.6	*3.5*	*4.0*
Mining and quarrying	6.0	6.2	8.2	6.9	6.1	4.5	4.9	*4.7*	*4.9*
Manufacturing	3.7	3.7	4.3	4.6	4.4	2.8	3.6	*3.5*	*4.1*
Electricity, gas, steam and air conditioning supply	6.7	7.2	7.3	6.6	6.0	5.3	4.7	*4.7*	*4.5*
Water supply; sewerage, waste management and remediation activities	3.4	3.0	3.8	3.0	2.9	2.1	2.4	*2.4*	*2.5*
Construction	2.7	2.9	3.2	3.3	3.5	3.7	3.6	*2.7*	*2.7*
Wholesale and retail trade, transport and storage, accommodation and food service activities	5.6	6.2	6.0	6.0	6.5	6.6	6.8	*5.8*	*6.3*
Wholesale and retail trade; repair of motor vehicles and motorcycles	5.7	6.1	5.8	5.9	6.6	6.5	7.5	*7.1*	*7.6*
Transport and storage	3.3	3.4	3.2	3.3	3.3	3.3	2.5	*2.2*	*2.5*
Accommodation and food service activities	12.6	15.0	15.6	14.9	15.9	15.9	14.9	*12.9*	*13.8*
Information and communication	3.7	3.6	3.8	3.1	3.0	2.5	2.4	*2.2*	*3.3*
Financial and insurance activities	3.0	2.8	2.8	2.5	2.0	2.0	1.9	*1.7*	*1.6*
Real estate activities	4.4	4.1	4.2	5.0	5.1	5.4	5.3	*1.7*	*1.6*
Professional, scientific, technical, administration and support service activities	3.8	4.3	4.3	4.6	3.8	3.8	4.0	*3.3*	*3.0*
Professional, scientific and technical activities	3.8	3.4	3.8	3.4	3.3	3.4	3.6	*2.7*	*2.7*
Administrative and support service activities[1]	3.7	5.1	4.8	5.7	4.3	4.2	4.3	*3.8*	*3.3*
Human health and social work activities	7.7	7.4	7.6	7.5	7.7	7.4	7.6	*7.4*	*7.4*
Other services	6.7	7.6	7.6	8.2	9.0	10.1	10.7	*9.7*	*9.3*
Arts, entertainment and recreation	7.9	10.4	9.7	9.2	11.3	13.0	13.6	*12.0*	*11.5*
Other service activities	6.1	6.3	6.7	7.7	7.8	8.8	9.3	*8.6*	*8.3*
Substitution contract	1.0	0.9	1.1	0.9	1.0	1.0	1.0	*1.0*	*1.1*
Contract concluded for a specific project	0.1	0.1	0.2	0.2	0.2	0.1	0.2	*0.1*	*0.1*
By gender									
Men	60.7	60.9	59.3	58.9	58.0	57.1	56.4	*56.8*	*56.6*
Women	39.3	39.1	40.7	41.1	42.0	42.9	43.6	*43.2*	*43.4*

Source: NBB (social balance sheets).

(1) Excluding employment activities (NACE-BEL 78), which comprise in particular activities of employment placement agencies.

Annex 6

BREAKDOWN OF EMPLOYMENT BY STATUS OF WORKERS IN FIRMS FILING FULL-FORMAT ACCOUNTS

(in % of average employment in FTEs)

	2004	2005	2006	2007	2008	2009	2010	*2010*	*2011*
	(total population)							*(reduced population)*	
Workers recorded in the staff register	**95.8**	**95.6**	**93.7**	**93.5**	**93.8**	**96.3**	**95.6**	***95.7***	***95.5***
Agency workers	**3.1**	**3.3**	**3.7**	**4.0**	**3.7**	**2.8**	**3.3**	***3.3***	***3.6***
Agriculture, forestry and fishing	7.1	5.1	8.0	7.8	8.4	8.6	5.1	*4.4*	*5.0*
Manufacturing, mining and quarrying and other industry	5.2	5.2	6.1	6.3	5.8	4.1	5.5	*5.3*	*5.8*
Mining and quarrying	2.3	2.5	2.8	3.2	3.4	2.2	2.7	*2.3*	*3.2*
Manufacturing	5.4	5.4	6.3	6.5	6.0	4.2	5.7	*5.5*	*6.1*
Electricity, gas, steam and air conditioning supply	1.2	2.5	1.5	1.7	1.4	1.6	1.7	*1.0*	*0.9*
Water supply; sewerage, waste management and remediation activities	5.5	5.5	6.3	6.7	6.3	5.5	6.2	*5.3*	*5.1*
Construction	1.2	1.6	2.0	2.1	2.0	1.8	1.8	*1.5*	*1.9*
Wholesale and retail trade, transport and storage, accommodation and food service activities	3.5	3.8	4.2	4.5	4.7	3.9	4.3	*4.3*	*4.8*
Wholesale and retail trade; repair of motor vehicles and motorcycles	3.8	3.9	4.3	4.5	4.4	3.8	4.2	*4.4*	*4.7*
Transport and storage	3.1	3.7	4.0	4.4	4.8	3.8	4.2	*4.1*	*4.9*
Accommodation and food service activities	4.0	4.3	6.1	7.7	7.1	5.5	6.7	*6.1*	*5.7*
Information and communication	2.2	2.5	2.7	3.1	3.1	2.5	2.5	*2.5*	*2.6*
Financial and insurance activities	0.7	0.8	0.9	1.0	1.0	0.6	0.8	*0.8*	*0.8*
Real estate activities	1.5	1.6	1.6	2.0	2.2	1.7	1.9	*2.0*	*1.6*
Professional, scientific, technical, administration and support service activities	3.1	3.2	3.9	4.4	3.9	2.9	3.4	*3.6*	*3.8*
Professional, scientific and technical activities	3.4	3.2	3.8	4.0	4.1	3.2	3.8	*4.0*	*3.9*
Administrative and support service activities[1]	2.9	3.2	4.0	4.9	3.6	2.7	3.1	*3.2*	*3.6*
Human health and social work activities	0.5	0.5	0.5	0.5	0.4	0.4	0.5	*0.5*	*0.5*
Other services	3.0	3.5	3.9	4.2	4.4	3.9	4.2	*4.3*	*4.1*
Arts, entertainment and recreation	3.6	4.2	4.1	3.7	3.9	3.5	3.5	*3.6*	*4.1*
Other service activities	2.7	3.2	3.8	4.4	4.5	4.2	4.5	*4.6*	*4.0*
Workers seconded to the firm[2]	**1.1**	**1.1**	**2.6**	**2.6**	**2.5**	**0.9**	**1.0**	***1.0***	***0.9***

Source: NBB (social balance sheets).

(1) Excluding employment activities (NACE-BEL 78), which comprise in particular activities of employment placement agencies.

(2) Workers recorded in a firm's staff register and seconded to another firm which is obliged to file a social balance sheet are counted twice.

Annex 7

STAFF COSTS PER FTE[1]

	In €, per year (total population)							*In percentage change between 2010 and 2011 (reduced population)*
	2004	2005	2006	2007	2008	2009	2010	
Agriculture, forestry and fishing	32 039	31 350	30 999	30 720	31 647	32 526	33 213	*3.6*
Manufacturing, mining and quarrying and other industry	51 127	52 198	54 000	55 890	57 816	57 154	59 953	*4.2*
Mining and quarrying	46 199	46 711	48 001	50 636	52 480	52 776	53 527	*6.8*
Manufacturing	49 982	51 031	52 852	54 680	56 458	55 645	58 637	*3.3*
Electricity, gas, steam and air conditioning supply	85 459	86 430	89 656	91 871	97 968	92 629	93 484	*13.7*
Water supply; sewerage, waste management and remediation activities	46 348	48 305	47 917	49 260	51 211	52 850	53 306	*5.7*
Construction	37 997	38 201	39 391	40 473	42 527	43 076	43 138	*6.6*
Wholesale and retail trade, transport and storage, accommodation and food service activities	41 578	42 838	44 124	45 387	47 332	48 685	48 795	*3.2*
Wholesale and retail trade; repair of motor vehicles and motorcycles	42 462	43 559	44 873	46 380	48 228	49 615	49 636	*3.4*
Transport and storage	43 038	44 785	46 180	47 209	49 586	50 866	51 173	*3.1*
Accommodation and food service activities	28 239	28 710	29 534	30 042	31 707	33 401	34 267	*2.7*
Information and communication	59 493	60 000	62 035	63 566	66 217	68 107	68 828	*3.0*
Financial and insurance activities	67 684	69 296	71 200	73 275	77 337	78 201	77 997	*3.1*
Real estate activities	41 696	41 875	43 239	43 876	46 103	47 302	47 982	*4.3*
Professional, scientific, technical, administration and support service activities	47 379	48 192	49 471	49 925	52 818	53 028	52 668	*2.8*
Professional, scientific and technical activities	56 764	57 317	58 801	59 938	63 460	64 174	64 397	*2.7*
Administrative and support service activities[2]	37 854	38 910	39 555	38 580	40 950	41 127	40 524	*2.8*
Human health and social work activities	39 353	39 902	40 145	42 156	43 043	43 758	44 861	*3.1*
Other services	34 729	35 606	37 681	38 535	41 626	43 813	44 168	*2.7*
Arts, entertainment and recreation	36 895	37 878	40 237	41 567	43 682	47 100	45 899	*3.6*
Other service activities	33 813	34 592	36 488	36 976	40 616	42 208	43 330	*2.3*
Total	**46 509**	**47 531**	**48 566**	**49 987**	**51 899**	**52 236**	**53 022**	***3.5***

Source: NBB (social balance sheets).

(1) Item 1023 / item 1003.

(2) Excluding employment activities (NACE-BEL 78), which comprise in particular activities of employment placement agencies.

Annex 8

STAFF COSTS PER HOUR WORKED [1]

	In € (total population)							*In percentage change between 2010 and 2011 (reduced population)*
	2004	2005	2006	2007	2008	2009	2010	
Agriculture, forestry and fishing	20.0	20.1	19.2	19.2	19.4	20.2	20.2	*2.7*
Manufacturing, mining and quarrying and other industry	33.4	34.4	35.5	36.7	38.2	39.5	40.2	*3.8*
Mining and quarrying	31.0	31.9	32.5	33.8	34.8	36.5	37.2	*3.5*
Manufacturing	32.5	33.6	34.7	35.9	37.3	38.6	39.3	*2.8*
Electricity, gas, steam and air conditioning supply	63.3	63.2	64.1	63.5	66.9	63.2	63.0	*14.6*
Water supply; sewerage, waste management and remediation activities	28.7	29.7	30.0	31.3	32.8	34.2	34.6	*5.7*
Construction	25.8	26.4	27.2	27.9	29.0	30.1	30.4	*3.2*
Wholesale and retail trade, transport and storage, accommodation and food service activities	25.9	27.1	27.9	28.8	30.0	31.3	31.3	*3.2*
Wholesale and retail trade; repair of motor vehicles and motorcycles	26.4	27.2	28.2	29.2	30.3	31.5	31.4	*3.3*
Transport and storage	26.6	28.7	29.5	30.3	31.9	33.3	33.4	*3.2*
Accommodation and food service activities	18.1	18.4	18.9	19.3	20.4	21.8	22.3	*2.6*
Information and communication	36.5	37.3	38.6	39.7	41.3	42.6	43.0	*3.3*
Financial and insurance activities	46.9	48.5	50.0	50.8	53.6	54.7	54.0	*3.0*
Real estate activities	25.9	26.2	27.2	27.6	28.8	30.1	30.6	*4.5*
Professional, scientific, technical, administration and support service activities	29.5	30.3	31.2	31.4	33.0	33.9	33.6	*2.9*
Professional, scientific and technical activities	34.1	34.9	35.9	36.5	38.5	39.5	39.7	*3.0*
Administrative and support service activities [2]	24.5	25.3	25.8	25.2	26.5	27.3	26.8	*2.7*
Human health and social work activities	25.8	26.6	27.1	28.3	29.0	29.9	30.5	*3.8*
Other services	22.3	22.7	24.1	24.5	26.5	28.1	28.3	*3.0*
Arts, entertainment and recreation	23.2	23.4	25.1	25.7	27.2	29.3	28.8	*2.8*
Other service activities	21.9	22.4	23.7	23.8	26.1	27.4	28.0	*3.2*
Total	**30.0**	**31.0**	**31.8**	**32.6**	**33.9**	**34.9**	**35.1**	***3.3***

Source: NBB (social balance sheets).

(1) Item 1023 / item 1013.

(2) Excluding employment activities (NACE-BEL 78), which comprise in particular activities of employment placement agencies.

Annex 9

TRAINING ACTIVITIES IN 2011 IN FIRMS FROM THE REDUCED POPULATION

	Participants in training activities[1] (in % of average employment)			Hours devoted to training activities (in % of hours worked)				Net training costs[2] (in % of staff costs)			
	Formal[3]	Informal[4]	Initial[5]	Formal[3]	Informal[4]	Initial[5]	Total	Formal[3]	Informal[4]	Initial[5]	Total
Agriculture, forestry and fishing	9.0	9.9	0.6	0.10	0.19	0.11	0.40	0.24	0.32	0.05	0.61
Manufacturing, mining and quarrying and other industry	46.1	26.1	1.4	0.82	0.73	0.18	1.73	1.32	0.66	0.07	2.06
Mining and quarrying	49.0	26.2	0.8	0.56	0.99	0.25	1.80	0.91	1.04	0.10	2.05
Manufacturing	43.5	26.5	1.4	0.73	0.75	0.20	1.68	1.07	0.71	0.08	1.87
Electricity, gas, steam and air conditioning supply	80.0	28.5	0.9	2.47	0.58	0.02	3.07	3.84	0.36	0.01	4.21
Water supply; sewerage, waste management and remediation activities	59.5	15.7	0.9	0.74	0.40	0.03	1.17	1.13	0.31	0.03	1.47
Construction	23.3	11.4	1.9	0.36	0.26	0.60	1.23	0.50	0.28	0.10	0.88
Wholesale and retail trade, transport and storage, accommodation and food service activities	33.9	18.2	1.1	0.73	0.26	0.21	1.20	1.16	0.28	0.05	1.49
Wholesale and retail trade; repair of motor vehicles and motorcycles	26.5	14.9	1.5	0.44	0.29	0.30	1.03	0.66	0.31	0.07	1.05
Transport and storage	47.9	25.9	0.3	1.25	0.23	0.03	1.51	1.98	0.25	0.01	2.24
Accommodation and food service activities	21.3	6.9	2.2	0.25	0.20	0.50	0.96	0.27	0.19	0.07	0.54
Information and communication	55.8	21.2	1.5	1.13	0.26	0.09	1.48	1.65	0.25	0.03	1.94
Financial and insurance activities	62.5	35.6	0.3	1.40	1.05	0.02	2.47	2.26	0.77	0.01	3.04
Real estate activities	17.9	6.8	1.7	0.20	0.14	0.27	0.61	0.26	0.16	0.09	0.50
Professional, scientific, technical, administration and support service activities	28.9	16.8	0.7	0.59	0.30	0.11	1.00	0.87	0.31	0.04	1.22
Professional, scientific and technical activities	32.2	17.1	1.1	0.62	0.28	0.10	1.00	0.90	0.29	0.03	1.22
Administrative and support service activities[6]	25.9	16.5	0.4	0.55	0.33	0.13	1.01	0.83	0.35	0.05	1.23
Human health and social work activities	49.2	27.2	1.0	1.01	0.37	0.26	1.63	0.96	0.36	0.16	1.48
Other services	22.4	14.0	1.4	0.37	0.28	0.45	1.11	0.51	0.21	0.07	0.79
Arts, entertainment and recreation	14.4	7.3	0.5	0.27	0.25	0.17	0.69	0.29	0.13	0.04	0.46
Other service activities	26.1	17.2	1.9	0.43	0.29	0.59	1.31	0.62	0.25	0.08	0.95
Total	**41.3**	**22.5**	**1.1**	**0.81**	**0.45**	**0.22**	**1.48**	**1.22**	**0.45**	**0.07**	**1.74**

Source: NBB (social balance sheets).

(1) Owing to double counting linked to the fact that the same person may have pursued more than one type of training, no total is calculated here.

(2) Gross costs less subsidies and other financial benefits. The net costs of formal training also include contributions and payments to collective funds.

(3) Courses and practical classes designed by training staff responsible for their organisation and content, intended for a group of learners in premises separate from the workplace.

(4) Other apprenticeship activities of which the organisation and content are largely determined by the learners according to their own needs, directly connected with the work or workplace. These activities also include attending conferences or trade fairs as part of the learning process.

(5) Training of a minimum duration of six months, given to workers under schemes alternating training and practical work experience, with a view to acquiring a diploma.

(6) Excluding employment activities (NACE-BEL 78), which comprise in particular activities of employment placement agencies.

Annex 10

TRAINING ACTIVITIES IN 2011 IN FIRMS FROM THE REDUCED POPULATION OFFERING TRAINING

	Hours devoted to training activities (average per participant, in hours)			Net training costs[1] (average per participant, in €)		
	Formal[2]	Informal[3]	Initial[4]	Formal[2]	Informal[3]	Initial[4]
Agriculture, forestry and fishing	16	28	297	51.6	35.9	9.6
Manufacturing, mining and quarrying and other industry	25	40	195	68.8	39.0	17.3
Mining and quarrying	17	55	430	63.9	41.6	15.2
Manufacturing	24	41	205	60.7	38.9	17.1
Electricity, gas, steam and air conditioning supply	45	30	29	114.6	45.3	35.6
Water supply; sewerage, waste management and remediation activities	18	37	45	57.4	30.0	42.3
Construction	23	33	466	44.3	34.5	5.4
Wholesale and retail trade, transport and storage, accommodation and food service activities	30	20	260	53.2	35.6	7.7
Wholesale and retail trade; repair of motor vehicles and motorcycles	23	28	282	49.6	35.5	8.3
Transport and storage	36	13	111	56.1	37.8	12.4
Accommodation and food service activities	13	33	254	26.0	22.6	3.5
Information and communication	30	18	92	65.6	43.8	16.4
Financial and insurance activities	29	39	88	91.8	41.8	18.0
Real estate activities	16	28	221	43.1	38.9	10.9
Professional, scientific, technical, administration and support service activities	28	24	211	52.9	37.2	12.1
Professional, scientific and technical activities	29	24	137	59.9	42.7	13.7
Administrative and support service activities[5]	26	24	402	43.9	31.7	10.6
Human health and social work activities	23	15	299	30.1	31.0	19.9
Other services	22	26	410	41.7	22.9	4.5
Arts, entertainment and recreation	25	45	478	32.3	16.2	6.9
Other service activities	21	22	402	44.5	25.6	4.2
Total	**26**	**27**	**262**	**56.3**	**37.3**	**12.3**

Source: NBB (social balance sheets).

(1) Gross costs less subsidies and other financial benefits. The net costs of formal training also include contributions and payments to collective funds.

(2) Courses and practical classes designed by training staff responsible for their organisation and content, intended for a group of learners in premises separate from the workplace.

(3) Other apprenticeship activities of which the organisation and content are largely determined by the learners according to their own needs, directly connected with the work or workplace. These activities also include attending conferences or trade fairs as part of the learning process.

(4) Training of a minimum duration of six months, given to workers under schemes alternating training and practical work experience, with a view to acquiring a diploma.

(5) Excluding employment activities (NACE-BEL 78), which comprise in particular activities of employment placement agencies.

Annex 11

TYPE AND STRUCTURE OF EMPLOYMENT CONTRACTS BY REGION

	2004	2005	2006	2007	2008	2009	2010	*In percentage change between 2010 and 2011*
	(total population)							*(reduced population)*
Part-time work (in % of employment as at 31 December)								
Single-region firms	25.0	25.1	26.7	26.9	27.8	29.9	30.6	*0.5*
Brussels	22.7	22.7	23.3	24.8	25.5	27.9	29.6	*–0.7*
Flanders	25.4	25.6	27.4	27.2	28.0	30.0	30.6	*0.5*
Wallonia	24.9	25.1	26.6	27.2	28.1	30.3	30.8	*1.0*
Multi-region firms	26.3	28.2	29.1	29.9	30.5	31.8	32.5	*–0.2*
Total	**25.3**	**26.0**	**27.3**	**27.7**	**28.5**	**30.4**	**31.1**	***0.3***
Temporary work[(1)] (in % of employment as at 31 December)								
Single-region firms	6.1	6.3	6.9	6.8	6.9	6.6	7.0	*3.1*
Brussels	6.1	5.8	6.1	6.9	6.6	6.9	7.3	*–1.0*
Flanders	5.0	5.3	5.9	5.6	5.5	5.1	5.5	*3.6*
Wallonia	9.0	9.0	9.6	9.7	10.6	10.2	10.6	*3.5*
Multi-region firms	5.6	5.7	5.4	5.4	5.4	4.9	5.0	*7.1*
Total	**6.0**	**6.1**	**6.5**	**6.4**	**6.5**	**6.2**	**6.5**	***4.1***
Agency work in firms filing full-format accounts (in % of average FTE employment)								
Single-region firms	3.6	3.8	4.4	4.7	4.2	3.2	3.7	*7.1*
Brussels	2.5	2.6	2.7	3.3	2.5	2.6	3.2	*–0.1*
Flanders	3.8	4.1	4.8	4.9	4.5	3.2	3.8	*10.2*
Wallonia	3.6	3.8	4.4	4.5	4.4	3.2	3.8	*0.8*
Multi-region firms	2.2	2.3	2.4	2.7	2.7	2.1	2.5	*13.0*
Total	**3.1**	**3.3**	**3.7**	**4.0**	**3.7**	**2.8**	**3.3**	***8.9***

Source: NBB (social balance sheets).

(1) Fixed-term contracts, substitution contracts and contracts concluded for a specific project.

Annex 12

HOURS WORKED AND LABOUR COSTS BY REGION

	2004	2005	2006	2007	2008	2009	2010	*In percentage change between 2010 and 2011*
	(total population)							*(reduced population)*
Hours worked per FTE (in units, per year)								
Single-region firms	1 566	1 549	1 547	1 548	1 546	1 508	1 522	*0.3*
Brussels	1 598	1 578	1 574	1 591	1 588	1 563	1 574	*–0.5*
Flanders	1 573	1 554	1 553	1 552	1 547	1 508	1 525	*0.3*
Wallonia	1 534	1 525	1 520	1 522	1 524	1 484	1 494	*0.6*
Multi-region firms	1 513	1 485	1 481	1 485	1 488	1 467	1 478	*–0.1*
Total	**1 552**	**1 532**	**1 529**	**1 532**	**1 530**	**1 497**	**1 511**	***0.2***
Staff costs per FTE (in €, per year)								
Single-region firms	44 063	45 056	45 822	47 458	49 138	49 315	50 034	*3.6*
Brussels	52 721	53 697	53 866	56 090	58 839	58 479	58 682	*3.0*
Flanders	43 962	45 053	45 940	47 693	49 295	49 433	50 260	*3.6*
Wallonia	40 214	41 167	42 111	43 256	44 726	45 220	45 968	*4.1*
Multi-region firms	53 555	54 434	56 178	57 159	59 730	60 572	61 518	*3.7*
Total	**46 509**	**47 531**	**48 566**	**49 987**	**51 899**	**52 236**	**53 022**	***3.5***
Staff costs per hour worked (in €)								
Single-region firms	28.1	29.1	29.6	30.7	31.8	32.7	32.9	*3.3*
Brussels	33.0	34.0	34.2	35.3	37.0	37.4	37.3	*3.5*
Flanders	28.0	29.0	29.6	30.7	31.9	32.8	33.0	*3.3*
Wallonia	26.2	27.0	27.7	28.4	29.3	30.5	30.8	*3.5*
Multi-region firms	35.4	36.7	37.9	38.5	40.2	41.3	41.6	*3.8*
Total	**30.0**	**31.0**	**31.8**	**32.6**	**33.9**	**34.9**	**35.1**	***3.3***

Source: NBB (social balance sheets).

Annex 13

FORMAL TRAINING BY REGION[1]

	2004	2005	2006	2007	2008	2009	2010	*In percentage change between 2010 and 2011*
	(total population)							*(reduced population)*
Participants in training activities (in % of average employment)								
Single-region firms	27.1	27.5	27.1	27.5	26.6	27.8	29.0	*4.2*
Brussels	28.9	27.6	27.4	28.1	25.9	27.1	27.2	*4.8*
Flanders	29.2	29.6	28.7	29.4	27.7	28.9	30.1	*4.4*
Wallonia	21.0	22.1	22.8	22.6	24.2	25.7	27.1	*3.4*
Multi-region firms	61.7	61.1	62.2	62.1	54.7	56.4	58.4	*4.7*
Total	**35.9**	**36.3**	**36.2**	**36.5**	**33.9**	**35.2**	**36.6**	***4.0***
Hours devoted to training activities (in % of hours worked)								
Single-region firms	0.53	0.54	0.54	0.56	0.50	0.53	0.54	*3.5*
Brussels	0.49	0.54	0.56	0.52	0.50	0.52	0.52	*5.6*
Flanders	0.59	0.58	0.57	0.58	0.53	0.55	0.55	*4.6*
Wallonia	0.39	0.44	0.44	0.50	0.42	0.46	0.52	*–0.5*
Multi-region firms	1.31	1.30	1.44	1.59	1.43	1.38	1.26	*–1.1*
Total	**0.73**	**0.73**	**0.77**	**0.82**	**0.73**	**0.74**	**0.72**	***0.8***
Net training costs[2] (in % of staff costs)								
Single-region firms	0.73	0.73	0.71	0.72	0.71	0.66	0.71	*5.8*
Brussels	0.63	0.70	0.70	0.70	0.67	0.61	0.74	*4.6*
Flanders	0.82	0.77	0.74	0.74	0.73	0.67	0.67	*11.0*
Wallonia	0.56	0.60	0.61	0.67	0.66	0.68	0.78	*–5.3*
Multi-region firms	2.07	2.07	2.29	2.42	2.18	1.99	1.96	*0.7*
Total	**1.13**	**1.13**	**1.19**	**1.23**	**1.15**	**1.06**	**1.09**	***2.3***
Training firms (in % of all firms)								
Single-region firms	6.3	6.1	6.3	6.4	12.8	14.0	15.6	*13.3*
Brussels	6.9	6.6	7.0	7.0	12.5	14.0	15.7	*6.1*
Flanders	6.9	6.8	6.9	7.0	12.7	13.8	15.1	*17.5*
Wallonia	4.4	4.3	4.6	4.8	13.1	14.5	16.6	*6.3*
Multi-region firms	43.5	44.8	43.7	42.0	51.1	54.2	58.2	*2.7*
Total	**6.7**	**6.6**	**6.8**	**6.9**	**13.3**	**14.6**	**16.2**	***12.7***

Source: NBB (social balance sheets).

(1) The introduction of a new social balance sheet form applicable to financial years ending on or after 1 December 2008 causes a break in the series between data for years from 2008 onwards and those relating to previous years.

(2) Gross costs less subsidies and other financial benefits, plus contributions and payments to collective funds.

Endogenous financial risk : The seventh international conference of the NBB

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Introduction and motivation

Systemic risk has been an important topic of research and discussion among economists since the outbreak of the crisis. It arises when seemingly rational behaviour by individual agents can lead to system-wide imbalances building up over time and eventually causing a break-down of the whole system leading to significant levels of instability and costs at the macro-level. In the context of developed economies, the financial system and practices constitute an important source of systemic risk ; endogenous risk-taking behaviour by financial institutions affects other – interconnected – institutions. Given the close connection between the financial system and the real economy, these externalities in turn spill over to the rest of the economy causing large decreases in output, employment and welfare throughout the globe, as we have been experiencing since mid-2007.

With the current crisis, regulatory authorities have come to realise that endogenous risk-taking behaviour by financial institutions causes a market failure that can imply huge costs to society. Such costs were insufficiently taken into account in the pre-crisis regulatory and supervision framework for financial institutions, such as Basel II, which was primarily focused on the micro-level. That is why policy proposals now aim to internalise the costs caused by such systemic externalities. These proposals, as set out in the Basel III regulation, for example, aim to regulate financial institutions at the broader macro-level. This new regulatory framework for macro-prudential policy comes with new challenges for policymakers. By organising its seventh biennial conference around the theme "Endogenous financial risk", held in Brussels on October 11 and 12, 2012, the Bank's aim was to contribute to the discussions and progress in facing these challenges.

The first challenge that policymakers face concerns the operationalisation and implementation of the regulatory framework. In particular, the operational aspect of the macro-prudential regulation involves detecting potential risks to future systemic instability. This requires knowledge about the nature of systemic risk and how to best measure it. Although a reasonable set of indicators for detecting risks to systemic stability have already been proposed, there is limited practical experience with them and further empirical testing is needed in order to gain more confidence in the reliability of the alternative measures. The first session, with the keynote speech by G. Bekaert, and two papers from the second session of the conference deal particularly with this concern regarding measurement of systemic risk.

However, even if the workings of the complex interconnected financial system are well understood, we need to gain insight into the effectiveness of the tools used to address it. What are the appropriate prudential instruments and how will they affect the financial system and the real economy ? Some of these tools are capital-based, such as countercyclical buffers and dynamic provisions, others are liquidity-based and will adjust liquidity requirements countercyclically, while a third group of instruments such

as loan-to-value and debt-to-income ratios are asset-based. Use of these instruments is a complex issue. Let's take the example of capital-based tools. When the capital position of the bank becomes an important determinant of the amount of funds that a bank can raise from investors (such as depositors and other banks), a bank capital channel arises that operates on the supply side of credit. This channel can arise endogenously due to asymmetric information between banks and investors, in which case banks are required to invest part of their own capital in addition to obtained funds in issuing loans, or by the introduction of explicit exogenous regulatory requirements, which affect the total amount available for lending. Capital regulation can then be regarded as a tool of macroprudential policy interacting with the endogenous bank capital channel. It therefore remains a challenge to understand this interaction, and how countercyclical capital buffers affect the market-determined implications of endogenous changes in bank capital, in order to develop an appropriate set of policy tools for intervention without causing too much disruption in the efficiency of the credit markets and the financial system as a whole. The paper on the Spanish dynamic provisioning experiments presented in the second session deals with this aspect of macroprudential policy in more detail.

The next challenge is of an analytical nature. The economic models currently used for policy analysis do not necessarily capture all relevant dimensions of systemic risk. In the period prior to the crisis, the majority of the models attributed only a minor role to financial frictions, making it a very difficult task to foresee or even understand the impact on and the transmission to the macroeconomy of the recent financial crisis. Although significant progress has been made since then in developing suitable models for macroprudential analysis and macro-stress testing, most models still fall short of capturing the interactions between all relevant actors in credit markets and the interlinkage between financial stability and the real economy. In addition, standard macroeconomic models are often linearised, while risks to systemic stability involve non-linearities which cannot be assumed away if we need a credible representation of the workings of the financial sector. The keynote speeches by Frank Smets and Yuliy Sannikov and the papers presented in the third session of the conference address some aspects of these modelling challenges.

A final challenge faced by policymakers concerns the desirability and the degree of coordination between macroprudential supervision and other areas in public policy, such as monetary and fiscal policy. Regarding the implications for monetary policy, some advocate significant modifications to the standard inflation targeting framework in order to assign an active role to monetary policy to safeguard financial stability. Others argue that the inflation targeting framework as such should be subjected to minor changes and that the financial stability goal should be addressed with separate prudential policies, using separate tools. The tendency to have central banks more involved in financial stability issues and supervision implies that the outcome of this discussion also has implications for the internal organisation of central banks and how they cope with these two tasks. An additional question in the euro area set-up is at what level macroprudential policy is best conducted. While the existence of common macro-financial factors argues in favour of setting macroprudential policy at area-wide level, conducting such policy at the national level could be seen as a means to cope with idiosyncratic developments at country level. A possible solution to this issue could lie in introducing two layers for setting macroprudential policy, something which should be feasible in view of the set-up of the proposed Single Supervisory Mechanism. As far as fiscal policy is concerned, the European sovereign debt crisis has taught us that there is a strong and complex interconnection between the stability of the financial system and sovereign debt. Macroprudential policy will therefore be affected by fiscal policies conducted in national economies, and vice versa. Setting up a framework that allows for the most effective degree of coordination is therefore crucial in order to restrict the social costs arising from possibly conflicting objectives of these different policies. The discussion during the panel session that closed the conference was based on some of these operational and institutional implications.

In the following sections, a general overview of the main conclusions and findings resulting from the presentations and the discussions during the conference is provided.

1. Systemic risk : Measurement, dynamics and interaction with monetary policy

The key challenges for the macroprudential authorities turn out to be how to identify the systemically important financial institutions and how to measure interconnectedness in the absence of sufficiently granular data on financial exposure and interconnectedness at the individual bank level. Two papers presented at the conference analyse ways of circumventing this lack of information by relying on the public information conveyed by stock market prices in order to build indicators and tools, helpful for the regulators. The contributions of Boudt, Daníelsson, Koopman and Lucas (2012) and Castro and Ferrari (2012) focus both on the empirical question of how to measure systemic/endogenous risk using stock market data from individual financial institutions. They evaluate to what

extent correlation and volatility among these individual stock prices can serve as useful instruments in measuring and assessing systemic risk.

The Boudt et al. (2012) contribution points out that a good statistical model is necessary to understand and identify the joint dynamics of the banking stock prices. They especially emphasise that the volatility in the financial market series is not only time-varying but also subject to regime switches. Even though this is supported by ample theoretical and empirical evidence, standard non-switching volatility models, of the GARCH[1] type, are still widely used in practice. Therefore such models are likely to be misleading when an accurate volatility forecast is of the most importance, i.e. at the time of a transition from a low risk to a high risk regime. The ambition of the project is to propose an econometric model allowing for regime switches in volatility and correlation in order to improve the prediction regarding these two essential features of financial assets. For this, the model needs first to assess correctly volatility and correlation within a regime, and second to forecast changes in regime.

The assumptions regarding the form of the distribution are essential for the volatility dynamics. Indeed, extreme (positive/negative) returns are a stronger signal of a volatility increase under the normal distribution than under a fat-tailed distribution. In order to take this into account, the authors consider that the within–regime dynamics in volatility and correlation are driven by the score of the conditional density function, as in Haas et al. (2004). As a result, the volatility/correlation impact of extreme returns is downweighted under a fat-tailed distribution. In order to model and forecast regime switching probabilities, they make use of macro-financial state variables like the VIX, the TED spread or the St. Louis Financial Stability Index.

The model is applied to weekly stock returns of the major US deposit bank holding companies from 1994 to 2011. The best model identified is a two-regime equicorrelation model with switching probabilities driven by the VIX and a negligible time-varying correlation in the low correlation regime. Interestingly, while state variables have generally not been found useful in forecasting volatility, they do significantly predict regime switching probabilities. However, in the discussion following the presentation, it was pointed that it would be helpful for the reader to obtain more details on the econometric estimation on this point of the study. Indeed, the relationship between the probability of being in the high correlation regime and the financial stress indicators is not graphically obvious when looking at Figures 5 and 6 in their paper.

(1) Generalized autoregressive conditional heteroskedasticity.

The approach of Castro and Ferrari (2012) is rather different, even though using the same primary information, i.e. banks' stock market returns. Their goal is to identify, in a statistically precise manner, which banks should be considered as systemically important financial institutions. The systemic importance of a financial institution can be determined using co-risk measures that consider the increase in the risk of the financial system when a given financial institution faces distress. The paper focuses more particularly on the ΔCoVaR measure, developed in a pioneering paper by Adrian and Brunnermeier (2011). This co-risk measure is computed as the difference between conditional and unconditional value-at-risk (VaR). The unconditional VaR is computed from the distribution of stock returns of either a financial index (if assessing systemic importance) or a specific financial institution (if assessing bilateral risk transmission). The conditional VaR is computed as the VaR for the same distribution of stock returns as considered for the unconditional VaR, but now conditional on the stock return of the financial institution assessed as systemically important and beingin distress (i.e. at its VaR level).

The ΔCoVaR method has already been extensively applied as a tool for identifying/ranking systemically important institutions and assessing interconnections between institutions. However, the paper argues that there is still a need to develop testing methods which would allow assessing the absolute and relative significance of this measure. The authors make a useful contribution in this direction by establishing a methodology to compute :

– a test of significance, based on estimated risk contribution, that helps determine whether or not a financial institution is systemic ;
– a dominance test, allowing an ordinal ranking of financial institutions according to their systemic importance as measured by their ΔCoVaR.

After deriving the statistical tests the authors run Monte-Carlo experiments which indicate that the tests developed perform moderately well for the number of observations usually available for financial daily data. The authors then apply their testing procedures to a sample of 26 European banks, using daily data from October 1993 to March 2012. The banks' returns are regressed on a set of common factors (STOXX Europe 600 Basic Material index and Industrial index, together with the VIX index). Residuals from these estimations are then used to estimate ΔCoVaRs in a second stage. A first set of outcomes is displayed in Table 1 below. When ranked according to their ΔCoVaR measure, nine of the banks in the first half of the ranking have a statistically significant systemic risk contribution, compared to only three in the second half. This shows that a higher ΔCoVaR does not necessarily imply significant systemic risk contribution, and that point estimates are misleading. Furthermore,

TABLE 1 RANKING OF BANKS IN TERMS OF THEIR IMPACT ON THE MARKET

	Bank	$\Delta CoVaR$	Dom
1	ING Groep	6.25*	13
2	Banco Santander	5.83*	1
3	Credit Suisse Groupe	5.64*	2
4	Société Générale	5.54	1
5	HSBC Holding	5.51*	1
6	Deutsche Bank	5.46*	1
7	BBVA	5.35*	1
8	BNP Paribas	5.24*	1
9	Unicredit	4.99	1
10	UBS	4.97*	2
11	KBC Groep	4.85*	0
12	Intesa Sanpaolo	4.75	0
13	Commerzbank	4.61	1
14	Standard Chartered	4.21	0
15	Banco Popular Español	4.14	0
16	Danske Bank	4.06	0
17	Bank of Ireland	3.89	0
18	Svenska Handelsbanken	3.84	0
19	RBS Group	3.79*	1
20	National Bank of Greece	3.63*	0
21	Barclays	3.53*	1
22	Natixis	3.46	0
23	BCP-Millenium	3.23	0
24	Landesbank Berlin-LBB	2.79	0
25	Allied Irish Banks	2.55	0
26	Banco Español de Credito	2.40	0

Sources: Castro and Ferrari (2012).

Notes: $\Delta CoVaR$ is the impact of the bank in question on the market index, as measured by $\Delta CoVaR^{index\ i}(\tau)$ with $\tau = 0.95$ and $\tau_{}i = 0.99$. The values of $\Delta CoVaR$ of the banks for which the systemic risk contribution is statistically significant for $\tau = [0.90, 0.99]$ are marked with an asterisk. The columns with header "dom" indicate the number of other banks in the sample whose systemic risk contribution is stochastically dominated by the one of the banks in question for $\tau = [0.90, 0.99]$.

size is a poor proxy as some relatively small banks are ultimately found to be systemically important while other large ones are not. Note that the last feature seems to be inherent to co-risk measures based on market prices.

After this "absolute" ranking, authors investigate whether the systemic risk contribution of the financial institutions with a ΔCoVaR significantly different from zero is indeed larger than that of the institutions for which it is not. For this, they apply their dominance test to all the pairs of banks in the sample. The result is displayed in Table 1 (columns "dom") and 2:

- one bank is shown to statistically dominate thirteen others, and twelve other banks only statistically dominate one or two other banks (Table 1);
- out of 325 pairs of banks (i.e. $\sum_{i=1}^{26-1} i$), there are 55 where both banks have a significant systemic risk contribution and 105 where neither of the banks has a significant contribution;
- for only 27 pairs of banks out of the 325, one bank's systemic risk contribution is found to statistically dominate the other. Among these, 20 are banks with a significant systemic risk contribution dominating banks with an insignificant systemic risk contribution; in 4 cases, both banks have a significant systemic risk contribution and in the 3 remaining cases, neither has a significant systemic risk contribution.

Noticeably in this application, it never happens that a bank with an insignificant systemic risk contribution dominates another with a significant systemic risk contribution. From this observation, one could argue in favour of stronger control of all the banks with a significant systemic risk contribution. However, among the 165 pairs involving a bank with a significant systemic contribution and a bank with a non-significant systemic contribution, there is only a very small minority (20) of pairs in which a bank with a significant systemic contribution actually statistically dominates a bank with an insignificant systemic risk contribution. This raises the importance of taking into account pairwise dominance tests, which would allow restricting the number of institutions under particular supervision. However, very few banks can be ranked according to their ΔCoVaR, and the potential inability of this measure to rank financial institutions according to their systemic risk contributions could be viewed as a major limitation of the usefulness of this co-risk measure for macro prudential policy purposes. A key message raised during the discussion following the presentation is that the regulator should consider estimation errors as an additional source of risk, and take a conservative stance in order not to underestimate the systemic importance of a financial

TABLE 2 DOMINANCE TEST RESULTS

Variable	Bank pairs with dominance	Total bank pairs
Total	**27**	**325**
significant dominates significant	4	55
significant dominates insignificant	20	165
insignificant dominates significant	0	
insignificant dominates insignificant	3	105

Sources: Castro and Ferrari (2012).

Notes: The reference to "(in)significant" in the first column refers to banks for which the systemic risk contribution in Table 1 is statistically (not) significant for $\tau = [0.90, 0.99]$

institution. It was also suggested that the ΔCoVaR measures and tests related to ING and KBC could be biased by the fact that these institutions have a large insurance activity.

Finally, the paper proposes a mapping of the banks' interconnections, computing the ΔCoVaR not for the financial market anymore, but for each of the particular financial institutions with respect to each of the others: out of the 650 possible linkages (i.e. $2.\sum_{i=1}^{26-1} i$), only 150 are statistically relevant. This allows to substantially narrow down the linkages that have to be analysed in greater detail. Therefore, testing for the significance of estimated ΔCoVaR affects the picture of the bank network by greatly simplifying it.

In a somewhat different philosophy, Bekaert, Hoereva and Lo Duca (2012) focus on the VIX "fear index" as a way to measure the perception of risk by the market and try to see how monetary policy authorities and the real economy interact with this perception of risk. The study starts with the observation that the VIX index closely parallels the monetary policy stance. Bekaert et al. (2012) decompose the implied volatility of the VIX into risk aversion on the one hand and uncertainty on the other hand. These two variables are then introduced into a structural VAR analysis together with business cycle data, prices and monetary policy.

Increases in uncertainty affect industrial production in a negative way. The same finding applies to increases in risk aversion, but here the effect is not significant. The converse is not true and real supply shocks affect neither the degree of uncertainty nor the risk aversion as extracted from the VIX index. This confirms previous results obtained by Bloom et al. (2009) but seems at odds with the result obtained by Popescu and Smets (2010) for Germany, that risk aversion is more important than uncertainty in driving business cycles. Finally, the authors find that risk aversion is a good predictor of uncertainty.

Finally and more importantly, Bekaert et al. (2012) provide an empirical validation of the Rajan (2006) conjecture that a lax monetary policy leads to a decrease in risk aversion, leading to risky, correlated investments. Uncertainty reacts in the same direction but in a weaker manner. Conversely, high degrees of risk aversion and uncertainty seem to lead to a laxer monetary policy in the short term, but this reaction is not statistically significant. This result challenges Bernanke's view (Bernanke and Kuttner, 2005) that monetary policy would not have a sufficiently strong effect on stock markets to inflate a bubble. On the other hand it also shows that in periods of crisis, monetary policy can influence risk aversion and uncertainty on the markets, and through this bias affect the real economy.

2. Financial intermediation and endogenous risk

The papers in the second session built an empirical characterisation of excessive correlations in different segments of the international financial markets during the crisis. Baele, Bekaert and Inghelbrecht (2012) focused on strong negative stock bond-return correlations or "flight-to-safety" episodes and showed that flight-to-safety periods have also been accompanied by significant macroeconomic effects. De Bruyckere, Gerhardt-Schepens and Vander Vennet (2012) documented bank-sovereign spill-overs in the premia of credit default swaps (CDS) and showed that, to a large extent, the bank-sovereign spill-over in bond markets could be explained on the basis of both bank- and country-specific fundamentals. Finally, Jimenez, Ongena, Peydro and Saurina (2012) take profit of the spanish experimentation regarding dynamic provisioning to assess its effects on credit supply to firms.

Baele, Bekaert and Inghelbrecht (2012) used daily data on stock (total market indices in local currency) and bond (10-year benchmark government bonds) returns over the period 1980-2012 to construct different measures of flight-to-safety (FTS): a set of individual FTS indicators, which takes the value of 1 on days with both an extreme negative stock return and an extreme positive bond return; an ordinal FTS index built from the individual FTS indicators; and a univariate regime-switching FTS model for the difference between bond and stock returns. In this last model, there are three regimes, one high volatility regime, one low volatility regime and one FTS regime, defined as the regime which has the highest (positive) mean of the three. The regime variable follows a Markov Chain with constant transition probabilities.

These measures showed that all well-known global crises, such as the October 1987 crash, the 1997 Asian crisis, the Russian crisis, and LTCM debacle in 1998, and more recently, the Lehman Brothers collapse and several spells during the European sovereign debt crisis were also FTS episodes. During these episodes, bond returns exceeded equity returns by 2 to 3 percent on average.

Furthermore, Baele et.al (2012) showed that, during this period (1980-2012), FTS episodes were not very frequent, comprising less than 5 % of the sample, while FTS episodes remained mainly country-specific. Large developed countries such as the US, the UK and Germany featured a relatively low proportion of global spells, suggesting they were more subject to idiosyncratic flights-to-safety.

TABLE 3 COMOVEMENT OF FLIGHT-TO-SAFETY WITH FINANCIAL/ECONOMIC VARIABLES

	United States	Germany	United Kingdom	Sign
VIX	2.881***	1.704***	1.482***	22
Michigan consumer sentiment	–0.038***	–0.045***	–0.037***	8
IFO Business Climate	–0.026***	–0.028***	–0.022***	22
OECD consumer confidence	–0.004***	–0.003***	–0.002***	19
Swiss Franc	0.044	0.167***	0.213***	19
Japanese Yen	0.169***	0.298***	0.386***	21
S&P GSCI benchmark commodity index, Industrial Metals	–0.813***	–0.934***	–0.876***	23
S&P GSCI commodity sub-index, Crude Oil	–1.038***	–0.851***	–0.902***	23
S&P GSCI commodity sub-index, Gold	0.119***	0.042	–0.002	4
Inflation	–1.270***	–0.908***	–0.801***	19
GDP growth	–2.038***	–2.781***	–1.364***	20
OECD leading indicator	–0.944***	–0.714***	–0.351***	17

Sources: Baele, Bekaert, Inghelbrecht and Wei (2012).

Note: The table reports regression coefficients from a regression of the variables in the first column on the average FTS indicator. For more details, we refer the reader to Tables 9, 12 and 13 in Baele, Bekaert, Inghelbrecht and Wei (2012). A (***) represents statistical significance at the 1 % level. The last column shows the number of countries for which the parameter estimates are significant at the 5 % level.

Having shown the presence of flight-to-safety in bond and stock markets, Baele et al. (2012) explored the nature and the drivers of the flight-to-safety episodes by establishing links between the FTS measures and a set of macroeconomic variables: risk aversion, uncertainty, stock and bond portfolio returns, commodity prices, exchange rates, economic real variables, such as inflation and GDP growth. Some of the results are summarised in Table 3 below which reports regression coefficients from a regression of these variables on the average FTS indicator.

The main findings indicate that FTS episodes coincided with increases in market uncertainty and investors' risk aversion as well as decreases in consumer sentiment indicators in the US, Germany and the OECD. FTS episodes were also associated with an appreciation of the yen and the Swiss franc, a decrease in most commodity prices (such as oil and copper) and a slight increase in the gold price. Both economic growth and inflation declined right after, and up to a year following, an FTS spell.

Two other market segments that have been increasingly interconnected since the beginning of the crisis are credit default swaps (CDS) for banks and sovereigns, signalling spillovers between sovereign and credit default risk. The second contribution in this session (De Bruyckere, Gerhardt-Schepens and Vander Vennet, 2012) examined the drivers of contagion between CDS spreads for banks and sovereigns and shed some light on the different sovereign/credit risk transmission channels. The empirical application used data from 15 countries and 50 banks for the period 2006 to 2011.

From a theoretical perspective, the BIS (2012) has identified four channels for the transmission of sovereign risk to the credit risk of financial institutions. First, there is an asset holdings channel: sovereign risk is transmitted to the asset side of banks' balance sheets through their sovereign debt exposure. Banks' balance sheets may be weakened through losses on holdings of sovereign debt (Angeloni and Wolff, 2012). Second, there is a the collateral channel. Sovereign risk can spread to banks when the value of collateral that banks hold in sovereign debt is reduced (shocks in one market can affect collateral values or cash flows of securities in other markets, see Kiyotaki and Moore, 2005, and Kaminsky, Reinhart and Vegh, 2003). Third, there is the rating channel, as downgrades of sovereigns may impact the ratings of domestic banks and their funding costs. Finally, there is the guarantee channel (Demirguc-Kunt and Huizinga, 2011): market valuation may reflect the fear that a systemically important bank that is distressed may become "too-big-to-save" if its home country runs a large public deficit.

To define contagion between the spreads on credit default swaps for banks and sovereigns, the paper used

TABLE 4 EXCESS CORRELATIONS – IMPACT OF COUNTRY CHARACTERISTICS

Variables	(1)	(2)
Home Dummy	2.884***	–
Debt-to-GDP	1.144***	0.911***
Government Revenues	–0.159	1.422***
Bank Sector Size	–0.0174	0.442
Economic Sentiment	1.564***	0.962
EBA Exposure	–	0.0934***
Constant	17.13***	16.82***
R^2	0.668	0.563

Sources: De Bruyckere, Gerhardt-Schepens and Vander Vennet (2012).
Note: The table reports regression coefficients from a regression of excess correlations on a home dummy, a set of country specific characteristics and bank-time fixed effects. In column (2) the home country dummy is replaced with a variable that contains EBA exposure data. All variables are standardised so that the coefficients represent the impact of a one standard deviation change in the variable. For more details and other results, we refer the reader to Table 10 in De Bruyckere, Gerhardt-Schepens and Vander Vennet (2012). A (***) represents statistical significance at the 1 % level.

the notion of "excess correlation", that is the correlation between banks and sovereigns "over and above" what is explained by common factors, such as market-wide credit risk, business climate changes in the European Union (captured by the total stock market index for the EU), an investor fear indicator or market sentiment (captured by the VSTOXX volatility index), and market expectations about future conditions in the financial market (measured by the term spread, the difference between the 10-year government bond yield for each country and the 1-year Euribor rate).

The first step was to investigate the presence of a home country effect by regressing the excess correlations on a dummy variable which indicated whether a country is the home country of the bank. The results showed that contagion between a bank and its home country was indeed stronger than between a bank and any other sovereign.

The second step was to explore the factors that could lie behind this result, be it a strong home bias in financial institutions' bond holding portfolio, higher bailout risk, or fiscal consolidation leading to lower economic activity in the short term (Avdjiev and Caruana, 2012). The paper investigated the possible causes of the home bias by regressing the bank-country excess correlations on a home dummy, a set of country-specific characteristics such as the exposure of banks' portfolios to sovereigns (as disclosed by the European Banking Authority), the debt-to-GDP ratio, government revenues, the bank sector size and economic sentiment. Table 4 shows the results of this regression. Bank-country contagion is more pronounced for countries with a higher debt-to-GDP ratio: for every standard deviation change in the debt ratio, the excess correlation increases by 1.14 percentage points. Higher debt ratios reduce the probability of a bailout in the banking sector and also lead to higher bank-level credit risk through the bond portfolios of financial institutions, which explains this positive and significant effect. The second column of the table provides evidence that EBA exposure of banks' bond portfolios proxies for the home-country effect.

In a next step, the paper analysed the impact of bank characteristics on contagion. Table 5 shows the results from a regression of country-bank excess correlations on a set of bank-specific characteristics and a home country/foreign country – time fixed effect in order to effectively compare the excess correlation of bank i at time t with country j to the correlation of another bank k – located in the same country as bank i – with country j at time t. Thus, the part of the variation that is left in the bank-country correlation can only be explained by differences in bank-specific characteristics.

The results indicate that banks with a weak capital and/or funding position are particularly vulnerable to risk spillovers. In particular, bank size, capital adequacy levels and funding structure have had a significant impact on bank-country contagion. For example, a one standard deviation increase in the Tier 1 capital ratio (i.e. a rise in Tier 1 capital of about 2.2 percentage points) leads to a decrease in country-bank excess correlations of about 1.11 percentage points. For the average bank in the sample, this means a reduction in excess correlation of almost 7 percent.

TABLE 5 EXCESS CORRELATIONS AND BANK CHARACTERISTICS

Variables	(1)
Size	1.441**
Tier 1 Ratio	–1.110*
Loan-to-Assets Ratio	–0.527
Funding Risk	1.802***
Income Diversification	0.109
Constant	17.38***
R^2	0.788

Sources: De Bruyckere, Gerhardt-Schepens and Vander Vennet (2012).
Note: The table reports regression coefficients from a regression of excess correlations on a set of bank-specific characteristics and a home country/foreign country – time fixed effect. All variables are standardised so that the coefficients represent the impact of a one standard deviation change in the variable. For more details and other results, we refer the reader to Table 8 in De Bruyckere, Gerhardt-Schepens and Vander Vennet (2012). (*), (***) represent statistical significance at the 10 and 1 % level.

Similarly, banks with a higher proportion of short-term debt in their total funding exhibit higher bank-country excess correlations. This confirms that banks with potentially volatile funding are more exposed to shocks in the quality of their assets, confirming the presence of the collateral channel. These findings stress the importance of adequate bank capital buffers for bank stability. Whereas previous studies showed a strong effect of bank capital on bank-specific risk indicators (see, e.g. Wheelock and Wilson (2000) and Altunbas, Manganelli, and Marques-Ibanez, 2011) the findings by De Bruyckere et al. (2012) suggest that adequate capital levels are also an important buffer against contagion. Similarly, where Demirguc-Kunt and Huizinga (2010) find that banks increase most of their short-term funding at cost of enhanced bank fragility, their findings point to the importance of stable funding as a feature in mitigating contagion.

The paper presented by Ongena (joint work with Jiménez, Peydró and Saurina) evaluates the impact of the Spanish dynamic provisioning system on the supply of credit to firms. Dynamic provisions are forward-looking provisions that oblige banks to build up buffers of own funds from retained earnings before individual credit losses are identified on specific loans. The introduction of this system in Spain in 2000:Q3, the modification in 2005:Q1 and the lowering of the floor of dynamic provision funds in 2008:Q4 provide three policy experiments that are very informative for analysing the impact of a countercyclical bank capital buffer system.

Countercyclical capital buffers are part of the new Basel III macroprudential regulatory framework. The objective of this instrument is twofold: first, boosting capital requirements in booms provides additional buffers in a downturn that help mitigate credit crunches, and second, higher requirements on own funds can limit credit-led booms because banks will internalise more of the potential social costs of credit defaults or charge higher loan rates due to the higher cost of bank capital. Countercyclical bank capital could therefore lessen the excessive procyclicality of credit.

The paper identifies the effect on the credit supply of banks by exploiting and combining information from various Spanish data sources: the credit register that comprises loan level data on outstanding business loan contracts, loan applications for non-current borrowers, and balance sheets of all banks collected by the supervisor. The impact on committed credit volumes (in terms of intensive and extensive margin), credit drawn, collateral and costs is considered, By combining this information with firms' balance sheets, they can also assess the impact on firm-level total assets, employment and survival. Depending on their credit portfolio, banks were affected differently by the three policy shocks, and together with firm-specific effects to control for demand effects, the paper can identify the impact of bank-specific balance-sheet shocks on credit availability.

The paper identifies significant effects of dynamic provisioning on credit supply. Banks that have to form relatively larger provisions make bigger cuts in committed credit to the same firm after the introduction of the system than before. These banks seem to tighten credit standards in general, as similar trends are observed for credit drawn, loan continuation, loan maturity and collateralisation. These effects on the behaviour of the individual banks are quantitatively important. However, when these additional provisions are introduced in times of good macroeconomic conditions, there are only short-run effects on the credit taken up by firms and there are no negative implications for firms' financing or performance. Under these macro conditions, firms do not seem to be hampered by the dynamic provisioning as they can switch between banks or towards other forms of credit. These results suggest that dynamic provisioning introduced at the right time can be a potent countercyclical bank capital tool with a minimal costs in terms of firms' performance. In contrast, relaxing the provisioning requirements in crisis times not only has a substantial impact on the supply of bank credit but also has severe effects on firms' access to credit, as switching from banks with low capital buffers to banks with large buffers may be difficult in such situations. Therefore, dynamic provisioning may yield strong positive real effects by mitigating the procyclicality of the credit cycle.

3. Endogenous risk and macroeconomic dynamics

Four theoretical contributions concerned macroeconomic models of endogenous risk and the specific role of financial intermediaries in generating this risk.

A common feature of all the models presented is that the bank capital ratio and the interbank exposure are important sources of endogenous risk. Being determinants of endogenous risk, these variables also become relevant from a macroeconomic perspective. Two general remarks can be made with respect to this type of models. First, there seems to be some convergence on the type of variables and mechanisms that need to be included in the future generation of dynamic macromodels. Second, the precise features that these models should embed, however, are not yet clear or robust, and owing to this lack of consensus, it is not possible at this stage to derive strong policy conclusions from these models.

Frank Smets presented a model featuring a non-trivial banking sector. Banks are heterogeneous with respect to their intermediation skills, and that gives rise to an interbank market. Moral hazard and asymmetric information on this market may generate sudden interbank market freezes, systemic banking crises, credit crunches and, ultimately, severe recessions. Simulations of a calibrated version of the model indicate that typical systemic banking crises break out in the midst of a credit boom generated by a sequence of positive supply shocks, rather than being the outcome of a big negative wealth shock. The model is able to link the procyclical credit cycle with a growing risk of systemic crisis because the balance sheet and credit growth increase the potential debt overhang risk when the economy starts to cool down. This work is supportive of the BIS view on the importance of credit cycles as a useful early warning signal and therefore also as an important variable for macro-prudential regulation. This BIS view was further elaborated by Claudio Borio during the panel discussion.

Robert Kollmann (and co-authors from the European Commission) studied the macroeconomic consequences of bank support programmes in the euro area using an estimated New Keynesian model with a banking sector. The model is used to analyse the effects of bank asset losses, government support for banks, and other fiscal stimulus measures. The findings suggest that support for banks had a stabilising effect on euro area output, consumption and investment. Increased government purchases helped to stabilise output, but crowded out consumption. Higher transfers to households had a positive impact on private consumption, but a negligible effect on output and investment. Banking shocks and increased government spending explain half of the rise in the public debt/GDP ratio since the onset of the crisis. During the discussion, one of the questions concerned the possibility of a key missing link that the paper might not have addressed: government support for the banks worsens the fiscal position, which leads to an increase in sovereign spreads that in turn affect lending rates, as in the case of Ireland and Spain. Hence, the two-way interaction between banking problems and sovereign debt problems might require additional attention in this framework.

The contribution by Hans Dewachter and Raf Wouters presents a practical macroeconomic modelling approach based on capital-constrained financial intermediaries, which allows to integrate financial risk premiums, credit supply effects and financial intermediaries' capital positions in a standard macro model. The model allows for identification of an important risk channel arising from the risk aversion of constrained intermediaries; when the capital constraints are most stringent, financial intermediaries acting as marginal investors in the capital market apply substantially higher risk premiums in evaluating asset prices. These depressed asset prices reduce the investment incentives and aggravate further the macroeconomic context. The risk channel contributes significantly to the overall financial and macroeconomic volatility. According to the discussant, the model is able to feature appropriate cyclicality of leverage and asset prices where risk is endogenous and plays a role in allocations. The proposed framework allows to analyse traditional monetary policy concerns about inflation and the output gap together with financial stability concerns, such as volatility, risk and financial sector ratio's.

Yuliy Sannikov presented joint work with Markus Brunnermeier, based on a sophisticated model on how systemic risk appears naturally in an economy where the financial sector is a necessary intermediary to channel funds from lower to higher productive allocations. Asset price correlations are high in downturns. In an environment of low exogenous risk, experts assume higher leverage, making the system more prone to systemic volatility spikes. Securitisation and derivatives contracts lead to better sharing of exogenous risk but higher endogenous systemic risk. Financial experts may impose a negative externality on each other and the economy by not maintaining adequate capital cushions. Financial moderation (long periods of low volatility), financial regulation (controlling one sector or one type of intermediation) and financial innovations can therefore have unexpected consequences that in the long run can give rise to a stimulating rather than a dampening effect on systemic risk. The main conclusion based on this work therefore is that policy interventions can make crisis episodes less likely, although many seemingly reasonable policies can harm welfare. Policies for crisis episodes alone, such as those aimed at recapitalising the financial system, can increase risk-taking incentives. More surprisingly, simple restrictions on leverage may do more harm than good, as they only take effect in downturns and may have little impact on behaviour in booms. Policies that encourage financial institutions to retain earnings longer in booms appear to be most effective. It is of crucial importance that a careful and exhaustive analysis of all possible consequences of specific policy measures is carried out before they are put into practice.

4. Panel discussion

The panel discussion on "central banking after the crisis" was concentrated on the policy implications of systemic risk and in particular on the policy responses to the current crisis. André Sapir (ULB) focused his intervention

on the implications of the current crisis for central bank independence. Since the high inflation experience in the seventies and eighties, the general belief is that central bank independence is an important element for a credible and efficient inflation-oriented monetary policy. However, the financial crisis has illustrated that under specific circumstances, cooperation between the central bank and the fiscal authority might be useful and necessary. This applies in particular when the central bank, in order to safeguard financial stability, is obliged to take actions that have, at least potentially, important fiscal implications. In extreme crisis situations, central banks might be forced to act as lender of last resort to their own sovereign. In the euro area, the situation was more complicated as the central bank was not facing one fiscal authority but was confronted with 17 authorities which complicated any coordination. The central bank was experiencing what Sapir called a problem of "loneliness". He was optimistic about solving this problem after the adoption of the Outright Monetary Transactions (OMT) programme by the ECB, including a conditional LOLR action vis-a-vis solvent states, together with the approval of the ESM fund as political body with which the central bank can cooperate. On the other hand, he did not see much progress for the problem of the debt overhang in the euro area and the related cost-sharing mechanism.

Frank Smets (ECB) reviewed the monetary policy actions undertaken by the ECB over the last five years to fight the financial crisis and the resulting euro area crisis. He illustrated the effectiveness of the various standard and non-conventional measures undertaken by the ECB by their implications for the CISS-index of financial stress in the euro area (see D. Hollo et al., 2012). Apparently, the non-conventional actions, like the LTRO programme, the SMP programme and the more recent OMT programme, that were decided at periods with peak levels in the CISS-indicator, have been effective in reducing the financial stress in the euro area. However, monetary policy cannot solve the fundamental underlying problems alone, and should be clearly conditional in order to avoid moral hazard reactions from the other policy makers that try to postpone or avoid difficult but necessary decisions. From a longer term perspective, he also underlined that the financial crisis and the resulting long lasting and costly recession have clearly illustrated the need for preventive action by monetary and macroprudential policy. Financial markets have not been able to deliver sufficient regulation on their own, and policy intervention has been necessary. Macroprudential policies should be activated during good times in order to avoid the building up of imbalances. These policies need to be much more symmetrical and act in a countercyclical way in both good and bad times.

Claudio Borio (BIS) stressed the importance of the financial cycle for the evaluation of the broader economic stance and for adjusting policy accordingly. He argued that, in the environment that has prevailed for at least three decades, it is not possible to understand business fluctuations and the corresponding analytical and policy challenges without understanding the financial cycle. Financial cycles moreover operate on a different time scale than business cycles with cycles beyond 8 years. This calls for a rethinking of modelling strategies and for significant adjustments to macroeconomic policies. He highlighted the stylised empirical features of the financial cycle, conjectured on what it may take to model it satisfactorily, and considered its policy implications. In the discussion of the policy implications, he stressed the importance of preventive actions during boom periods but recognised the limitations of these policy measures as well. During bust periods, crisis management and crisis resolution were also crucial to restore confidence and to repair balance sheets. Important steps in this process were a recognition of the full loss before recapitalisation could be effective, shoring up private balance sheets by debt relief programmes and recognising the limits of monetary policy to avoid unintended effects or distorting incentives. Policy makers should think and act on the basis of the medium term.

Finally, A. Farkas (EBA) concentrated his intervention on the role of prudential instruments from a micro and a macro perspective. From a microprudential perspective, capital requirements as a typical policy tool were used as passive instruments. On the other hand, from a macro perspective, a more dynamic and active perspective is needed to exploit the instruments as a preventive tool. Avoiding inconsistency between the use of these instruments for the various goals is therefore important. The active countercyclical management of these instruments should limit discretion, as market and political pressure during both good times and bad times may complicate the implementation of necessary countercyclical adjustments. Farkas stressed that the macroeconomic perspective in the current redesign of the European prudential policy framework should not be forgotten.

Mathias Dewatripont summarised the various contributions presented at the conference and the panel discussion by observing that there is now a relatively broad consensus on the diagnosis and the policy actions necessary to resolve the current crisis and to manage the problem of systemic risk in general. However, the implementation of the necessary policy action was not always as efficient and effective as one could expect. He noted that this "political economy" dimension of the problem had not been discussed in the conference and remains an important challenge for future research.

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Summaries of articles

Economic projections for Belgium – Autumn 2012

Since the publication of the Bank's previous macroeconomic projections in June 2012, the global economic environment has become much less buoyant. In the euro area, economic activity is now also slowing down rapidly in countries that were previously less affected by the crisis. Against this backdrop, the Eurosystem projections for the euro area were revised substantially downwards. Annual growth in 2012 is now expected to be around –0.5 % in 2012, and the midpoint of the projection range for 2013 remains in negative territory. The projections are based on a set of commonly-agreed assumptions. World demand, in particular, is expected to recover in the course of 2013, and expanding exports should pave the way for a return to higher growth in the second half of 2013, even though domestic demand will continue to be depressed by the ongoing necessary fiscal consolidation and macroeconomic adjustment processes in many euro area countries.

In Belgium, the gradual recovery that was expected by most institutions in the spring on the back of rather supportive data at the beginning of the year did not materialise, partly because of the euro crisis flare-up in late spring. Economic activity contracted sharply in the second quarter and remained flat in the third. The outlook for the immediate future is rather gloomy. This is due to both the slowing down of export markets, particularly in the euro area, and low business and consumer sentiment, that have declined further from the levels reached in the summer. Growing concerns about employment prospects (fuelled by a string of announcements of job losses due to firm closures) and, more generally, uncertainty regarding future income levels, are likely to curb domestic demand from households, which has been on a clear downward trend since early 2011. Low capacity utilisation levels and thin order books may depress private investment. All in all, the current projections point to slightly negative annual growth in 2012 (–0.2 %). While a recovery is now expected for the spring of 2013, annual growth is currently projected to be around zero in that year.

The downward revision of activity growth for both 2012 and 2013 will also affect the labour market projections. Employment growth remains slightly positive in 2012, but a loss of around 15 000 jobs is expected in 2013. Reductions in average working time are expected to absorb the cyclical downturn to a lesser extent than in the 2008-2009 recession. The unemployment rate is projected to rise to 7.4 % in 2012 and 8.1 % in 2013.

Since peaking in mid-2011, inflation has fallen steadily in Belgium and should continue to ease, averaging 2.6 % in 2012 and 1.6 % in 2013. The primary factor here is the assumed fall in oil prices. Underlying inflation is set to remain high in 2012 owing to the effect of the increase in certain indirect taxes and the rise in labour costs.

These projections do not yet take into account the measures announced by the federal government on 20 November 2012 in the context of the agreement on the 2013 budget and on policies

to increase competitiveness by slowing down nominal wage growth, since the details were not known before the projection cut-off date. For this reason, no public finance projections for 2013 are presented in this article, as they will be significantly affected by the consolidation measures, in particular. In 2012 the general government deficit is estimated to fall to 2.8 % of GDP.[1] The public debt is set to rise further in 2012, to 100.6 % of GDP, partly owing to exogenous factors relating to the financial support for other euro area countries.

JEL codes: E17, E25, E37, E66

Key words: Belgium, macroeconomic projections, Eurosystem

Labour market integration of the population of foreign origin

The difficulties concerning integration into the labour market of people of foreign origin are of crucial importance in Belgium, especially as immigrants represent 14 % of the resident population, one of the largest proportions in the EU. While the employment rate of European immigrants is close to that for persons born in Belgium, the figure for immigrants from outside the EU is lower than in any other EU country: under half were working in 2011.

The analysis reveals that the fact of being born in another country, especially outside the EU, has a negative influence on the likelihood of having a job, even taking account of other socio-demographic variables such as age, gender and maximum level of educational attainment. Fluency in the language of the country of residence, the place where a person's qualifications were obtained, and the social network can probably explain some of the impediments to integration into employment. The fact that the direct descendants of immigrants still have a relatively low employment rate raises a number of other questions concerning, among others, the inequalities in the Belgian education system and discrimination in recruitment.

The labour force surveys also show that when people of foreign origin do find a job, its characteristics are different from those of jobs held by native Belgians. Immigrants and their direct descendants are under-represented in public administration and teaching, and are proportionately more numerous in certain branches considered to be less secure. Immigrants might be more often obliged to accept temporary contracts and involuntary part-time work.

JEL codes: F22, F66, J21, J61, J71

Key words: children of immigrants, discrimination, first generation, foreign-born population, immigrants, labour market integration, migration, nationality, native-born, over-qualification, population of foreign origin, recognition of diplomas, second generation

Belgium's progress towards SEPA - the Single Euro Payments Area

The self-regulatory nature of the SEPA has not in itself been sufficient to achieve a swift transition to the European credit transfers and direct debits. It is for this reason that the European authorities have taken the initiative to pass legislation governing the migration to the Single Euro Payments Area. The Regulation establishing technical and business requirements for credit transfers and direct debits in euro, which entered into force on 31 March 2012, sets a common end-date, 1 February 2014, after which credit transfers and direct debits must be executed in SEPA format.

(1) This estimate is based on the assumption that the capital increase of Dexia planned by the government is to be considered as a purely financial transaction. The preliminary advice given by Eurostat – after the cut-off date of the projections – indicates, however, that this transaction is to be recorded as a capital transfer.

As for progress with the migration to SEPA in Belgium, the share of European credit transfers had reached 60 % of the total number of credit transfers made in October 2012, a much higher proportion than in most other European countries. The public authorities and the majority of big-billing companies have completed their migration; it is now up to small and medium-sized enterprises to make the changeover.

The migration to the European direct debit has been more laborious. However, at the end of 2011, one of Belgium's biggest billers started it, thus boosting the proportion of European direct debits in the total of Belgian banker's direct debits to between 12 and 15 %. Only a very small number of creditors control the vast majority of direct debits. The business group which must be the focus of efforts to achieve an almost total migration is confined to a small and more easily manageable group of creditors, and this has made it possible to pursue a precisely targeted communication strategy.

Slowly but surely, the Belgian payment systems landscape is adapting to the reality of the SEPA. On the one hand, the process of unbundling is under way in the processing of card transactions. In this context, the Bancontact/Mister Cash (BCMC) domestic debit card system has been rolled over and will be adapted to the SEPA standards. And, on the other hand, the clearing system for retail payments has been outsourced to a major foreign supplier of payment services. Belgium is thus one of the first countries to have achieved the planned consolidation of clearing arrangements.

JEL codes : G10, G20, G21, G28

Key words : SEPA (Single Euro Payments Area), payment instruments, financial integration, SEPA end-date Regulation, SEPA area, SEPA credit transfer, SEPA direct debit, Centre for Exchange and Clearing, SEPA Council, IBAN, ISO 20022, SEPA milestones

Results and financial situation of firms in 2011

The article looks at the financial situation of non-financial corporations in Belgium over the period from 1 January to 31 December 2011. After briefly describing the methodology and the population studied, it presents an extrapolation of the main operating result items for 2011. It then goes on to assess the financial situation of companies as regards profitability and solvency. The article also breaks down the sectoral contributions to value added growth in each of the country's three Regions. The last section presents an analysis of companies' inventories.

JEL codes : G30, G31, G33, L60, L80, R11

Key words : firms' results, financial structure, sectoral analysis, regional analysis, inventories

The 2011 social balance sheet

In a context of slowing economic growth in 2011, growth in employment in the companies that filled a social balance sheet in 2010 and 2011 fell from an annual average of 1.5 % to 1 % by the end of the year. The health and social work branch made the biggest contribution to this trend, followed by business services and industry. The number of full-time workers rose by 0.9 % and the number of part-time workers by 1.3 %, with a portion of the former opting for reduced working time arrangements during the course of the year. Flanders had the strongest increase in employment, at 1.3 % ; the number of workers rose by 1 % in Wallonia, but was stable in Brussels. Growth in the workforce was above average at companies operating in only one region, and was negative in firms present in multiple regions. At companies which submit full-format accounts, the number of agency workers increased much more significantly than the number of workers recorded in the staff register, reaching 3.6 % of total employment.

The finance and insurance branch, which represents close to 6 % of the workforce covered by social balance sheets, was the subject of a more detailed analysis based on the full 2010 results. Most staff in this branch are employees, and 98 % of workers have a permanent contract. The proportion of high-skilled workers is much bigger than in other activities. The rate of part-time work is below average, even though it has increased substantially, along with the rising proportion of female staff. The extent of staff turnover is more limited than in other branches of activity and, among firms submitting full-format accounts, the replacement rate for permanent workers is lower. The hourly costs related to full-time personnel, on the other hand, are the highest, whereas the amount of time worked annually by these workers is below average.

JEL codes : J20, J24, J30, M51, M53, M55

Key words : employment, finance and insurance, banks, social balance sheet, staff costs, training, employment contract, full-time, part-time, temporary worker

Endogenous financial risk: The seventh international conference of the NBB

The article summarises the main contributions that were presented at the seventh biennial conference organised by the National Bank of Belgium on 11 and 12 October 2012 on the theme "Endogenous Financial Risk" (most of them are available in the NBB Working Paper series, N°s 227 to 236). Several papers presented at the conference focus on the measurement and the dynamics of systemic risk. Two papers consider models for share prices of individual financial institutions and evaluate to what extent correlation and volatility among individual stock prices can serve as useful instruments in measuring and assessing systemic risk. Two other papers document the flight-to-safety phenomenon in international bond returns, and the bank-sovereign spillover effects in credit default swap premia. The interaction between risk and uncertainty and monetary policy was also discussed. Several contributions discuss the role of financial intermediaries and endogenous risk. One contribution evaluates the impact of the Spanish dynamic provisioning system on the supply of credit by banks. Four contributions analyse this role from a macro perspective by introducing an active role for bank capital and/or bank credit in a macro model. The panel discussion on "central banking after the crisis" concentrated on the policy implications of systemic risk and in particular on the policy responses to the current crisis.

JEL codes : E44, E5, G01, G18

Key words : systemic risk, financial crisis, macroprudential policy

Abstracts from the Working Papers series

227. Regime switches in the volatility and correlation of financial institutions, by K. Boudt, J. Daníelsson, S.J. Koopman, A. Lucas, October 2012

The authors propose a parsimonious regime-switching model to characterise the dynamics in the volatilities and correlations of US deposit banks' stock returns over 1994-2011. A first innovative feature of the model is that the within-regime dynamics in the volatilities and correlation depend on the shape of the Student t innovations. Secondly, the across-regime dynamics in the transition probabilities of both volatilities and correlations are driven by macro-financial indicators such as the St. Louis Financial Stability index, VIX or TED spread. The authors find strong evidence of time variation in the regime switching probabilities and the within regime volatility of most banks. The within-regime dynamics of the equicorrelation seem to be constant over the period.

228. Measuring and testing for the systemically important financial institutions, by C. Castro, S. Ferrari, October 2012

The paper analyses $\Delta CoVaR$ proposed by Adrian and Brunnermeier (2008) as a tool for identifying/ranking systemically important institutions and assessing interconnectedness. The authors develop a test of significance of $\Delta CoVaR$ to determine whether or not a financial institution can be classified as being systemically important on the basis of the estimated systemic risk contribution, as well as a test of dominance aimed at testing whether or not, according to $\Delta CoVaR$, one financial institution is more systemically important than another. They provide two applications on a sample of 26 large European banks to show the importance of statistical testing when using $\Delta CoVaR$, and more generally also other market-based systemic risk measures, in this context.

229. Risk, uncertainty and monetary policy, by G. Bekaert, M. Hoerova, M. Lo Duca, October 2012

The VIX, the stock market option-based implied volatility, strongly co-moves with measures of the monetary policy stance. When decomposing the VIX into two components, a proxy for risk aversion and expected stock market volatility ("uncertainty"), the authors find that a lax monetary policy decreases both risk aversion and uncertainty, with the former effect being stronger. The result holds in a structural vector autoregressive framework, controlling for business cycle movements and using a variety of identification schemes for the vector autoregression in general and monetary policy shocks in particular.

230. Flights to safety, by L. Baele, G. Bekaert, K. Inghelbrecht, M. Wei, October 2012

Despite broad and fast-expanding theoretical literature on flights to safety, there does not appear to exist an empirical characterisation of flight-to-safety (FTS) episodes. Using only data on bond and stock returns, the authors identify and characterise flight to safety episodes for 23 countries. On average, FTS episodes comprise less than 5 % of the sample, and bond returns exceed equity returns 2 to 3 %. The majority of FTS events are country-specific, not global. FTS episodes coincide with increases in the VIX, declines in consumer sentiment indicators in the US, Germany and the OECD and appreciations of the yen and the Swiss franc. The financial, basic materials and industrial industries under-perform in FTS episodes, but the telecom industry outperforms. Both money market instruments and corporate bonds face abnormal negative returns in FTS episodes. Most commodity prices fall sharply during FTS episodes, whereas the gold price measured in dollars increases slightly. Both economic growth and inflation decline right after and up to a year following an FTS spell.

231. Macroprudential policy, counter-cyclical bank capital buffers and credit supply : Evidence from the Spanish dynamic provisioning experiments, by G. Jiménez, S. Ongena, J.-L. Peydró, J. Saurina, October 2012

The authors analyse the impact of the counter-cyclical capital buffers held by banks on the supply of credit to firms and their subsequent performance. Counter-cyclical "dynamic" provisioning unrelated to specific loan losses was introduced in Spain in 2000, and modified in 2005 and 2008. The resultant bank-specific shocks to capital buffers, combined with the financial crisis that shocked banks according to their available pre-crisis buffers, underpin the identification strategy. The estimates from comprehensive bank-, firm-, loan-, and loan-application-level data suggest that counter-cyclical capital buffers help smooth credit supply cycles and in bad times shore up firm credit availability and performance.

232. Bank /sovereign risk spillovers in the European debt crisis, by V. De Bruyckere, M. Gerhardt, G. Schepens, R. Vander Vennet, October 2012

The paper investigates contagion between bank risk and sovereign risk in Europe over the period 2006-2011. Since this period covers various stages of the banking and sovereign crisis, it offers a fertile ground to analyse bank/sovereign risk spillovers. The authors define contagion as excess correlation, i.e. correlation between banks and sovereigns over and above what is explained by common factors, using CDS spreads at the bank and at the sovereign level. Moreover, they investigate the determinants of contagion by analysing bank-specific as well as country-specific variables and their interaction. They provide empirical evidence that various contagion channels are at work, including a strong home bias in bank bond portfolios, using the EBA's disclosure of sovereign exposures of banks. They find that banks with a weak capital and/or funding position are particularly vulnerable to risk spillovers. At the country level, the debt ratio is the most important driver of contagion.

233. A macroeconomic framework for quantifying systemic risk, by Z. He, A. Krishnamurthy, October 2012

Systemic risk arises when shocks lead to states where a disruption in financial intermediation adversely affects the economy and feeds back into further disrupting financial intermediation. The authors present a macroeconomic model with a financial intermediary sector subject to an equity capital constraint. The novel aspect of their analysis is that the model produces a stochastic steady-state distribution for the economy, in which only some of the states correspond to systemic risk states. The model makes it possible to examine the transition from "normal" states to systemic

risk states. The authors calibrate their model and use it to match the systemic risk apparent during the 2007/2008 financial crisis. They also use the model to compute the conditional probabilities of arriving at a systemic risk state, such as the 2007/2008 case. Finally, they show how the model can be used to conduct a Fed "stress test" linking a stress scenario to the probability of systemic risk states.

234. Fiscal policy, banks and the financial crisis, by R. Kollmann, M. Ratto, W. Roeger, J. in't Veld, October 2012

The paper studies the effectiveness of euro area fiscal policy during the recent financial crisis, using an estimated New Keynesian model with a bank. A key dimension of policy in the crisis was massive government support for banks -that dimension has so far received little attention in macroeconomic literature. The authors use the estimated model to analyse the effects of bank asset losses, of government support for banks, and other fiscal stimulus measures. Their results suggest that support for banks had a stabilising effect on output, consumption and investment. Increased government purchases helped to stabilise output, but crowded out consumption. Higher transfers to households had a positive impact on private consumption, but a negligible effect on output and investment. Banking shocks and increased government spending explain half of the rise in the public debt/GDP ratio since the onset of the crisis.

235. Endogenous risk in a DSGE model with capital-constrained financial intermediaries, by H. Dewachter, R. Wouters, October 2012

The paper proposes a perturbation-based approach to implement the idea of endogenous financial risk in a standard DSGE macro model. Recent papers, such as Mendoza (2010), Brunnermeier and Sannikov (2012) and He and Krishnamurthy (2012), that have stimulated the research field on endogenous risk in a macroeconomic context, are based on sophisticated solution methods that are not easily applicable in larger models. The authors propose an approximation method that enables some of the basic insights of this literature to be captured in a standard macro model. They are able to identify an important risk channel that derives from the risk aversion of constrained intermediaries and that contributes significantly to the overall financial and macro volatility. With this procedure, they obtain a consistent and computationally-efficient modelling device that can be used for integrating financial stability concerns within the traditional monetary policy analysis.

236. A macroeconomic model with a financial sector, by M.K. Brunnermeier, Y. Sannikov, October 2012

The paper studies the full equilibrium dynamics of an economy with financial frictions. Due to highly non-linear amplification effects, the economy is prone to instability and occasionally enters volatile episodes. Risk is endogenous and asset price correlations are high in downturns. In an environment of low exogenous risk, experts assume higher leverage making the system more prone to systemic volatility spikes – a volatility paradox. Securitization and derivatives contracts lead to better sharing of exogenous risk but to higher endogenous systemic risk. Financial experts may impose a negative externality on each other and the economy by not maintaining adequate capital cushion.

237. Services versus goods trade : Are they the same ?, by A. Ariu, December 2012

The author presents for the first time a qualitative and quantitative comparison between trade in services and trade in goods at firm level for the same country. He focuses first on static features of trade such as participation rates, firms' characteristics, heterogeneity, concentration and trade variation. Secondly, he explores dynamic aspects focusing on entry, exit, firm survival and growth

strategy. On the one hand, his results reveal qualitative similarities between services and goods trade at firm level, suggesting that heterogeneous models of trade can be a good starting point for the analysis of trade in services. On the other hand, he highlights dramatic differences in quantitative terms and in some key characteristics that pose new challenges to current trade models.

238. Importers, exporters, and exchange rate disconnect, by M. Amiti, O. Itskhoki, J. Konings, December 2012

Large exporters are simultaneously large importers. The authors show that this pattern is key to understanding low aggregate exchange rate pass-through as well as the variation in pass-through across exporters. First, they develop a theoretical framework that combines variable markups due to strategic complementarities and endogenous choice to import intermediate inputs. The model predicts that firms with high import shares and high market shares have low exchange rate pass-through. Second, they test and quantify the theoretical mechanisms using Belgian firm-product-level data with information on exports by destination and imports by source country. They confirm that import intensity and market share are the prime determinants of pass-through in the cross-section of firms. A small exporter with no imported inputs has a nearly complete pass-through of over 90 %, while a firm at the 95th percentile of both import intensity and market share distributions has a pass-through of 56 %, with the marginal cost and markup channels playing roughly equal roles. The largest exporters are simultaneously high-market-share and high-import-intensity firms, which helps explain the low aggregate pass-through and exchange rate disconnect observed in the data.

239. Concording EU trade and production data over time, by I. Van Beveren, A. B. Bernard, H. Vandenbussche, December 2012

The paper provides concordance procedures for product-level trade and production data in the EU and examines the implications of changing product classifications on measured product adding and dropping at Belgian firms. Using the algorithms developed by Pierce and Schott (2012a, 2012b), it develops concordance procedures that allow researchers to trace changes in coding systems over time and to translate product-level production and trade data into a common classification that is consistent both within a single year and over time. Separate procedures are created for the eight-digit Combined Nomenclature system used to classify international trade activities at the product level within the European Union as well as for the eight-digit Prodcom categories used to classify products in European domestic production data. The paper further highlights important differences in coverage between the Prodcom and Combined Nomenclature classifications which need to be taken into account when generating combined domestic production and international trade data at the product level. The use of consistent product codes over time results in less product adding and dropping at continuing firms in the Belgian export and production data.

Conventional signs

–	the datum does not exist or is meaningless
e.g.	for example
i.e.	*id est*
p.m.	*pro memoria*
n.	not available
n.r.	not representative

List of abbreviations

Countries or regions

EU-15	European Union excluding the countries which joined after 2003
US	United States

Others

Actiris	Brussels regional employment office
BACH	Bank for the Accounts of Companies Harmonised
B2B	Business-to-Business
BBAN	Basic Bank Account Number
BCMC	Bancontact/MisterCash
BIC	Bank Identifier Code
BIS	Bank for International Settlements
CDS	Credit default swaps
CEC	Central Economic Council
CISS	Composite indicator of systemic stress
CSE	Conseil supérieur de l'emploi (High Council for Employment)
CSM	Clearing and Settlement Mechanism
DGSEI	Directorate General for Statistics and Economic Information
EBA	European Banking Association
EC	European Commission
ECB	European Central Bank
ECCBSO	European Committee of Central Balance-Sheet Data Offices
EDP	Excessive Deficit Procedure
EEA	European Economic Area
EMV	Europay MasterCard Visa
EPC	European Payments Council
ERP	Enterprise Resource Planning
ESD	European Sectoral references Database
ESM	European Stability Mechanism
EU	European Union

FAQ	Frequently asked questions
FEBELFIN	Belgian federation of the financial sector
FPS	Federal Public Service
FPS ELSD	Federal Public Service Employment, Labour and Social Dialogue
FTE	Full-time equivalent
FTS	Flight-to-safety
GARCH	Generalized autoregressive conditional heteroskedasticity
GDP	Gross domestic product
GSCI	Goldman Sachs Commodity Index
HICP	Harmonised index of consumer prices
IBAN	International Bank Account Number
IFO	Institut für Wirtschaftsforschung
ILO	International Labour Office
IMF	International Monetary Fund
ISABEL	Interbank Standard Association Belgium
ISCED	International Standard Classification of Education
ISCO	International Standard Classification of Occupations
ISO	International Organization for Standardization
KUL	KU Leuven
LFS	Labour Force Survey
LOLR	Lender of last resort
LTCM	Long-Term Capital Management
LTRO	Longer-Term Refinancing Operation
MIF	Multilateral Interchange Fee
MIR	Monetary financial institution interest rates
NACE-BEL	Nomenclature of economic activities in the European Community, Belgian version
NAI	National Accounts Institute
NBB	National Bank of Belgium
NCB	National Central Bank
NEET	Not in education, employment or training
NEO	National Employment Office
NPI	Non-profit institution
NSSO	National Social Security Office
OECD	Organisation for Economic Cooperation and Development
OLO	Linear bonds
OMT	Outright Monetary Transactions
PISA	Programme for International Student Assessment
PMI	Purchasing Managers' Index
SCT	SEPA Credit Transfer
SDD	SEPA Direct Debit
SEPA	Single Euro Payments Area
SERV	Flanders Socio-Economic Council
SME	Small and medium-sized enterprise

SNCB	Société nationale des chemins de fer belges
S&P	Standard and Poor's
STET	Systèmes technologiques d'échange et de traitement
TED	Treasury Eurodollar
ULB	Université Libre de Bruxelles
VaR	Value-at-risk
VAT	Value added tax
VDAB	Vlaamse dienst voor arbeidsbemiddeling en beroepsopleiding (Flemish Job-finding and Vocational Training Service)
VIX	Volatility index
XML	Extensible Markup Language

National Bank of Belgium
Limited liability company
RLP Brussels – Company number: 0203.201.340
Registered office: boulevard de Berlaimont 14 – BE-1000 Brussels
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Publisher

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Cover and layout: NBB AG – Prepress & Image

Published in January 2013