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Contents

ECONOMIC PROJECTIONS FOR BELGIUM – AUTUMN 2011 7

PUBLIC SECTOR WAGES 21

THE DISTRIBUTIVE TRADE SECTOR AND ITS IMPACT ON EURO AREA PRICES 35

INTERNATIONAL TRADE IN SERVICES 53

RESULTS AND FINANCIAL SITUATION OF FIRMS IN 2010 69

THE 2010 SOCIAL BALANCE SHEET 105

SUMMARIES OF ARTICLES 141

ABSTRACTS FROM THE WORKING PAPERS SERIES 145

CONVENTIONAL SIGNS 147

LIST OF ABBREVIATIONS 149

Economic projections for Belgium – Autumn 2011

Introduction

The vitality which underpinned the revival in global economic activity for two years rapidly faded during 2011, in a context of escalating uncertainty and worsening financial tensions. Up to the spring, it seemed that the consolidation of the recovery which had begun in mid-2009 might continue, particularly given the impetus of accommodating fiscal policies in the advanced economies and the vigour of the emerging economies. However, this respite was apparently not enough to ensure sufficient progress in the thorough rectification of the imbalances revealed or caused by the first wave of the financial crisis and by the 2008-2009 economic recession.

This time, the financial tensions centred mainly on the government bond markets of certain euro area countries. Since the prospects for a reduction in the high level of public debt were not considered adequate to restore a sustainable long-term path – either because of deficiencies in the fiscal consolidation measures, or because of doubts about the economy's growth potential – the yield differentials in relation to safe-haven assets increased dramatically. The obstacles hampering the implementation of the necessary structural measures in the various countries and, at European level, the debate over the economic safeguard mechanisms for economies encountering financing problems are greatly exacerbating the uncertainty for all economic agents. This environment is causing serious problems for financial institutions which hold large portfolios of government securities.

These difficulties are not confined to the euro area, since there is a similar debate on the fiscal policy to be conducted in the United States, and that is also fostering the climate of uncertainty. Moreover, the euro area's weakness could have an adverse effect on its trading partners.

Given this uncertainty and the weakening of external demand, the projections for the euro area produced as part of the twice-yearly exercise conducted by the Eurosystem – the results of which are published in the December 2011 issue of the ECB Monthly Bulletin – show a sharp downgrading of average GDP growth in 2012. In particular, a period of stagnating activity, or even a mild recession, is expected at the end of 2011 and in early 2012, while the subsequent recovery will be moderate. All the main categories of demand will contribute to the weakness of activity, including public expenditure on consumption and investment in the countries implementing fiscal consolidation.

In Belgium, activity and especially employment remained buoyant in early 2011. After that, however, the economy could not escape the adverse situation at European level and the weakening of domestic demand, Thus, according to the initial NAI estimate, GDP stagnated in the third quarter of 2011, and that sluggishness is likely to persist at the end of 2011 and the beginning of 2012. In addition to the general uncertainty over the economic outlook in Europe, there is also the uncertainty caused in Belgium by the protracted absence, up to recently, of a plan for structural budget retrenchment and reforms aimed at consolidating the economy's growth potential.

The economic projections discussed in this article were finalised as at 25 November 2011. They were drawn up on the basis of the Eurosystem's technical assumptions decided on 17 November, the main ones being described in the box in section 1. As is usual in the case of these exercises, the projections for public finances presented in section 4 only take account of measures which have

been formally approved by the authorities and specified in sufficient detail at the cut-off date for the exercise. It was therefore not possible to take account of the 2012 budget measures announced after that date during the negotiations for the formation of the government. In order to avoid presenting outdated figures, the estimates for general government therefore do not go beyond 2011 in this article. The last section describes the risk factors surrounding the economic outlook. They are particularly serious in the current context; they concern, in particular, the definition and implementation of the essential measures to be taken in the euro area to contain and alleviate the sovereign debt crisis and the contagion affecting the financial institutions and, in Belgium's case, the ability to restore the public debt to a path which is sustainable in the long term and to strengthen the growth potential and competitiveness of the economy.

1. International environment and assumptions

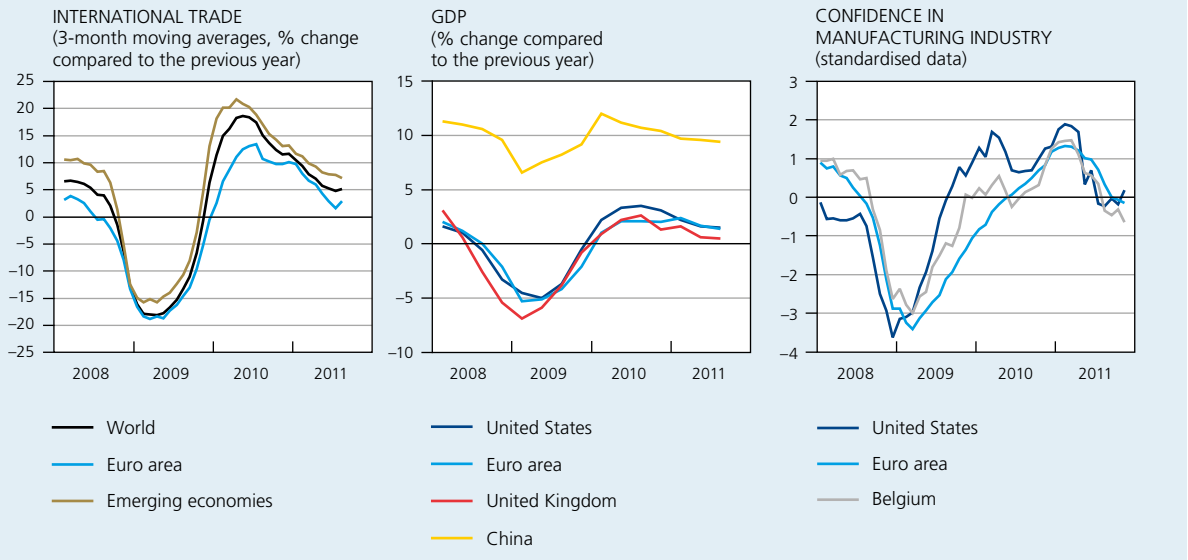
The global economy experienced a marked slowdown in activity and international trade during 2011. Although some deceleration was expected after two years of relatively sustained recovery in most economies, the loss of momentum exceeded predictions, hitting the advanced economies particularly hard.

At the beginning of the year, the slowdown was due partly to temporary factors such as the disruption of output in the regions affected by the earthquake and the tsunami in Japan on 11 March. These disasters did not only have an impact on the country's energy supply, they also disrupted certain motor vehicle or electronic equipment production chains worldwide. More fundamentally, the recovery in the United States was hampered by persistent problems on the property market and the labour market, in a context in which the fiscal policy stimuli initially applied to support the recovery ceased to have any effect. On the contrary, as in other advanced economies, the effects of fiscal consolidation began to depress demand.

In contrast, despite the repercussions of weakening external demand, the emerging economies maintained their dynamism, increasingly buttressed by the rising average incomes of their population and hence the strengthening domestic demand. This trend is expected to continue in 2012, even though the rate of GDP growth may be slightly lower than in previous years, one factor being the continued efforts by the authorities to contain the risks of overheating which are becoming apparent in these economies.

The strength of demand from the emerging economies also explains why commodity prices on the international markets reverted to high levels at the beginning of 2011. In particular, while the price of a barrel of Brent was down

CHART 1 GLOBAL ECONOMIC DEVELOPMENTS



Sources: BEA, CEIC, CPB, EC, Thomson Reuters Datastream, NBB.

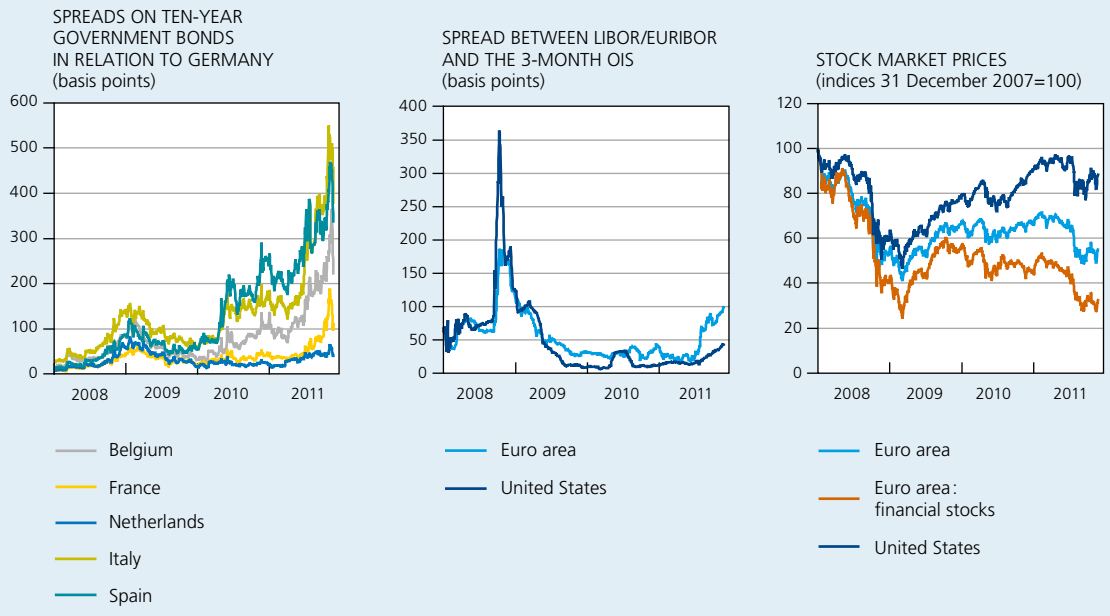
to $ 79.6 on average in 2010, by April 2011 it was back up to $ 123, or close to the pre-recession peak recorded in 2008. Since then, oil prices have only eased slightly, remaining steady at around $ 110 per barrel between August and October 2011, and – according to the forward contracts – they will only drop slightly below that level in 2012.

During the summer the economic situation deteriorated sharply, as is evident from the slump in the industrial confidence indicators both in the United States and in the euro area and the other advanced economies. That deterioration was accompanied by a considerable heightening of tensions on the financial markets, in a context of increased risk aversion. This time, these tensions were centred mainly on the government bond markets of certain euro area countries, but their effects spread to the financial institutions. Owing to the uncertainty which they engender in the assessment of the outlook for income and demand among private players, these tensions ultimately have a negative impact on the activity of the countries concerned and that of their trading partners.

In fact, the start of the slowdown in activity revived investors' fears about the ability of the States to repay their debts. In most of the advanced economies, not only the economic recession but also the measures aimed at strengthening the financial institutions during the first phase of the financial crisis led to a surge in the public debt and triggered dynamics which are considered unsustainable in the long term. The measures aimed at fiscal consolidation and structural reinforcement of growth are not deemed sufficient to remedy this situation. Moreover, the discussions on the establishment of safeguard mechanisms for countries in the euro area or the European Union facing serious financing problems greatly exacerbated the market uncertainty. The United States is also facing similar problems, as is evident from the debate on raising the limit on the public debt level in August, followed by the debate on the scale and nature of the consolidation measures.

On the government bond markets in the euro area, apart from the three countries – Greece, Ireland and Portugal – covered by the IMF and EU aid programme, a growing number of countries had to face a further rapid increase in spreads in relation to the yields on German Bunds. Just as the measures to support the financial institutions had contributed to the rise in the public debt ratio during the first phase of the financial crisis, the tensions affecting government securities now in turn had an impact on the position of the financial institutions. The fall in the value of these securities has a direct adverse effect on the value of their portfolios and on their funding. In

CHART 2 FINANCIAL TENSIONS



Source: Thomson Reuters Datastream.

TABLE 1 PROJECTIONS FOR THE MAIN ECONOMIC REGIONS

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

	2010	2011	2012
	Actual figures	Projections	
GDP in volume			
World	5.0	3.7	3.5
of which:			
United States	3.0	1.6	1.5
Japan	4.0	–0.4	1.8
European Union	2.0	1.6	0.6
China	10.3	9.2	8.6
India	8.5	7.5	7.5
Russia	4.0	3.9	3.8
Brazil	7.5	3.6	4.0
p.m. World imports	*14.0*	*6.5*	*5.0*
Inflation (1)			
United States	1.6	3.2	1.9
Japan	–0.7	–0.2	–0.1
European Union	2.1	3.0	2.0
Unemployment (2)			
United States	9.6	9.0	9.0
Japan	5.1	4.9	4.8
European Union	9.7	9.7	9.8

Source: EC (autumn forecasts, November 2011).
(1) Consumer price index.
(2) In % of the labour force.

these circumstances, there was a fall in the share prices of financial institutions on the stock markets. This deterioration in the position of the financial system in turn triggers speculation about the need for governments to provide further assistance for struggling institutions.

Coming on top of the slowdown in external demand and the short-term effects of the efforts to restore sound public finances, these financial tensions and the severe uncertainty depress domestic demand for consumption and investment. For their part, the monetary authorities responded to the development of a recessive spiral between the problems of public finances, those of the financial institutions and the developments in real activity. The ECB Governing Council cut its key interest rates by 25 basis points on 3 November 2011, and the various measures strengthening the granting of liquidity were maintained or reinforced in the United States, while they were reactivated in the euro area (1).

In this context, the prospects for the growth of activity in 2011 and 2012 for most of the advanced economies were downgraded in recent months. According to the EC's autumn forecasts, GDP growth in the United States will be only 1.6 % in 2011 and 1.5 % in 2012. For the European Union as a whole, growth is actually forecast to fall from 1.6 % in 2011 to 0.6 %. Among the main advanced economies, only Japan is expected to see any acceleration between those two years, but that will be merely an automatic rebound effect following the loss of

(1) On 8 December 2011, the ECB Governing Council decided to cut the key interest rates by a further 25 basis points and to reinforce the measures for granting liquidity to the financial institutions.

TABLE 2 EUROSYSTEM PROJECTIONS

(percentage changes compared to the previous year)

	Euro area			*p.m. Belgium*		
	2010	2011	2012	*2010*	*2011*	*2012*
Inflation (HICP)	1.6	2.6 / 2.8	1.5 / 2.5	*2.3*	*3.5*	*2.4*
GDP in volume	1.8	1.5 / 1.7	–0.4 / 1.0	*2.3*	*2.0*	*0.5*
of which:						
Private consumption	0.8	0.3 / 0.5	–0.4 / 0.6	*2.3*	*1.0*	*0.2*
Public consumption	0.5	–0.3 / 0.5	–0.5 / 0.7	*0.2*	*1.3*	*2.9*
Investment	–0.6	1.6 / 2.4	–1.6 / 1.8	*–0.9*	*4.9*	*1.2*
Exports	10.8	5.4 / 7.2	0.3 / 6.1	*9.9*	*5.5*	*1.7*
Imports	9.2	4.0 / 5.4	–0.5 / 5.1	*8.7*	*6.0*	*2.1*

Sources: ECB, NBB.

output during the current year. In general, such growth rates would be insufficient to achieve any significant reduction in unemployment.

Against this backdrop of severe financial tensions, plummeting business and consumer confidence, and the slackening pace of external demand, the Eurosystem projections for GDP growth in the euro area were also substantially downgraded. They now range between –0.4 and 1 % in 2012, a modest recovery being predicted during the year after a period of stagnation, or even mild recession, in late 2011 and early 2012. As an annual average, GDP is forecast to grow in real terms by around 1.5 to 1.7 % in 2011. The divergences in performance between euro area countries will continue to be significant ; they are due, in particular, to the scale of the adjustment efforts to be made in regard to public finances or the restoration of the competitiveness of the economies with serious imbalances to correct.

Inflation in the euro area came to 3 % from September to November 2011, owing to the high level of energy and food prices in recent months. This base effect should fade away during 2012, while domestic pressures on costs – particularly labour costs – should continue to be contained. According to the Eurosystem projections, annual average inflation in the euro area is put at between 1.5 and 2.5 % in 2012, compared to a range of 2.6 to 2.8 % in 2011.

Box – Assumptions adopted for the projections

Produced as part of a joint exercise, the Eurosystem's economic projections for the euro area and the Bank's projections for Belgium are based on a set of technical assumptions and forecasts for the international environment drawn up jointly by the ECB and the national central banks of the Eurosystem.

Exchange rates are held constant at the average levels recorded in the last ten days before the cut-off date for the assumptions, in mid-November 2011. This gives a USD/EUR exchange rate of 1.36, which is a little below the 2011 average (1.40).

In line with the implicit prices reflected in forward contracts, the price of a barrel of Brent crude on the international markets is expected to increase from an average of $ 79.6 in 2010 to $ 111.5 in 2011, before dropping back to $ 109.4 in 2012.

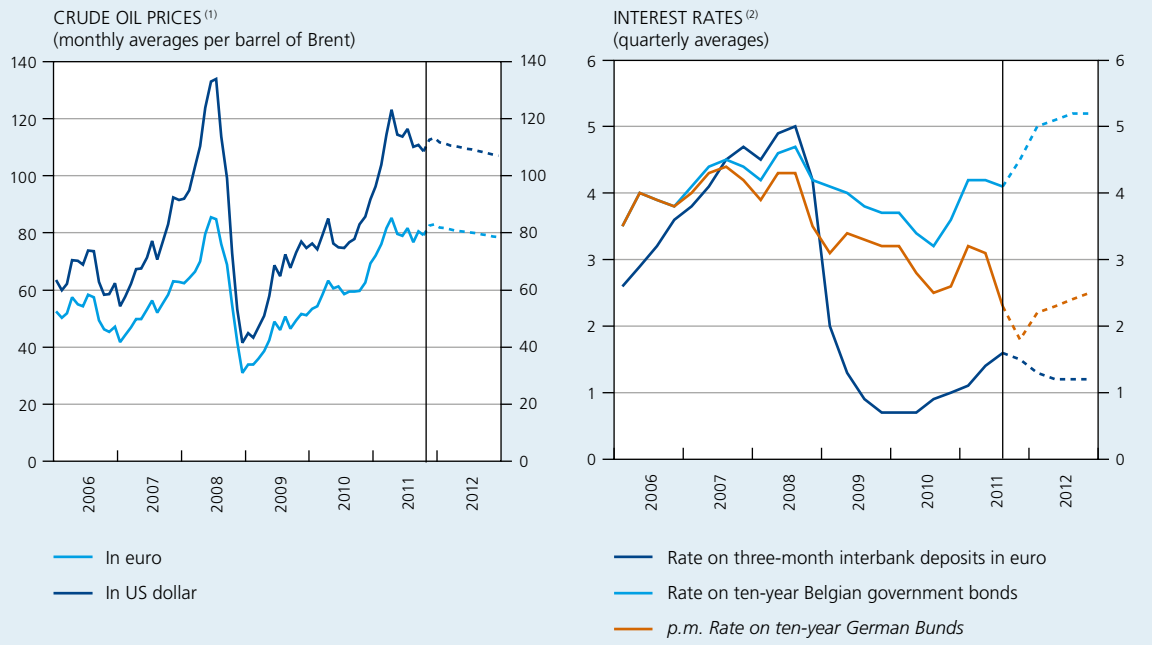
In view of the expected slowdown in imports by Belgium's partners both within the euro area and in third countries, the volume growth of the export markets is expected to fall from over 10 % in 2010 to 5.8 % in 2011 and 3.7 % in 2012.

The interest rate assumptions are also based on market expectations up to mid-November 2011. As an annual average, three-month interbank deposit rates are projected to rise from 0.8 % in 2010 to 1.4 % in 2011, before dropping to 1.2 % in 2012. This fall mainly reflects the key interest rate cut made by the ECB Governing Council on 3 November and, more generally, the deterioration in the economic climate.

Yields on ten-year Belgian government bonds are estimated at 4.3 % in 2011 and 5.1 % in 2012, compared to 3.5 % in 2010. The increase in the yields on Belgian government bonds is due partly to the widespread rise expected for the euro area in 2012, and partly to the recent widening of the spread in relation to yields on German Bunds, which reached 277 basis points in November 2011. The assumptions keep this differential constant up to the end of the projection period.

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 the benchmark rates. Thus, mortgage interest rates are influenced to a great extent by the yields on ten-year government bonds, while the rates charged on business loans depend on shorter maturities.

ASSUMPTIONS CONCERNING THE MOVEMENT IN OIL PRICES AND INTEREST RATES



Source: ECB.
(1) Actual figures up to October 2011, assumptions from November 2011.
(2) Actual figures up to the third quarter of 2011, assumptions from the fourth quarter of 2011.

EUROSYSTEM PROJECTION ASSUMPTIONS

	2010	2011	2012
		(annual averages)	
Interest rate on three-month interbank deposits in euro	0.8	1.4	1.2
Yield on ten-year Belgian government bonds	3.5	4.3	5.1
EUR/USD exchange rate	1.33	1.40	1.36
Oil price (US dollars per barrel)	79.6	111.5	109.4
		(percentage changes)	
Export markets relevant to Belgium	10.1	5.8	3.7
Competitors' export prices	6.1	4.0	1.9

Source: ECB.

2. Activity, employment and demand

In Belgium, too, at the beginning of 2011 it looked as if the revival in activity which had begun in mid-2009 might persist. Year-on-year, GDP grew by 2.9 % in the first quarter, and was up by 2.2 % in the second quarter. As the economy climbed out of recession, the growth basis widened from exports to domestic demand, with private consumption first followed by business investment at the beginning of 2011 making a positive contribution to growth.

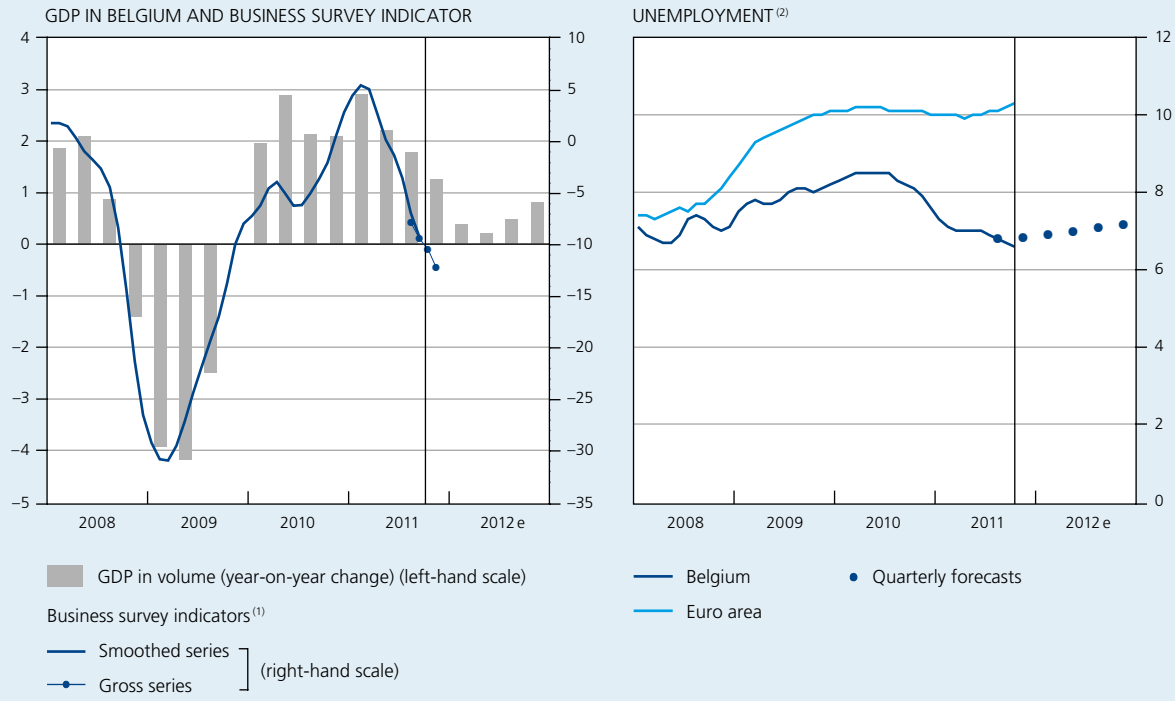
The deterioration in the external environment, the rising financial tensions and the accompanying heightened uncertainty brought that trend to an abrupt halt during the summer of 2011. According to the NAI's flash estimates, GDP stagnated in the third quarter and – taking account, in particular, of the adverse trend in the economic indicators – growth is expected to remain close to zero at the end of the year and in early 2012. Activity is expected to pick up thereafter, supported in particular by foreign demand. However, the revival is likely to be restrained by the continuing uncertain outlook, in a context of essential retrenchment of public finances and strengthening of the financial institutions.

Overall, the projections for Belgium presented here show GDP growing by 2 % in 2011 and 0.5 % in 2012. These figures have been revised downwards by 0.6 and 1.8 percentage points respectively since the projections published in June.

After having proved unexpectedly resilient at the height of the 2008-2009 recession, job creation responded particularly strongly to the revival in activity from the beginning of 2010. As an annual average, the volume of labour was up by 1.1 % in 2010 and 1.8 % in 2011. The increase in the number of persons in work was 0.3 percentage point lower in each of those years, owing to the normalisation of the implicit working time per employee. Whereas the flexibility systems permitting a downward adjustment in working time – notably temporary lay-offs – had been heavily used in 2009, recourse to those systems diminished as activity picked up. In view of the

CHART 3 ACTIVITY AND UNEMPLOYMENT

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



Sources: EC, NAI, NBB.

(1) Seasonally adjusted data.

(2) Harmonised unemployment rate (15 years and over) as a percentage of the labour force.

serious deterioration in the business climate, employment is forecast to grow by no more than 0.4 % in 2012, with the volume of labour expanding by 0.2 %.

The annual average growth rates partially conceal the movement in employment during the year, as most net job creation was concentrated between the beginning of 2010 and the second quarter of 2011. Altogether, around 63 000 additional jobs were created in net terms – i.e. the difference between new jobs and jobs which have been abolished – during 2010, followed by a further 38 000 in the first half of 2011. Subsequently, the expansion of employment slowed considerably, though it remained slightly positive. Between mid-2011 and the end of 2012, domestic employment is forecast to expand by around 23 000 units. This growth is expected to come from the continuing rise in the number of persons employed under the service voucher system and in the health sector and other non-market services. Apart from these jobs, significant losses of around 15 to 20 000 jobs are expected in the branches sensitive to the business cycle.

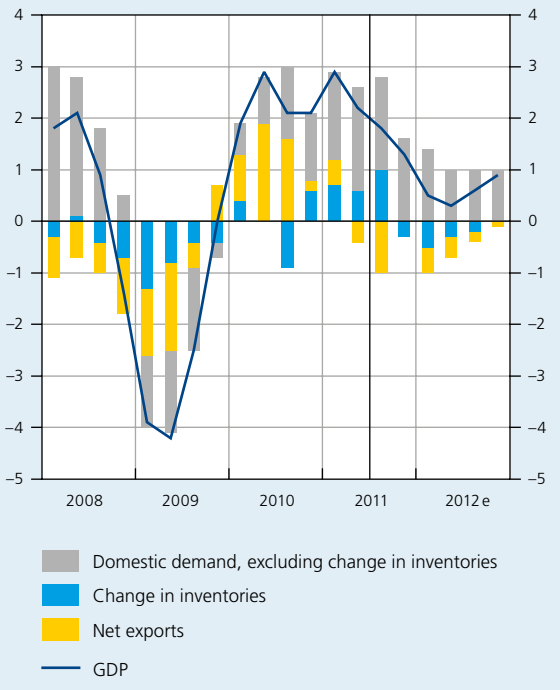
Taking account of the combined effects of the slackening pace of net job creation and the steady rise in the number of persons entering the labour market, the declining trend in unemployment seen in recent months, down from 8.5 % in the spring of 2010 to 6.6 % in October 2011, will be reversed in 2012. On average, the harmonised unemployment rate is predicted at 7 % in that year.

In parallel with the favourable trend in employment, the factors generating demand widened during 2010 and in early 2011, providing a more balanced basis for GDP growth. While net exports had been the first to join in the revival in activity from mid-2009, the change in inventories soon ceased to hold back growth and then began making a positive contribution at the end of 2010 and the beginning of 2011. The other components of domestic demand also gathered strength. The resurgence of financial tensions and the widespread deterioration in the business climate and the outlook cast a dark shadow over this picture. At the end of 2011 and in 2012, net exports and the change in inventories are both expected to make a negative contribution to growth, while the support provided by domestic demand should dwindle rapidly.

After having benefited up to the first quarter of 2011 from the renewed vigour of external demand, particularly that originating from the emerging economies and their main suppliers, including Germany, exports of goods and services began to suffer from the general loss of momentum on those markets from the second quarter. The expansion of foreign markets is projected to continue at a modest pace in the coming quarters, with growth subsiding from

CHART 4 MAIN COMPONENTS OF DEMAND

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



Sources: NAI, NBB.

10.1 % in 2010 to 5.8 % in 2011 and 3.7 % in 2012, according to the Eurosystem's assumptions. This time, the foreign markets are therefore not expected to contract, in contrast to what happened in 2009 when world trade declined by more than 10 % in volume. Overall, the volume of Belgium's exports is expected to display a similar profile, with the growth forecast down from 9.9 to 5.5 %. In 2012, growth is likely to amount to just 1.7 %, as the latest indicators obtained from the foreign trade statistics and the business surveys suggest a temporary dip in exports of goods by Belgium at the end of 2011, and therefore an adverse starting point for the ensuing year.

In comparison with the other components of domestic demand, household consumption growth had picked up fairly quickly following the crisis: after a sharp deceleration in 2009, consumption grew by 2.3 % in real terms in 2010. This expansion was due largely to the rapid decline in the savings ratio, as households became more optimistic again about the economic outlook, particularly in regard to employment. This effect did not strengthen further in 2011, so that private consumption was 1 % up against the previous year, a figure similar to the growth of purchasing power. The impact of high inflation which,

since the end of 2010, has eroded the rise in disposable incomes by more than 3 percentage points, was compounded from the summer by the loss of consumer confidence. In this regard, Belgian households have been affected not only by the general deterioration in the economic climate in Europe and by the financial tensions, but also by the protracted debate over the budget prospects in Belgium. Thus, the volume of private consumption is set to rise by only 0.2 % in 2012, owing to the combined effects of a meagre 1.2 % increase in disposable income and a 0.8 percentage point rise in the savings ratio in 2012. That puts the savings ratio at 17 %, or slightly above the figure for 2000 to 2007. In this very uncertain context, and taking account of the gradual rise in mortgage interest rates, household investment in housing is likely to fall again in 2011 and 2012, by around 1.5 % per annum. In 2010, it had been temporarily underpinned by the measures to revitalise construction, notably via a cut in the VAT rate for the first tranche of new building work.

Following a cumulative decline of around 11 % in 2009 and 2010, the volume of business investment is predicted to recover by 7.8 % in 2011. This catch-up will take place against the backdrop of a marked increase in capacity utilisation rates – up from 70.1 % in April 2009 to 81.2 % in April 2011, which is close to the average for the past two decades according to the survey of manufacturing industry – in parallel with the strengthening of final demand and the restoration of corporate profitability. The gross operating surplus of firms in fact climbed by 10 % in 2010, and is set to rise by a further 6.1 % for 2011, bolstering the internal financing capacity of companies. With the weakening of demand and the substantial decline in capacity utilisation rates in industry during 2011 – down to just 78.4 % in October 2011 – business investment is forecast to slow down in 2012, growing by just 1.7 %.

Finally, government spending on consumption is forecast to expand in real terms by 1.3 % in 2011 and 2.9 % in 2012, in the absence of specific measures to restrain it. Government investment is likely to record sustained growth in 2011 and 2012 of over 5 % per annum, owing to the impending local elections.

TABLE 3 GDP, EMPLOYMENT AND MAIN EXPENDITURE CATEGORIES

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

	2009	2010	2011 e	2012 e
GDP[1]	–2.7	2.3	2.0	0.5
Total volume of labour[2]	–1.6	1.1	1.8	0.2
Total domestic employment in persons	–0.2	0.8	1.5	0.4
p.m. Change in thousands of persons	*–7.6*	*37.0*	*68.3*	*18.3*
Real disposable income of individuals	2.9	–0.5	0.9	1.2
Expenditure components[1]				
Private consumption expenditure	0.8	2.3	1.0	0.2
Consumption expenditure of general government	0.8	0.2	1.3	2.9
Gross fixed capital formation	–8.1	–0.9	4.9	1.2
Housing	–9.2	1.6	–1.5	–1.3
General government	7.2	–1.8	5.4	5.3
Enterprises	–9.3	–1.6	7.8	1.7
p.m. Domestic expenditure excluding change in inventories[3]	*–1.3*	*1.1*	*1.8*	*1.1*
Change in inventories[3]	–0.7	0.0	0.5	–0.3
Net exports of goods and services[3]	–0.7	1.2	–0.2	–0.3
Exports of goods and services	–11.3	9.9	5.5	1.7
Imports of goods and services	–10.6	8.7	6.0	2.1

Sources: NAI, NBB.
(1) In volume.
(2) Total number of hours worked in the economy.
(3) Contribution to change in GDP.

3. Prices and costs

Since the end of 2010, consumer price inflation in Belgium has been running at significantly above 3 %. According to the current projections, it is likely to exceed that rate until the initial months of 2012 before gradually subsiding to around 2 % at the end of the year. Inflation is estimated at an average of 3.5 % in 2011 – compared to 2.7 % in the euro area – and 2.4 % in 2012.

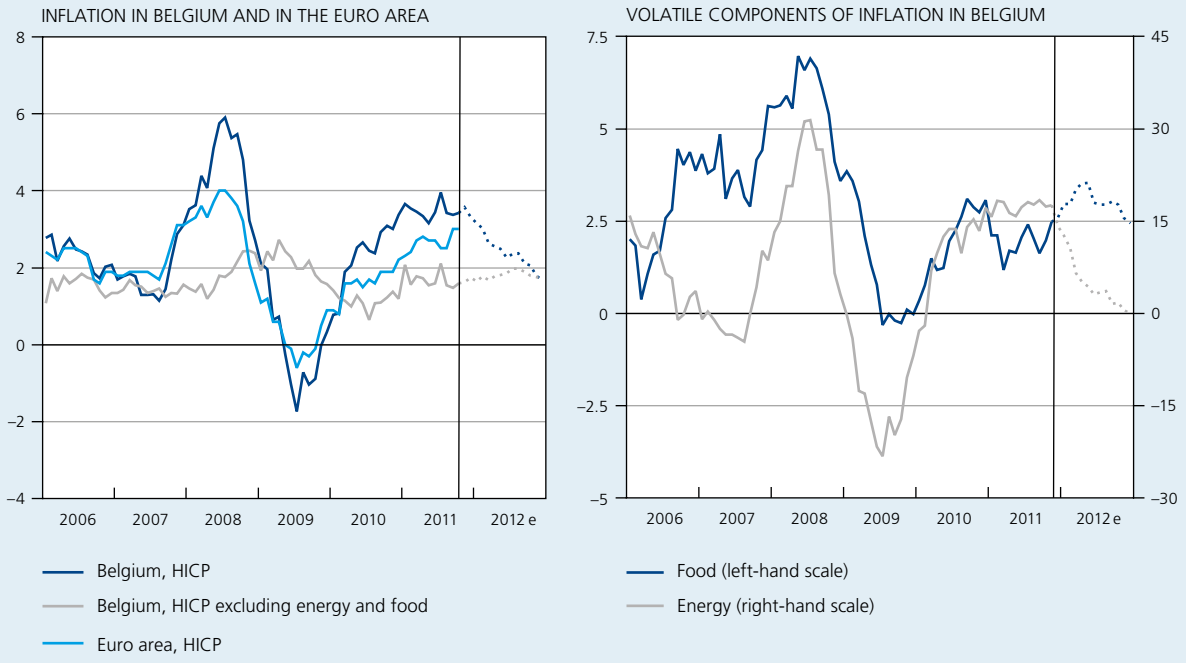
The high level of overall inflation in 2011 is largely due to the volatile inflation components. In particular, the prices of energy products included in the HICP basket increased by 10 %, on average, in 2010 and will have risen by a further 17 % over 2011 as a whole. The reason lies mainly in the rapid rise in petroleum product prices on the international markets. Crude oil reached $ 123 per barrel of Brent in April, and remained persistently high thereafter at around $ 110 per barrel. Taking account of the assumption of a slight decline in petroleum product prices during the period covered by the projections, the base effects resulting from fluctuations in those prices should become less marked, which accounts for the expected decline in inflation. However, that movement is partly offset by the considerable increase in the electricity supply tariffs in large areas of Flanders, which will have an estimated impact on the energy component of inflation amounting to around 1 percentage point in 2011 and 2012; it is due to the substantial cost of the regional subsidies for the installation of photovoltaic panels.

While the energy component is expected to bring a gradual deceleration in 2012, underlying inflation is likely to remain high. It increased at the end of 2010 and in early 2011, rising from an average of 1.1 % in 2010 to 1.7 % in April 2011 – driven mainly by services – and is expected to remain slightly above that level. This movement is due partly to the allowance for higher fuel and food prices in airline tickets or catering services, for example. Price adjustments directly linked to inflation or other reference indices for a range of services are another contributory factor. Finally, it is also supported by the strong rise in labour costs, itself fuelled largely by wage indexation based on the health index.

After remaining stable in 2010, unit labour costs in Belgium's private sector are set to increase significantly in 2011 and 2012 by 2.2 and 2.9 % respectively. This strong

CHART 5 INFLATION

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



Sources: EC, NBB.

TABLE 4 PRICE AND COST INDICATORS
(percentage changes compared to the previous year)

	2009	2010	2011 e	2012 e
Total HICP	0.0	2.3	3.5	2.4
Energy	–14.0	10.0	17.0	4.3
Total excluding energy	1.9	1.3	1.8	2.1
GDP deflator	1.2	1.8	2.5	2.3
Labour costs in the private sector:				
Unit labour costs	4.0	0.0	2.2	2.9
Hourly costs	2.8	0.9	2.5	3.3

Sources: EC, NAI, NBB.

acceleration of unit labour costs is due to the combination of anaemic productivity gains and a stronger rise in hourly labour costs. Overall, the cumulative increase of more than 5 % during the two years covered by these forecasts significantly exceeds the EC and OECD predictions for the three main trading partners – Germany, France and the Netherlands – thus eroding the competitiveness of Belgian firms.

In 2010, apparent labour productivity had picked up by 0.9 %, owing to the absorption of firms' labour reserves which had been under-used during the 2008-2009 recession. In reality, this gain was relatively small, and was insufficient to restore the level of productivity to its potential path following the losses suffered during the first phase of the crisis. In addition, the deteriorating economic conditions during the second half of 2011 and in 2012 will bring the productivity gains down to 0.3 and 0.4 % per annum for those two years, well below the average figures. Meagre productivity gains have been a feature of the Belgian economy since 2007. During periods of weak business activity, this is due to the practice of labour hoarding and the low level of investment. Apart from these cyclical fluctuations, it could also be due to the use of low-skilled workers, supported by the various employment promotion measures mentioned above. However, there is hardly any sign of that in a smaller average rise in labour costs, which one might expect if the proportion of this type of job is increased.

The growth of hourly labour costs is forecast to gather pace from 0.9 % in 2010 to 2.5 % in 2011 and 3.3 % in 2012. This strong acceleration is very largely due to the automatic indexation of wages. According to the projections, the health index of consumer prices – used as the reference for indexation – should rise by 3.1 % in 2011 and 2.4 % in 2012. However, in view of the time lags which result from the indexation mechanisms applied by the various joint committees, the impact on wages will be a little more pronounced in the second year. Apart from indexation, the assumption adopted for the movement in hourly labour costs in the private sector in 2011 and 2012 essentially takes account of the maximum 0.3 % increase in negotiated wages planned for the second year under the draft central agreement imposed by the government.

4. Public finances

The projections for public expenditure presented in this article do not go beyond 2011, since the budgetary agreement concluded on 26 November 2011 in connection with the formation of the federal government came after the cut-off date for the projections.

On the basis of the latest information, public finances should end the year 2011 with a deficit of 4.2 % of GDP, which is 0.1 % of GDP higher than the previous year's deficit.

Fiscal and parafiscal revenues are projected to remain stable as a ratio of GDP in 2011. Although taxes on goods and services will decline owing to the fall in consumption of tobacco products and road fuel, which are relatively heavily taxed, particularly via excise duties, the levies on labour will increase slightly. Conversely, non-fiscal and non-parafiscal revenues will surge in 2011, partly on account of the new levy under the deposit protection system, and partly because of the strong increase in payments to the government in compensation for the support given during the financial crisis, particularly following

TABLE 5 GENERAL GOVERNMENT ACCOUNTS[1]
(in % of GDP)

	2009	2010	2011 e
Revenue	48.0	48.8	48.9
Fiscal and parafiscal revenue	42.7	43.2	43.2
Other	5.2	5.5	5.8
Primary expenditure	50.1	49.5	49.8
Primary balance	–2.2	–0.7	–0.9
Interest charges	3.6	3.3	3.3
Financing requirement (–) or capacity	–5.8	–4.1	–4.2
p.m. Effect of non-recurrent factors	*–1.0*	*0.0*	*–0.1*
Consolidated gross debt	95.9	96.2	97.7

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

the first payment by KBC in this respect for the funding injected by the authorities.

Primary expenditure, which still stood at 49.5 % of GDP in 2010, is set to increase to 49.8 % of GDP in 2011. That rise is due essentially to the measures taken following the problems encountered by Holding Communal, a major shareholder in Dexia, whose share price collapsed. Those events led to a capital transfer amounting to 0.2 % of GDP from the government to that institution[1].

Interest charges should remain fairly stable in 2011. The public debt is expected to increase, but the impact on interest charges should be almost entirely neutralised by the – albeit modest – reduction in interest rates.

The government debt ratio are driven up by the loans which the Belgian State contracted in order to finance the purchase of Dexia Bank Belgium and by the loans granted to Greece, Ireland and Portugal.

5. Risk factor assessment

In line with the Eurosystem projections for the euro area, the results presented here for Belgium show activity stagnating at the end of 2011 and in early 2012, followed by a modest recovery in the second half of the year. On that basis, the GDP growth forecast is lower than the ones published in recent months by other institutions, with the exception of the OECD. Nonetheless, the risks surrounding these projections – if they were to materialise – seem predominantly, or even almost exclusively, likely to curb activity even further.

In view of the normal volatility of short-term movements in activity and the usual statistical data revisions, a modest decline in GDP in any particular quarter is not ruled out, even in the baseline scenario adopted for these projections. However, in this scenario, the absence of a severe recession in the short term and the return to growth

(1) Because of the uncertainty in this matter, the projections take no account of the potential impact of the guarantee, amounting to 0.4 % of GDP, granted to the cooperative partners in the Arco Group.

TABLE 6 COMPARISON OF THE FORECASTS FOR BELGIUM
(percentage changes compared to the previous year)

	GDP in volume		Inflation[1]		Budget balance[2]		Publication date
	2011	2012	2011	2012	2011	2012	
NBB – Autumn 2011	2.0	0.5	3.5	2.4	–4.2	n.	December 2011
p.m. Spring 2011	*2.6*	*2.2*	*3.4*	*2.2*	*–3.5*	*–4.1*	*June 2011*
NAI	2.4	1.6	3.5	2.0	n.	n.	September 2011
IMF	2.4	1.5	3.1	2.0	–3.5	–3.4	September 2011
EC	2.2	0.9	3.5	2.0	–3.6	–4.6	November 2011
OECD	2.0	0.5	3.4	2.5	–3.5	–3.2	November 2011
p.m. Actual figures for 2010	*2.3*		*2.3*		*–4.1*		

(1) HICP, except for NAI: national consumer price index.
(2) In % of GDP.

during 2012 imply that the uncertain climate is easing, or at the very least that it is having a less severe effect on the behaviour of firms and households. Clearly, this presupposes that the sovereign debt crisis in the euro area does not worsen and that its repercussions on the financial institutions are contained.

Even if there is stabilisation at this level, the financial institutions must proceed to complete a radical restructuring in order to rectify their position and adapt to the new environment in regard to market conditions and prudential regulation. That will entail a reduction in the size of their balance sheet or an increase in capital. Depending on how this adjustment is carried out, lending to businesses and households could be affected to a greater extent than foreseen, and thus impair the recovery.

In addition, in some euro area countries, the fiscal consolidation needs to continue and be reinforced in order to attain the targets set by the stability programmes.

More generally, the situation in the euro area presents a risk for partners in other economies around the world, on top of their own specific problems. A greater than expected weakening of demand in the United States, the United Kingdom or the emerging economies, which are among Europe's main trading partners, would damage one of the potential sources of the recovery.

More specifically in regard to Belgium, in view of the time taken to reach agreement, the new government's budget measures could not be incorporated in these projections. On the one hand, some of those measures are likely to restrict activity and incomes. On the other hand, if they permit a credible reform of the public accounts and bringing the debt to a path which is sustainable in the long term, they could encourage households to reduce the precautionary savings which they would otherwise have accumulated to guard against the threats which a derailment of public finances would present for their income prospects. Fiscal consolidation could also reduce the risk premium included in interest rates.

In general, structural measures for the labour market and pensions should also provide long-term support for fiscal consolidation and the strengthening of the economy's growth potential and competitiveness. In that regard, the expected rise in inflation, and hence labour costs, exceed the figures for competitors, and therefore threaten the expansion of activity and employment.

Annex

PROJECTIONS FOR THE BELGIAN ECONOMY: SUMMARY OF THE MAIN RESULTS

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

	2008	2009	2010	2011 e	2012 e
Growth (calendar adjusted data)					
GDP in volume	0.9	–2.7	2.3	2.0	0.5
Contributions to growth:					
Domestic expenditure, excluding change in inventories	2.0	–1.2	1.1	1.8	1.1
Net exports of goods and services	–0.8	–0.7	1.2	–0.2	–0.3
Change in inventories	–0.3	–0.7	0.0	0.5	–0.3
Prices and costs					
Harmonised index of consumer prices	4.5	0.0	2.3	3.5	2.4
Health index	4.2	0.6	1.7	3.1	2.4
GDP deflator	2.2	1.2	1.8	2.5	2.3
Terms of trade	–2.4	3.4	–1.5	–1.1	0.0
Unit labour costs in the private sector	3.5	4.0	0.0	2.2	2.9
Hourly labour costs in the private sector	3.6	2.8	0.9	2.5	3.3
Hourly productivity in the private sector	0.1	–1.2	0.9	0.3	0.4
Labour market					
Domestic employment (average annual change in thousands of persons)	79.1	–7.6	37.0	68.3	18.3
p.m. Change during the year, in thousands of persons (1)	*63.1*	*–23.2*	*63.4*	*55.7*	*4.8*
Total volume of labour (2)	1.5	–1.6	1.1	1.8	0.2
Harmonised unemployment rate (3) (in % of the labour force)	7.0	8.0	8.4	6.9	7.0
Incomes					
Real disposable income of individuals	2.2	2.9	–0.5	0.9	1.2
Savings ratio of individuals (in % of disposable income)	16.8	18.4	16.2	16.2	17.0
Public finances (4)					
Overall balance (in % of GDP)	–1.3	–5.8	–4.1	–4.2	n.
Primary balance (in % of GDP)	2.5	–2.2	–0.7	–0.9	n.
Public debt (in % of GDP)	89.3	95.9	96.2	97.7	n.
Current account (according to the balance of payments, in % of GDP)	**–1.6**	**–1.7**	**1.5**	**0.9**	**0.3**

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 (15-64 years), non calendar adjusted data.

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

Public sector wages

B. Eugène (*)

Introduction

Remuneration paid by public administrations in Belgium amounted to 12.6 % of GDP in 2010. As such, it represented no less than one-quarter of their primary expenditure. Furthermore, these expenses have risen sharply over the past two decades. Because current conditions call for fiscal consolidation, it is important to examine whether this component of spending could be a source of budget savings, including by adjusting wages.

In addition, salary is an important component of an employer's appeal and its ability to motivate and retain qualified employees. As a result, the public and private sectors compete in the labour market, so it is crucial to know the relative position of the two sectors.

This article examines principally individual wages, and more specifically the wage gap between the public sector and the private sector (1). It focuses mainly on the situation in Belgium as compared with nine other euro area countries (Germany, Austria, Spain, France, Greece, Italy, Ireland, Portugal and Slovenia), a study of which using microeconomic data was recently completed (2).

Apart from the introduction and conclusion, this article comprises three sections. The first presents the differences between the principal characteristics of wage earners in the private and public sectors, which may be the reason for wage gaps between the two sectors. In the second part, we analyse the trend in public sector wages according to macroeconomic data. The third section checks to see whether the observations made at the macroeconomic level hold up to a microeconomic analysis taking into consideration wage earners' individual characteristics.

(*) The author would like to thank Sarah Cheliout, Ilse Rubbrecht, Thomas Stragier and Luc Van Meensel for their contributions to this article.

(1) Public employment in Belgium was analysed in an earlier article (Bisciari et al., 2009).

(2) See Giordano *et al.* (2011).

1. Principal characteristics of public and private sector wage earners

If there are differences in compensation between private and public sector wage eaners, they may arise due to the different characteristics of employees in the two sectors. Certain individual characteristics such as experience, level of education, working hours or gender can influence individual compensation levels. If it so happens that the populations of employees in the private and public sectors are not analogous, these characteristics may give rise to wage gaps at an aggregated level.

Definition of "public sector"

Before presenting a brief comparison of the characteristics most important in determining wage earner compensation in each of the sectors, it is worth recalling that there are several ways of defining public entities, including a sector approach and an approach by branch of activity.

Under the sector approach, the general government sector (S.13) includes institutional units that are controlled by a public entity and are non-market, i.e. the proceeds of their sales cover less than half of their production costs. In the context of an international comparison, it is important for the scope of public administrations to be as comparable as possible. To the extent that health care, for example, is classified outside of the S.13 sector in Belgium but inside the S.13 sector in numerous countries, this classification depends largely on the way health care is organised in

each country. A definition using sector criteria is thus not always appropriate for making international comparisons.

A branch of activity approach mitigates this drawback. The branches of activity O (Public administration and defence; compulsory social security), P (Education) and Q (Health and social work), as defined by the NACE classification, may be considered a good approximation of the "public sector". The health and social work activities branch is clearly not a part of the general government in Belgium, but it is highly subsidised by the public sector. Furthermore, in the EU-SILC (European Union – Statistics on Income and Living Conditions) survey used for the microeconomic analysis that follows, the individuals interviewed indicate the branch of activity in which they work and not the sector. As a result, we will favour this approach, which facilitates a harmonised international comparison, for the rest of this report, insofar as data are available.

Age

In Belgium, wage earners in the O, P and Q branches are, on average, 2.2 years older than those of other branches of activity, according to the microeconomic data in the EU-SILC survey. This age difference also shows up in the macroeconomic data. According to those data, the populations of wage earners that make up the five age groups from 25 to 50 years are practically the same in the private sector, whereas the older age groups are under-represented. In the O, P and Q branches, however, the age groups from 45 to 55 are largely preponderant. The proportion of workers over age 55 is also much more significant in the public sector than in the private sector. Such characteristics, which generally go hand in hand with greater experience and a longer career, may explain some of the potential wage gaps.

Employment status

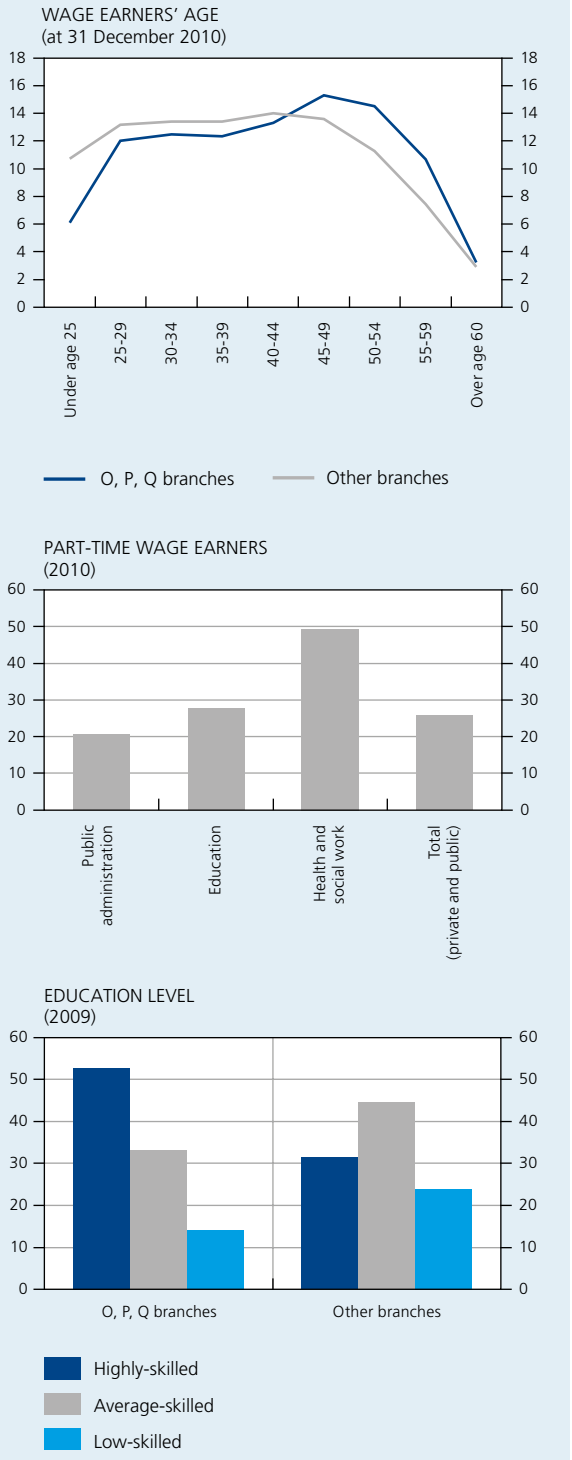
There are proportionally more workers employed part-time in education and, even more so, in the health and social work branch than in the overall economy. Employees in the public administration branch, conversely, are relatively less likely to be part-time workers. This characteristic may also explain part of the wage gaps for wages expressed monthly or annually.

Gender

Women are more numerous in the O, P and Q branches than in other branches. According to macroeconomic data, they represent over 68 % of employees in those

CHART 1 CHARACTERISTICS OF PUBLIC AND PRIVATE SECTOR WAGE EARNERS

(percentages of workers in the branches considered)



Sources: EC (LFS), FPS Economy, NSSO.

branches, compared with 37 % in the private sector. They account for 80 % of employees in the health and social work branch and 69 % in education, but only 41 % in public administration. To the extent that other surveys have shown the existence of a wage gap between genders in the private sector, these differences may also be a cause for wage gaps between the public and private sectors.

Education level

According to the macroeconomic data from the labour force survey, the proportion of highly-skilled workers, i.e. those with a higher education degree, is close to 53 % in the O, P and Q branches, compared with 31.5 % in all other branches. Conversely, only 14 % of personnel in the public sector branches are low-skilled workers, compared with 24 % in the other branches. This is another possible reason for a wage gap in favour of public sector wage earners. However, it also poses the question of competition between the sectors to attract the most skilled workers.

Working hours

A person employed full-time works on average four hours less in the O, P and Q branches than in other branches, according to data from the EU-SILC survey. This difference is significantly influenced by education. Teachers have reported fewer working hours on a weekly basis than employees in the other branches.

Managerial duties

Lastly, there are more managerial positions in the private sector than in the O, P and Q branches, at respectively 30 % and 24 % of jobs. These proportions may work in favour of average remuneration in the private sector, although this result – based on a survey for which there was no clear definition of what was meant by a "managerial position" – must be viewed with caution.

2. Observations based on macroeconomic statistics

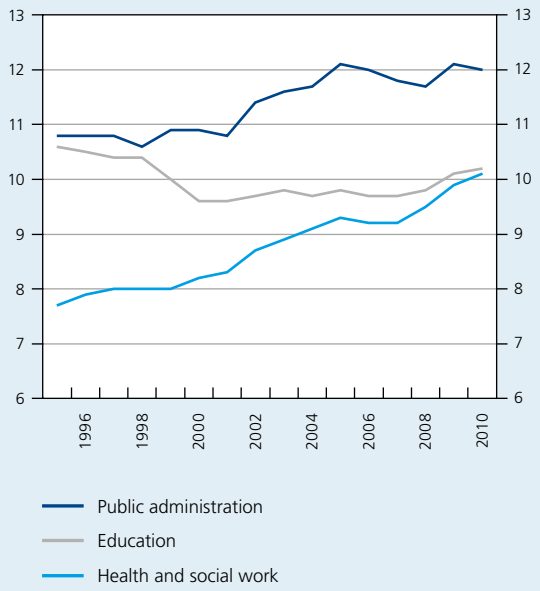
Gross wages and salaries in the O, P and Q branches rose substantially over the past 15 years, climbing from 29.2 % of the total wage bill in 1995 to 32.4 % in 2010. The growth came largely in the health and social work branch, which saw its salaries as a share of the salaries in the total economy rise from 7.7 % to 10.1 % over the period due to strong job growth in this branch. Total wages also rose in volume in the public administration branch, where they increased from 10.8 % to 12 %, but fell somewhat in the education branch.

It is also useful to track the trend in the total gross wages and salaries of public sector workers and the two components behind that figure: employment and individual wages. To perform such an analysis over a longer period, we have used the total gross wages and salaries of the S.13 sector, as compiled according to the methodology in the national accounts, rather than those of the O, P and Q branches, for which data were not available over as long a period.

Total gross wages and salaries for the public sector grew, in real terms, by 175.1 % between 1970 and 2010; an initial rise in the 1970s was followed by a slight decline in the 1980s. The trend in wages failed to keep pace with inflation for part of the period due to measures aimed at restoring competitiveness and cleaning up public finances. Since 1990, the positive trend has resumed, but at a more modest pace than during the 1970s. It amounted to 30.9 % overall between 1995 and 2010, i.e. an average annual increase of 1.8 % in real terms.

CHART 2 GROSS WAGES AND SALARIES OF WAGE EARNERS IN THE O, P AND Q BRANCHES

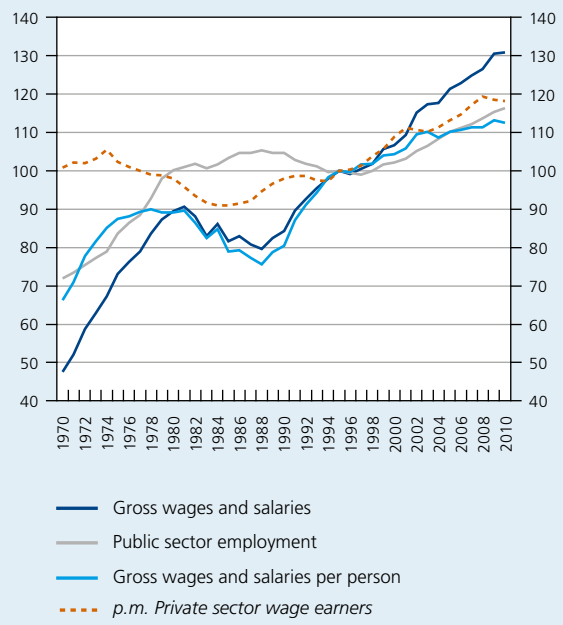
(percentage of total gross wages and salaries)



Sources: NAI, NBB.

CHART 3 TOTAL WAGES, EMPLOYMENT AND WAGES PER PERSON [1]

(index 1995 = 100)



Sources: NAI, NBB.
(1) At constant prices.

Between 1970 and 1995, the increase has resulted more from growth in individual wages than from employment growth. Over the past 15 years, however, the overall growth is more the result of employment growth than of growth in individual wages, in real terms. The two rose by respectively 61.8 % and 70 % between 1970 and 2010. The growth in the total wage bill was initially the result of simultaneous growth in public employment and individual wages; this trend lasted until the early 1980s. Employment then virtually levelled off, whereas real compensation per person diminished somewhat, reaching a low point in 1988. Individual compensation then began to rise at the average annual rate, at constant prices, of 1.8 % between 1988 and 2010, i.e. 48.8 % over the period. Employment, on the other hand, rose by an average of 1.3 % between 1997 – when it hit a low point – and 2010.

It is worth noting that the number of private sector wage earners did not return to its 1970 level until 1997, after which it rose by a further 16.5 %.

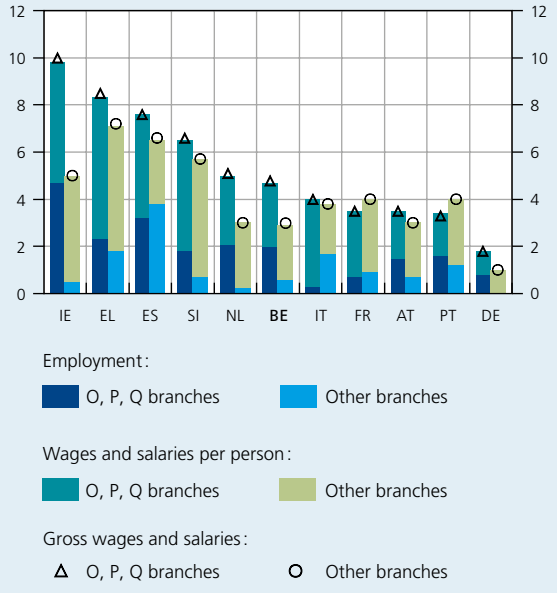
(1) Eurostat still reports branches of activity according to the old NACE classification, under which the L (public administration), M (education) and N (health and social work) branches correspond respectively to the new O, P and Q branches.

An international analysis allows us to better measure the developments that have taken place in Belgium. Within the group of countries included in the microeconomic analysis that follows, to which we have added the Netherlands, we note strong differences in the trend in wage earners' gross wages and salaries over the decade from 2000 to 2009 in the O, P and Q branches [1], and in the size of their determining factors. In every case, the wage bill increased in these branches of activity, and the increase resulted from the combined effects of rising employment and rising individual wages. In each case, wages played more of a role than did employment, but to different extents.

Considering certain countries individually, Ireland, where growth in the total wage bill in the O, P and Q branches averaged 10 % per year, comes across as one extreme. This growth was composed of strong growth in both employment and individual wages in these branches of activity. At the other extreme, Germany limited the increase in both individual wages and employment in the O, P and Q branches, such that the total wage bill of the three branches grew by just 1.8 % annually on average between 2000 and 2009. In France and Italy,

CHART 4 TOTAL WAGES, EMPLOYMENT AND WAGES PER PERSON

(average percentage annual change, 2000-2009 [1] [2])



Sources: EC, NAI, NBB.
(1) Except Spain and Portugal (2007) and France (2008).
(2) The impact of the combination of rising employment and rising individual wages explains the gap that emerges between the increase in the total wage bill and the sum of the increase in employment and individual wages.

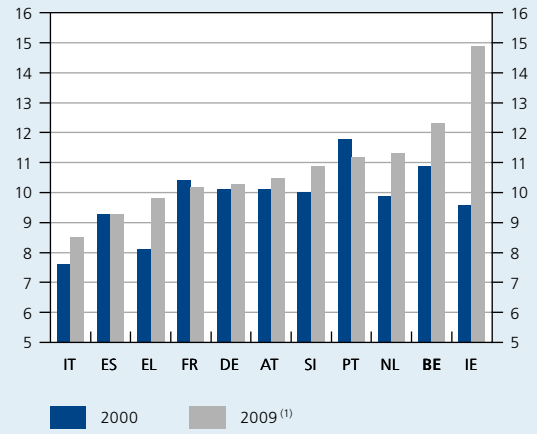
the rise in the total wage bill was attributable almost entirely to the rise in individual wages, as job growth was limited. Individual wages were also in large part responsible for the rise in the wage bills of Greece and Slovenia. Belgium's growth trend was in the median of countries from the total wage bill standpoint, rising by 4.8 % annually on average on the back of 2 % employment growth and 2.7 % growth in individual wages per year.

Compared with the countries studied, the level of wage earners' compensation in the O, P and Q branches, expressed as a percentage of GDP, is particularly high in Belgium. In 2009, it was 1.6 percentage points of GDP higher than the unweighted average of the other countries considered, and only Ireland spent more. In addition, over the period 2000-2009, this spending rose by 1.4 percentage points of GDP in Belgium, i.e. more than the average increase of the other countries, where it rose by 1 point of GDP. O, P and Q branch employee compensation as a share of GDP fell in Portugal and France, and was practically stable in Spain and Germany. By contrast, its growth was particularly brisk in Ireland, followed by Greece and the Netherlands where it was faster than in Belgium.

A first measure of the gap between gross wages and salaries in the public and private sectors can be made using macroeconomic data. The relationship between the average individual wage in the O, P and Q branches and the average individual wage in the other branches is an indicator of the direction and size of the wage gap between the public and private sectors.

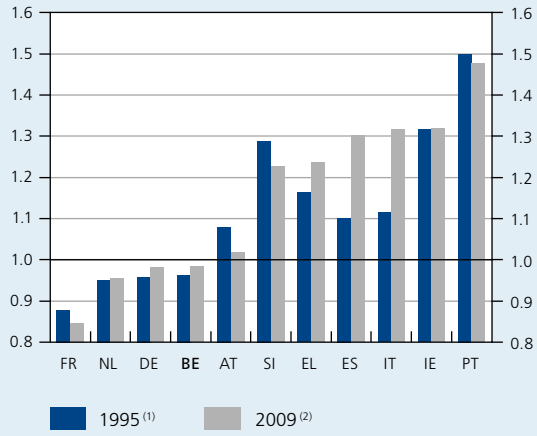
CHART 5 WAGE EARNERS' COMPENSATION IN THE O, P AND Q BRANCHES

(pourcentages du PIB)



Sources: EC, NAI.
(1) Except Spain and Portugal (2007) and France (2008).

CHART 6 RATIO OF GROSS WAGES AND SALARIES PER EMPLOYEE OF THE O, P AND Q BRANCHES COMPARED WITH THOSE OF OTHER BRANCHES



Sources: EC, NBB.
(1) Except Ireland (1998), France (1999) and Greece (2000).
(2) Except Spain and Portugal (2007) and France (2008).

It turns out that the wages of public sector workers thus defined were, at the end of the 2000s, lower on average than those of the private sector by 15 % in France and 4 % in the Netherlands. In Germany, Belgium and Austria, the gap between the sectors was limited, at under 2 %. By contrast, the average wage of a public sector worker was 22-32 % higher in Slovenia, Greece, Spain, Italy and Ireland, and nearly 50 % higher than in the private sector in Portugal.

Since the mid-1990s, the gap in favour of private sector wage earners has widened in France, whereas the gap in favour of public sector wage earners has narrowed in Austria, Slovenia and Portugal, while remaining quite pronounced in the case of Portugal. Everywhere else, the trend has favoured public sector wage earners, in some cases modestly – as in the Netherlands, Belgium, Germany and Ireland – and in some cases significantly – as in Spain and Italy. It is also important to note that the wage gap enjoyed by public sector wage earners came under upward pressure following the economic and financial crisis in numerous countries, including in Belgium. The crisis weighed more heavily on private sector salaries than on the more protected public sector salaries.

3. Results of microeconomic analysis

While the macroeconomic analysis offers the advantage of being harmonised, accurate and exhaustive, it suffers from a lack of statistics for taking into account workers' individual characteristics. To the extent that these characteristics differ from one sector to the next and influence compensation levels, however, they need to be taken into account. Detailed microeconomic data, such as those produced by the EU-SILC survey, can deliver such information. Caution must be used in interpreting this information, though, as is generally the case when using data from a survey covering a relatively limited sample. As a result, the macroeconomic and microeconomic approaches complement each other nicely.

This chapter draws largely on the work carried out in collaboration by 10 national central banks (Giordano *et al.*, 2011). The goal is to measure the wage gap between public sector and private sector employees, isolating the effect of a group of wage level determinants, on the one hand, and, on the other hand, the specific effect of working in the public or private sector.

3.1 Methodology used to process microeconomic data

The microeconomic database produced by the EU-SILC survey is composed of the replies of individuals for whom numerous characteristics, notably professional and financial, have been identified.

An econometric regression has been performed in order to determine the effect of different relevant variables on individual wages. These variables were civil status, education level, gender, professional experience[(1)], managerial duties, part-time employment, and region of residence. A certain proportion of the as yet unexplained part of individual wages has to do with the worker belonging to the public sector or the private sector. Belonging to one of the three branches of activity considered to be a part of the public sector has therefore also been introduced as an explanatory variable for wages. The difference between public and private wages is measured by the coefficient that this variable takes in the regression, which allows us to make the observations that follow in this article.

Like most surveys, the EU-SILC survey upon which this approach is based covers only a sample of the population studied. Four waves of annual surveys have been used, covering the years 2004 to 2007. On average, the Belgian sample includes over 7 000 individuals. For the other countries studied, the samples were larger or smaller depending on the size of the country in question. The samples used for the following analysis, however, are more restricted because they are limited to wage earners aged 15 to 64. Retirees, unemployed, the self-employed, students and other inactive persons are thus excluded from the original sample. For Belgium, this limits the sample to around 3 000 people per survey year, i.e. close to 12 000 wage earners total in the four years considered together.

A first regression was performed on the entire sample, considering net hourly income. This concept makes it possible to measure the financial advantage to be gained from working in the public sector for a given number of hours worked. Then, the same regression was performed on portions of the sample to see if belonging to the public sector has a greater effect for certain sub-sets of workers, such as men or women, low or highly skilled, or workers in one branch of activity or another, for example.

Before presenting and commenting on the results, it should be noted that this exercise has certain limits. On the one hand, the level of the sector wage gap differs depending upon whether it is calculated on the basis of microeconomic or macroeconomic data. This contrast is attributable notably to the concepts used, as the data in national accounts include conpensation in kind, whereas only monetary income is considered in the microeconomic approach. This may have a greater effect on private sector incomes, as compensation in kind are generally more widespread or higher in the private sector. According to a study based on the data in the "Vacature Salaris 2008 survey" (Vermandere *et al.*, 2010), workers in the public sector enjoy roughly the same level of health insurance and meal vouchers as private sector workers, for example, but much fewer information technology fringe benefits or company cars. Furthermore, because the data came from a survey, it is always possible that the answers stem from a poor understanding of the questions asked. As a result, the number of hours worked or whether or not someone has a supervisory position probably need to be considered with a certain amount of caution. Given these restrictions, readers should take care in interpreting these results.

Most of the results generated by the regressions that follow indicate that the gap between public and private sector wages is significantly different than zero with a 99 % confidence interval. The rare confidence intervals that are lower than 99 % will be mentioned. Belgium is involved in many of these cases, because the wage gap there is particularly small and thus not always significantly different than zero.

(1) When professional experience is not available (which is the case for Germany, Greece and Ireland), age is used to approximate experience.

3.2 Results for the full sample

The principal appeal of the microeconomic data is that they make it possible to consider a series of individual factors that give rise to wage gaps. Once the econometric regressions have been performed, taking into account all of the explanatory variables cited above, it emerges that sector wage gaps do indeed exist, but generally to a much lesser extent than without controlling for the individual characteristics.

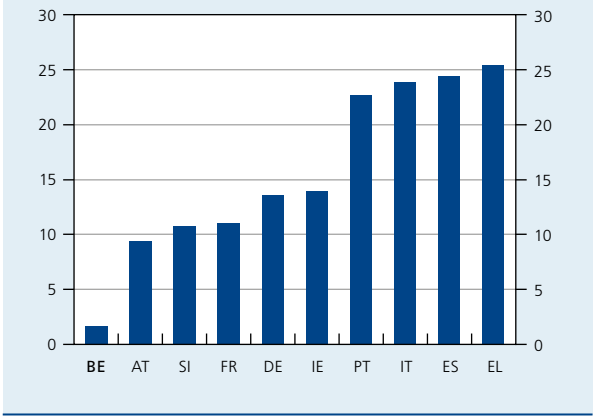
The wage gaps in terms of net hourly wages systematically favour public sector workers. They amount to 25.5 % in Greece and over 20 % in Spain, Italy and Portugal. The gap in favour of public sector workers varies from 10 % to 15 % in Ireland, Germany, France and Slovenia, and is weaker in Austria and Belgium[1], where it is respectively 9.4 % and 1.7 %.

Part of the gap in favour of public sector workers in Belgium is attributable to their relatively short working hours, according to workers' responses to the survey. The net monthly wage is 5.2 % higher in the private sector than in the public sector, controlling for individual characteristics. Nevertheless, the wage gap in Belgium, regardless of which concept is used, is particularly narrow compared with the other countries studied.

It is also useful to examine whether wage gaps are attributable to relatively high incomes in the public sector or to more modest salaries in the private sector. Applied to Belgium, the question is whether private and public sector wages are both relatively modest or both relatively high. However, it is important to keep in mind that the comparison in absolute terms that follows does not necessarily reflect the purchasing power that these incomes garner in each of these countries.

CHART 7 WAGE GAPS, CONTROLLING FOR INDIVIDUAL CHARACTERISTICS

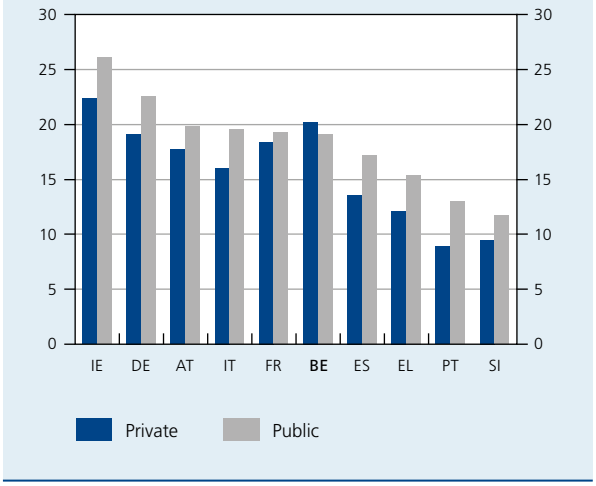
(net hourly wages, as a percentage of the net hourly wages in the private sector)



Source: Giordano *et al.* (2011).

CHART 8 PRIVATE AND PUBLIC SECTOR WAGES

(net annual wages, € thousands)



Source: Giordano *et al.* (2011).

Compared with the countries reviewed in this study, Belgium appears to be characterised by relatively high wages in the private sector. For the period 2004-2007 and for the sample of individuals polled for the EU-SILC survey, Belgium had the highest level of private sector wages, after Ireland. The average public sector wage, by contrast, is lower in Belgium than that of civil servants in Ireland and Germany, and is comparable to wages in France, Austria and Italy. With respect to other countries, it can be noted that the sector wage gaps tend to be greater in countries where wages are lower, both in the private and in the public sector.

3.3 Sample results broken down by individual characteristics

The gaps cited above are observed for the entire sample. It is possible to perform new analyses on sub-sets of the sample, created according to objective characteristics. The new econometric regressions performed on each sub-set allow us to measure the wage gap between public and private sector specific to each of these sub-sets.

(1) At a confidence interval of 95%.

3.3.1 Wage gaps by gender

An analysis by gender shows that wage gaps in favour of public sector workers are systematically greater for women than for men. Whereas the difference between genders is still limited in Italy, France and Portugal, it is particularly wide in Austria and Germany, for example. The reason that the wage gap between private and public sectors is bigger for women than for men is that public sector wages are less influenced by gender than are private sector wages. In other words, controlling for individual characteristics, women's wages are lower than men's in the private sector, but less so in the public sector.

In Belgium, the net hourly wage gap between the public and private sectors is not statistically significant for men, but is 3.4 % for women [1]. The reason for this difference is comparable to what is observed in other countries. Keeping in mind the well-known phenomenon of the wage gap between the genders in the private sector, the wage gap in favour of women in the public sector implies that the wage gap between genders is smaller in the public sector than in the private sector.

3.3.2 Wage gaps by branch of activity

The wage gap in favour of wage earners in the health and social work branch is systematically weaker than the gap in favour of wage earners in the two other branches belonging to the public sector. At least in certain countries, this is probably due to the special circumstances of this branch, which is closer to the private sector than the other two. Thus, wages are sometimes, for example, set less centrally in this branch than in the education or public administration branches. In Belgium and Germany, compensation in this branch is estimated to be somewhat lower than that of the private sector [2]. The gap is less than 10 % in Slovenia, Austria, Ireland and France. The gap most favourable to employees in this branch is in the Mediterranean countries, in particular Greece, where the salary advantage relative to the private sector is 20 %.

In seven of the ten countries studied, the wage gap relative to the private sector in education was the widest of the three branches of activity considered. Here again, it is worth noting that part of this gap is attributable to the small number of hours worked as reported by teachers, either because they omit a portion of time spent working at home, or because their workload is lighter in terms of working hours. This wage gap is in some cases particularly favourable to teachers, as is the case in Greece – where it is more than 40 % when controlled for individual characteristics – and the other Mediterranean countries, where it varies from 25 % to 35 %. It is also the most advantaged of the three branches of activity in Ireland, Austria and Slovenia, where it ranges from 13 % to 21 %. However, the gap is more limited than in the public administration branch in Germany and France. In Belgium, the gap in favour of education relative to the private sector is not significant, regardless of the confidence interval considered.

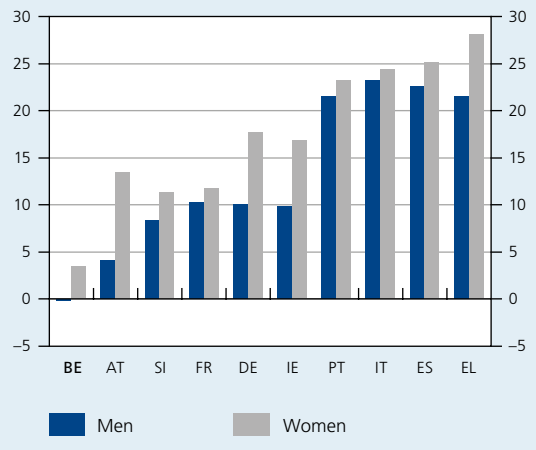
Lastly, the wage gap relative to the private sector enjoyed by workers in the public administration branch is most often in between those of the other two branches. It is more than 20 % in Portugal, Italy, Spain and Greece, but much lower in Austria and Belgium, where the gap relative to private sector wages is respectively 7.8 % and 5 %.

3.3.3 Regional wage gaps

Wage gaps also differ from one region to the next. In this regard, the EU-SILC survey makes it possible to classify workers according to the region where they live, but not according to the region where they work. Taking into account the region of residence rather than the place of work may have a particularly pronounced impact on the

CHART 9 WAGE GAP BY GENDER

(percentage of net hourly wages in the private sector, controlling for individual characteristics)



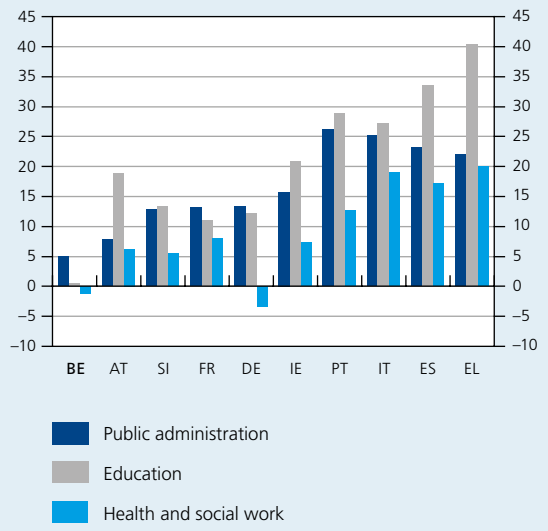
Source : Giordano *et al.* (2011).

(1) Note that, according to Delmotte *et al.* (2010), who based their findings on data by sector, not adjusted for individual characteristics, the wage gap between the genders is 14.3 % for the economy as a whole. According to this same source, not adjusted for individual characteristics other than gender, the gap is wider in the health branch and in the federal government, but narrower in education, in local administrations and in administrations of the Communities and Regions.

(2) In Belgium, wage gaps between the health branch and the private sector are not statistically significant. In Germany, they are significant at a 95 % confidence interval.

CHART 10 WAGE GAP BY BRANCH OF ACTIVITY

(percentage of net hourly wages in the private sector, controlling for individual characteristics)



Source: Giordano *et al.* (2011).

analysis of regions where many workers reside outside of the region, such as is the case in the Brussels-Capital Region in Belgium, for example. It should be noted that Ireland, Portugal and Slovenia are each composed of a single region.

In this context, it appears that Belgian wage gaps between the public and private sectors are relatively comparable in the three Regions. In the Flemish Region, the gap is not significant, whereas it is respectively 4.1 % and 6.1 % in Wallonia and the Brussels-Capital Region, i.e. limited regional differences compared with other countries. This dispersion of wage gaps is almost entirely attributable to the existence of wage scales in much of the public sector that apply to the entire country. Controlling for individual characteristics, incomes of public sector workers are the same regardless where they work. That being the case, the public sector/private sector wage gap is more or less pronounced depending on the Region due to regional differences in the wages paid in the private sector, which stem from differences in the regional labour markets. Private sector wages are generally higher in the Flemish Region, and thus closer to those in the public sector. In the other Regions, by contrast, labour market conditions are such that the private sector can get away with paying its workers less. Thus, the wage gap in favour of public sector workers in those Regions is more pronounced.

This same reasoning also explains why wage gaps in favour of the public sector are less pronounced in the most prosperous regions of certain countries: Madrid in Spain, Athens in Greece, north-west Italy and south-east Germany (Bavaria, Franconia, Swabia, etc.). This phenomenon is less evident in the Franche-Comté region in France, but this region is followed closely by the Centre and Île-de-France regions, which are economically vibrant.

Regional differences between public and private sector wages are particularly pronounced in Spain, France and Italy: they amount to more than 30 percentage points between the regions where the gap is the narrowest and those where it is the widest. By contrast, the differences are limited in Austria, topping out at 3.9 percentage points.

3.3.4 Wage gaps according to education level and type of function performed

Education level naturally influences compensation. In this regard, it makes sense to ask if education level exerts a different influence in the public sector than in the private sector.

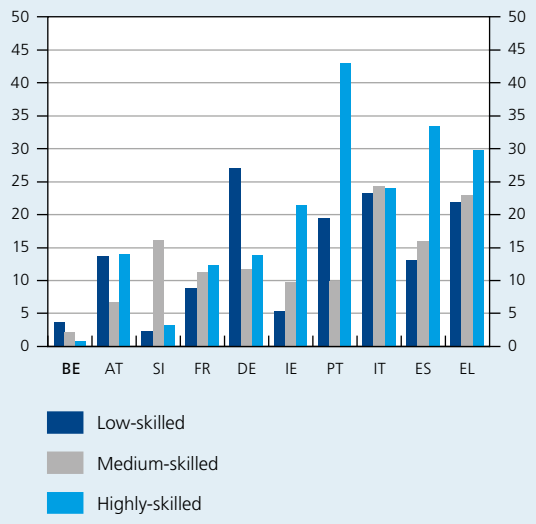
While there are indeed systematic differences, their size varies from one country to the next. In some of the countries considered – Spain, Ireland[1], Greece and France – the wage advantage enjoyed by public sector employees is bigger the higher their education level. This is attributable to institutional asymmetry. Access to the best-paid functions in the public sector generally requires the worker to hold a certain level of diploma. To the extent that this is not the case in the private sector, less educated people have greater opportunity for a financially rewarding career. The same observation holds for Portugal, with the exception that there is less of a wage gap for people with a medium level of education.

By contrast, Germany's wage gap in favour of public sector workers is particularly wide for low-skilled persons. In Germany, the absence of a minimum wage has a greater impact on private sector low-skilled workers, whereas public sector workers are more shielded from particularly low wage. The same lack of a minimum wage in Austria and Italy also results in a relatively favourable wage gap for low-skilled public sector employees. In Italy, the advantage is comparable for all levels of education. In Austria, the advantage for low-skilled workers is accompanied by an advantage for highly-skilled workers, which enjoy protected access to the upper echelons of the public sector.

(1) In Ireland, the difference is statistically significant at 95 % for low-skilled wage earners.

CHART 11 WAGE GAP ACCORDING TO EDUCATION LEVEL

(percentage of net hourly wages in the private sector, controlling for individual characteristics)



Source : Giordano *et al.* (2011)..

In Slovenia, wage gaps for highly-skilled and low-skilled employees are not significant, although they are more substantial for those with a medium education level. In Belgium, the wage gap is not significant for a high level of education, but is significant at confidence intervals of respectively 90 % and 95 % for medium and low levels of education. These gaps are minimal and appear to indicate that compensation profiles are relatively similar between the private sector and the public sector, for any given employees' education level.

Two types of functions enable further analysis of the extent to which the responsibilities expected of a supervisor are more valued in one sector or the other. The "supervisory" function is defined broadly in the context of the EU-SILC survey as resulting from a formal responsibility for other employees, which implies setting a course for work and verifying that it is properly executed. More so than for other characteristics, the responses given by people asked this question run the risk of subjectivity, such that caution is required when using them. That being said, it nevertheless emerges that for the group of countries studied, the wage gap in favour of public sector workers is greater for non-supervisors than for supervisors. This is because the financial advantages of managerial positions are greater in the private sector than in the public sector. In Belgium, wage gaps are once again particularly slim, regardless of the personnel category examined, and are not significant in the case of supervisors.

Based on these observations, it appears that in numerous countries, education level is more highly valued in the public sector, whereas the level of responsibility is better rewarded in the private sector.

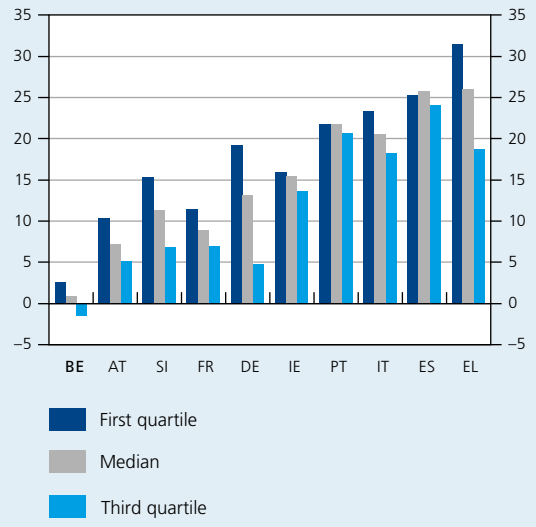
3.3.5 Wage gaps by level of compensation

Lastly, it is useful to examine whether wage gaps are of comparable size regardless of the income level of the workers in question. Regressions show that these gaps are fairly comparable in each quartile of incomes in Portugal and Spain. Elsewhere, the wage gap between public sector and private sector workers is greater the less they earn. Even so, wage gaps within each quartile remain limited, at around 5 percentage points in Belgium[1], France, Italy and Austria. These inequalities are, however, more pronounced in Slovenia, Greece and Germany, where belonging to the public sector is more of an advantage for lower wages than for higher wages.

This trend, observed in most countries, confirms what was shown by earlier observations, i.e. that the dispersion of wages in the public sector is more limited than in the private sector.

CHART 12 WAGE GAP ACCORDING TO COMPENSATION LEVEL

(percentage of net hourly wages in the private sector, controlling for individual characteristics)



Source : Giordano *et al.* (2011).

(1) The differences are statistically significant at respectively 90 % and 95 % for the median and the third quartile in Belgium.

Box – Wage adjustment in the public sector as a measure of fiscal consolidation in Greece, Ireland, Portugal, Spain and Italy

As part of the fiscal consolidation under way in the European countries that have come under the greatest pressure from financial markets, measures have been enacted to limit the total wage bills of general government.

The measures taken up to September 2011 – that were strengthened afterwards in Greece, Portugal and Italy – are expected to produce budget savings equal to 4.6 percentage points of GDP between 2010 and 2014 in Greece, and 1.4-2.7 points of GDP in the other countries mentioned. The measures, summarised below, affect both employment in the sector and the wages of those already employed there.

Greece

Of all the fiscal consolidation measures enacted in Greece, the principal ones aimed at reducing the public sector wage bill consist in replacing only one in ten departing workers in 2011, raising the workweek of public sector employees from 37.5 to 40 hours, reducing overtime pay, overhauling the pay scale, reducing the number of people employed in contract – by 50 % in 2011, then by an additional 10 % in 2012 and beyond – and temporarily freezing automatic career progression. Furthermore, redundant public administration staff will be either put on standby, paid on average 60 % of their base salary, or fired. Between 2010 and 2015, the total number of government employees is thus expected to decline by 20 %. Overall, the total wage bill is expected to fall by 4.6 points of GDP between 2010 and 2014. These measures will be reinforced, as the 2012 budget calls for a further 20 % reduction in the nominal wages in the public sector and at companies controlled by the State, and for a further tightening of public employment.

Ireland

In Ireland, a number of measures have been taken to ensure the long-term sustainability of its public finances. These include a 14 % average cut in public sector wages, with more limited reductions for low-income workers, which will also help reduce future pension costs. In the wake of the financial assistance being provided to Ireland, the budget calls notably for reducing public sector headcount and adapting public pension services. The public wage bill as a share of GDP is expected to fall from 11.8 % in 2010 to 9.6 % in 2015.

Portugal

Plans to clean up Portuguese public finances include dramatic spending cuts, including an average 5 % drop in public sector wages in 2011, a commensurate drop in 2012, and a freeze in wages and pensions in 2013, with the exception of the lowest pensions. Furthermore, vacation bonus payments and the 13th and 14th months of salary granted to civil servants earning more than € 1000 per month will be suspended. As a result, payroll spending, which amounted to 12.6 % of GDP in 2009, is likely to fall to 9.9 % of GDP in 2015.

Spain

In May 2010, the Spanish government approved exceptional measures for restricting public spending, which included a 5 % cut in nominal public sector wages in 2010, followed by a freeze in 2011 and limited growth in 2012 and 2013. Furthermore, the replacement rate for departing personnel was set at 10 % in 2011-2013, which is expected to shrink the public administration headcount by 7 %. Overall, the public sector wage will contract by 2.2 points of GDP between 2010 and 2014.

Italy

Efforts to cut spending call for a decrease in public sector compensation through measures such as freezing the wages of national health care system employees and the automatic pay raises, as well as suspending wage-bargaining negotiations. Furthermore, only 20 % of workers leaving for retirement will be replaced. The savings generated by these measures are expected to reach 1.4 points of GDP between 2010 and 2014.

Conclusions

In Belgium, the total compensation of public sector employees has risen sharply since the early 1970s. This spending is at a proportionally high level relative to other European countries.

Given the previously etablished fact of a relatively high level of public employment in Belgium, it remained important to look at the level of wages in the public sector, which had not been done recently in Belgium. This article has thus tried to remedy that shortcoming, with research based principally on wage gaps between the private and public sectors, comparing the situation in Belgium with that of other European countries.

In most of the countries analysed, wages are higher in the public sector than in the private sector, regardless of whether macroeconomic or microeconomic data are used. With the former, it is not possible to consider differences in the characteristics of the populations working in each of the two sectors. Indeed, the public sector – notably in Belgium – is made up of more women, older workers, and people with a higher level of education, but public sector employees work fewer hours and are less likely to occupy a managerial position. To take these factors into consideration when comparing wages between the two sectors, microeconomic data from the EU-SILC survey were used. However, caution must be used with respect to these data, because there are risks stemming from the representativeness of the sample and the way those polled interpret the questions asked. Nevertheless, the observations based on the microeconomic and macroeconomic data overwhelmingly corroborate each other.

The analysis shows that the countries where the average wage gap is the biggest in favour of the public sector's employees are also the countries experiencing now the toughest budget woes. According to microeconomic data, wage gaps – expressed in net hourly terms – are over 20 % in Portugal, Spain, Italy and Greece. The gap in Ireland is 14 %. The existence of such gaps may have played a role in those countries' decisions to freeze or cut public sector wages as part of the fiscal consolidation programmes they have adopted. Furthermore, part of these wage gaps between sectors may arise from the lower number of hours worked in the public sector; an alternative, being pursued in Greece, consists in bringing the number of public sector working hours per occupied person into line with the number worked in the private sector.

In most of the countries studied, the salary advantage enjoyed by public sector workers holds for every sub-set of workers, although to differing extents. Thus, wage gaps are the widest for women, for lower levels of income, for those who do not have supervisory functions, and in the branches of administration and education, but the gaps are more limited in the health and social work branch. The impact of education level on wage gaps varies from one country to the next.

The wage gap between sectors in Belgium is one of the narrowest of any country studied, regardless of what data are used. According to macroeconomic data, it tends to be slightly in favour of the private sector's employees. According to microeconomic data, in which wages are adjusted to control for individual characteristics – gender, experience or age, education level and managerial duties – wages are slightly higher in the public sector than in the private sector. For many groups of workers, the gaps are so limited in Belgium that they are not statistically significant. The gaps are relatively narrow in Belgium principally because average wages in the private sector are relatively high, as public sector wages are close to those of most other European countries.

As the level of public sector wages in Belgium appears justified when compared with those in the private sector, given the respective characteristics of wage earners in the two sectors, any reduction in public spending on sector payroll, as part of the necessary clean-up of public finances, should favour limiting public employment.

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The distributive trade sector and its impact on euro area prices

D. Cornille
J. Langohr

Introduction

The distributive trade sector is the principal link between producers and consumers. The part it plays as an intermediary is reflected in the fact that its value added totals an average of 25 % of the consumer price of goods in the euro area. The distributive trade sector is composed of three sub-sectors : wholesale trade, retail trade and automobile trade. The retail trade is particularly important to the economy, because retailers set many consumer prices. As a result, the degree of competition and, more generally, the structural characteristics of the retail segment are critical parts of any analysis of price formation.

Retail trade is constantly evolving, and the forces that have shaped it in recent years have affected its structure, and thus consumer prices and inflation as well. Apart from consolidation and growing internationalisation, we are also seeing, for the euro area as a whole – though to different extents depending on the country – a simultaneous rise in the market shares of discounters, private label brands and online retailers.

This article draws largely on the Eurosystem's 2011 Structural Issues Report (SIR). This October 2011 report, entitled "Structural features of distributive trades and their impact on prices in the euro area", was prepared by a Eurosystem task force in which the NBB took part. Moreover, one source of inspiration for the report was the Baugnet *et al.* article published in the September 2009 Economic Review on the same topic.

(1) The grocery sector includes not only food products, but also the common household goods sold in supermarkets.

The article here aims to pinpoint the current situation in Belgium through a comparison with the past and with the situation in the three main neighbouring countries (Germany, France and the Netherlands), as well as in the euro area overall. It focuses on the retail trade, and more specifically the grocery trade[(1)], in part because it has the largest market share and in part for practical reasons having to do with the availability of comparable data for all the countries.

The first chapter reviews some of the distributive trade sector's structural characteristics and recent developments. We illustrate the significant weight of distributive trade in the economy, and also note the specific nature of employment in the sector. Following an analysis of market share according to the different categories of grocery points of sale, we look at the three principal recent developments in the retail trade segment (the growing importance of discounters, private labels and online sales). The second chapter focuses on retail industry regulations, relying on two indicators : the OECD's Product Market Regulation indicator, updated for 2010, and a new indicator for point-of-sale opening hours, both calculated using information supplied by the task force. The third chapter is devoted to the competitive landscape, measured by the level of concentration among grocery retailers as well as by profit margin. In addition, the degree of competition at the local level is analysed on the basis of the methodology from the NBB's Baugnet *et al*. article (2009), and the situation in Belgium is compared with that of nine other euro area countries. Lastly, chapter four attempts to describe and illustrate the impact of the sector's degree of competition and structural characteristics on price formation, using several analyses from various angles.

1. Structural characteristics and recent trends

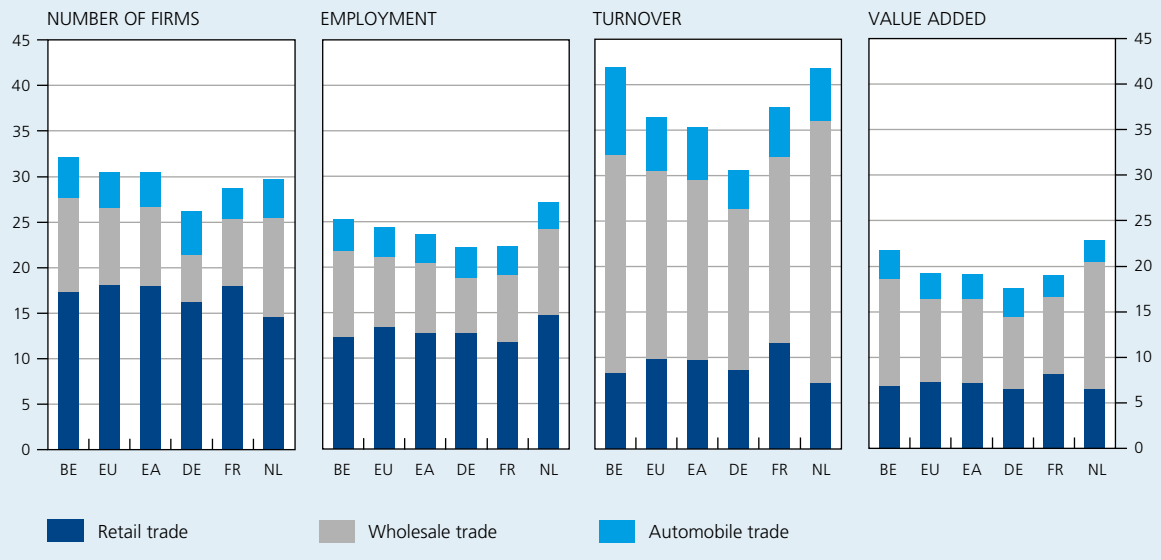
The distributive trade sector comprises a very large number of companies, encompassing all the points of sale within the scope of an economy, regardless of their size (often very small) and the products they sell. For example, in the euro area, three out of ten private sector companies (excluding finance, agriculture and fishing) belong to the distributive trade sector. In Belgium, the proportion is actually one in three, a bit higher than the average in the euro area and in the three neighbouring countries; this difference is attributable primarily to the particularly high number of wholesalers in Belgium (wholesalers alone represent 10.3 %), which is a regional logistics centre, as is the Netherlands.

In terms of turnover, the distributive trade sector is an even more important part of the economy. This is essentially due to the wholesale segment, given its role as intermediary between producers and retailers. In Belgium, wholesalers actually generate nearly a quarter (24 %) of private sector turnover, excluding the financial, agricultural and fishing sectors. Conversely, they employ relatively few workers and create little added value proportional to their turnover. Furthermore, the wholesale trade is more productive than the retail trade, because it is more capital-intensive. The retail trade, which is labour-intensive, carries more weight in terms of employment.

This contrasting situation with respect to workers employed within the distributive trade sector must be understood in the context of strong job growth in the sector overall since the launch of Economic and Monetary Union in 1999. Of the 15 million jobs created in the euro area between 1999 and 2009, around one in seven was created in distributive trade. However, the structure of employment in this sector is different from that of the rest of the economy in several respects. For example, distribution, and the retail segment in particular, includes a high proportion of self-employed workers, especially in Belgium, due to the relatively high number of small points of sale, even though this proportion is not as high as in some southern European countries, such as Greece or Italy. Part-time work is also more common in distributive trade (particularly in the Netherlands), and there are more young workers in this sector than in the rest of the economy. This last characteristic is, however, less pronounced in Belgium, although at the euro area level, more than 40 % of jobs for the under-25 age group come from this sector. Female workers are also proportionally more prevalent in this sector; at the euro area level, one in eight women is employed in the retail trade. Furthermore, work in the sector is less skilled and less well paid, even by comparison with other sectors with a high percentage of low-skilled workers. The level of

CHART 1 ECONOMIC SIGNIFICANCE OF THE DISTRIBUTIVE TRADE SECTOR

(percentage of the private sector, financial sector excluded, 2007 figures) (1)

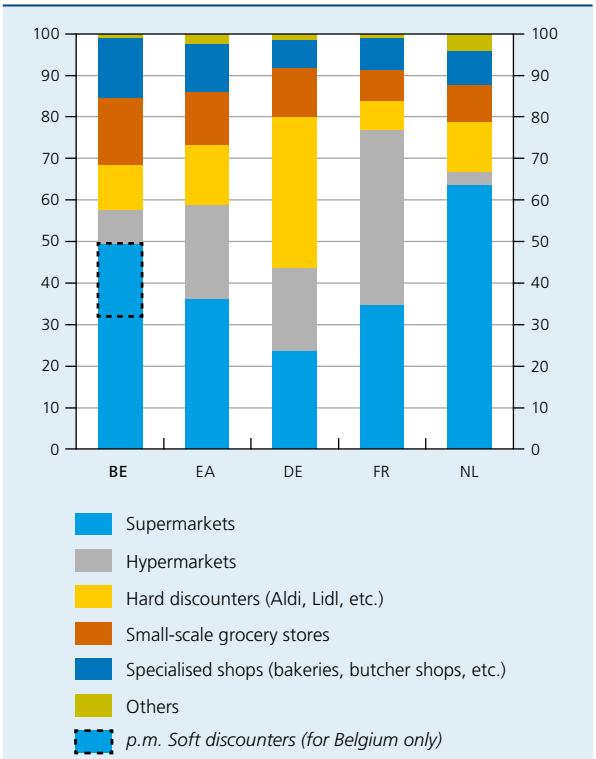


Sources: Eurostat SBS database and Eurosystem calculations.

(1) Total economy, excluding the financial sector, public sector, agriculture and fishing. 2006 figures for EU value added.

CHART 2 MARKET SHARE OF THE DIFFERENT CATEGORIES OF POINTS OF SALE IN THE GROCERY SECTOR (1)

(percentages, 2009 figures)



Sources: Euromonitor and Eurosystem calculations.
(1) The grocery sector includes not only food products, but also the common household goods sold in supermarkets.

union membership is generally low in the sector, but not in Belgium, where it is very high and in fact higher than in the rest of the economy. As a result, distributive trade has a potentially important role to play with respect to growing employment, in particular for specific groups such as low-skilled workers.

This role depends notably on developments in the market shares of the different point-of-sale categories, principally in the grocery sector. It is interesting to note that Belgium and each of its neighbouring countries all have their own specific feature in this field. In Germany, hard discounters have a 36 % market share, by far the highest proportion in the euro area. France is dominated by hypermarkets (42 % market share), whereas supermarkets are the primary retailers in the Netherlands (64 % share) due to the near absence of hypermarkets because of land-use planning rules. Supermarkets are also dominant in Belgium, with a market share of 50 %, although it is important to specify that soft discounters (1) are part of this category and have a market share of 18 % all to themselves. This is by far the biggest market share for soft discounters in the euro area (Germany is next with a share of around 10 %). Only a couple of Nordic countries (Norway and Denmark) have higher soft discounter market shares.

Another characteristic of Belgium is the greater prevalence of small-scale grocery stores and specialised shops, which have a combined market share of 31 %, compared with 24 % for the euro area, and even less in each of the three neighbouring countries; this is demonstrated by the abundance – compared with neighbouring countries – of stores in the grocery sector relative to the population. The euro area average is slightly higher than that of Belgium (2.6 stores for 1 000 inhabitants compared with 2.3 in Belgium) due to the influence of southern countries, where small points of sale are still numerous. By contrast, in terms of sales area per 1 000 inhabitants, Belgium is as far ahead of the three neighbouring countries as it is ahead of the euro area average. Figures tracking sales per store confirm the high proportion of small stores in Belgium relative to Germany and especially to France. Figures showing the number of stores relative to surface area, for their part, reflect Belgium and the Netherlands' high population density. The large number of small-sized points of sale in Belgium, and notably of specialised shops, may have an impact on prices, and indicates that in principal Belgium still has room to generate economies of scale. This high proportion may result from the type of regulations that currently govern large outlets, but the high number of specialised shops is undoubtedly also largely attributable to the Belgian consumer's preference for this type of point of sale.

TABLE 1 POINTS OF SALE IN THE GROCERY SECTOR (1)

(2009 figures)

	Number of stores per 1 000 inhabitants	Sales per store (in € thousand) (2)	Number of stores per 100 km²	Sales area per 1 000 inhabitants (in m²)
BE	2.3	1 224	81	546
EA	2.6	890	33	459
DE	1.3	1 480	30	488
FR	1.4	1 866	17	443
NL	2.0	915	81	345

Sources: Eurostat, Euromonitor and Eurosystem calculations.
(1) The grocery sector includes not only food products, but also the common household products sold in supermarkets.
(2) Adjusted for purchasing power parity.

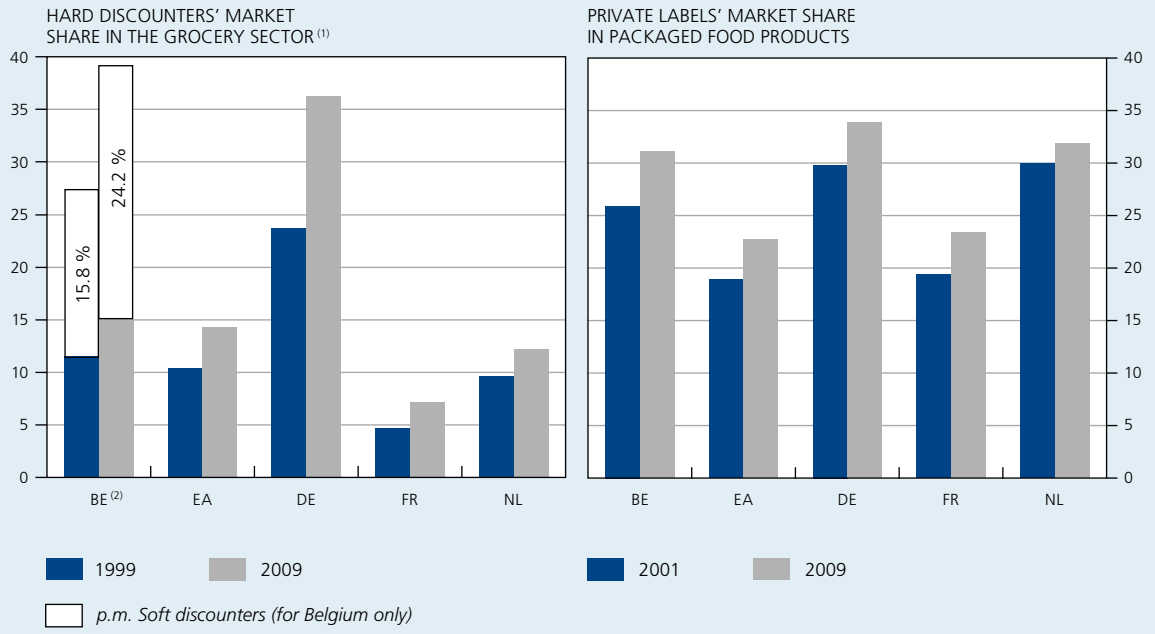
(1) Soft discounters have a proportionally higher amount of fresh produce and brand-name goods, whereas hard discounters offer primarily non-perishable goods and private discount-label goods.

Despite the resilience of small stores and specialised shops in Belgium, the emergence of hard discounters has been one of the most important trends in the grocery sector in recent years. Hard discounters offer relatively little variety in their product range, most of which consists of private-label goods. The sales area is small and the focus is on cutting costs in order to offer the best prices. A distinction is generally made between hard discounters (very low prices, only private labels and a high volume of non-perishable food) and soft discounters (which also offer brand-name goods and more fresh produce). Between 1999 and 2009, the market share of hard discounters rose from 10 % to 14 % in the euro area, but this rise obscures very different trends from one country to the next. Germany and Austria are the two countries where the share of hard discounters is the highest (respectively 36 % and 23 % in 2009), whereas Belgium and the Netherlands fall into a second group in which the market share of hard discounters is over 10 % (respectively 15 % and 12 % in 2009). The high and growing market share of soft discounters is another characteristic of the Belgian market. The development of soft discounters, and especially that of hard discounters, is likely to have an impact on consumer price trends, given that these retailers offer lower-price products. Because hard discounters are generally smaller in size, they are easier to open than are super- or hypermarkets, and can thus help boost competition despite planning rules. However, it is important to take into account the fact that hard discounters do not target exactly the same consumers and so are not exactly in the same market as super- and hypermarkets, because those retailers' customers make decisions not only based on the price.

Similarly, whereas private labels do not necessarily compete for the same customers as well-established brands, they also disrupt the structure of the retail trade. Private labels are developed by retailers and belong to them, although the retailers do not always produce the goods themselves. These products generally have a high degree of penetration among fairly basic products; packaged food items are one good example. In Belgium, private-label goods' market share in this sub-segment rose from 26 % in 2001 to 31 % in 2009. This market share is among the highest in the euro area. Only in Germany and the Netherlands is the percentage higher. This growth of private labels has been facilitated by the consolidation of the grocery sector, in which a certain number of retailers are present in several countries and have grown big enough to enjoy economies of scale and launch their own brands. Just like the rise of

CHART 3 MARKET SHARE OF HARD DISCOUNTERS AND PRIVATE LABELS

(percentages)



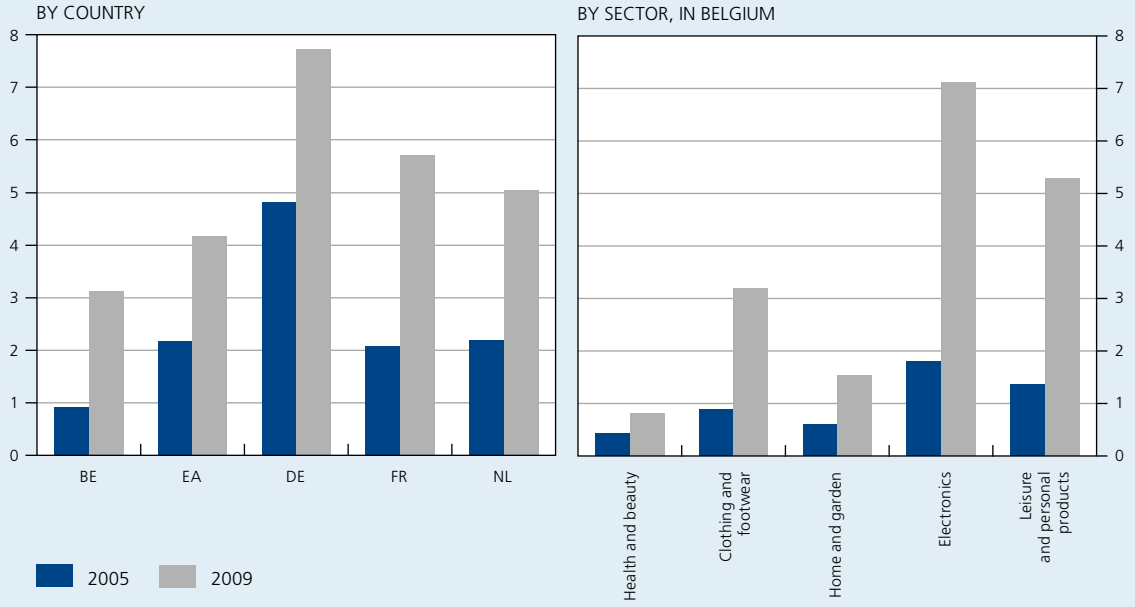
Sources: ACNielsen, Euromonitor and Eurosystem calculations.

(1) The grocery sector includes not only food products, but also the common household products sold in supermarkets.

(2) Only stores larger than 100 m².

CHART 4 SIZE OF THE ONLINE RETAIL SEGMENT

(ratio of online to store-based retail sales, percentages)



Sources: Euromonitor and Eurosystem calculations.

hard discounters, that of private labels can be expected to exert downward pressure on prices.

A downward effect on prices is also likely to result from the surge in online retailing, which is sometimes considered the closest thing to the "perfect market", where consumers can easily compare prices and geographic location is not very important. Those factors are expected to lead to lower prices and less divergence as a result of better competition and bigger economies of scale. Online retail trade mainly involves particular categories of goods and services which do not include food products, for instance. In Belgium, online retailing is still limited, accounting for just over 3 % of store-based sales, compared with a little over 4 % for the euro area and 5-8 % in the three neighbouring countries, which have the most developed online commerce in the euro area along with Finland. The growth in online retailing in Europe, and more specifically in smaller countries like Belgium, has been primarily slowed by the barriers that remain between countries, and this explains why barely 2-4 % of online transactions cross borders. These barriers are numerous, and include technical, payment, delivery, language and consumer protection problems, or even VAT differences. A recent study by the Federal Public Service Economy[1] also cites weak entrepreneurship in Belgium and the conservative nature

(1) FPS Economy, *La facilitation de l'offre d'ecommerce en Belgique* (Study on facilitating the supply of e-commerce in Belgium). http://economie.fgov.be/fr/binaries/Etude_e_commerce_Belgique_2011_tcm326-133937.pdf

Box 1 – Effects of changes in the structure of distributive trade on inflation measurements

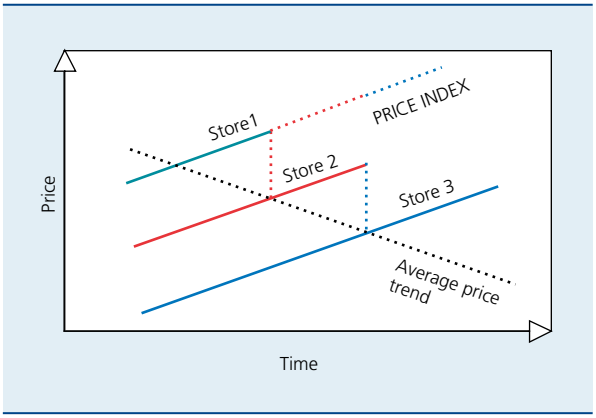
The structural changes identified earlier – the growing share of discounters, private labels and online retailers – have implications for measuring inflation. Two types of problem can arise. On the one hand, if the sample used to create the price index is not adapted to reflect these structural changes, there is a risk that the sample will

grow progressively less representative. This could lead to errors in measuring inflation, especially if price trends are systematically different depending on the type of store or type of product, and if the relative shares of the different types of stores and products change. This argues in favour of frequently updating the sample of products and points of sale included in the calculation of the consumer price index.

In addition, when the sample is adapted, the methodology used to add new stores and new products is not neutral. In principle, the price level of a new store/product will not be the same as that of the rest of the sample, or that of the store/product that it is replacing. Thus, it makes sense to correct for this price difference and also take into account the difference in quality (the retailer's quality of service in terms of location, surroundings, presentation, availability of personnel, number of check-out lanes, etc.). In practice, however, national statistical institutes often use a transition method that attributes all of the difference in price to a difference in quality (of the retailer's service level).

This practice can cause inflation to be overestimated, as illustrated by the following theoretical example. Consider the case of a small store that is replaced by a supermarket whose prices are lower, which is then in turn replaced by a discounter whose prices are even lower. If the price difference is entirely neutralised each time the store is replaced, the lower price levels of the supermarket and discounter will have no impact on the index level. As a result, inflation is overestimated because no price cut is factored in [(1)]. In the literature, this problem is referred to as "new outlet bias".

INTEGRATION OF NEW TYPES OF SALES POINTS OR PRODUCTS INTO THE CONSUMER PRICE INDEX



Source : Adapted from Greenlees and McClelland (2008).

It is not easy to quantify this bias exactly, and no estimate is available for Belgium or the euro area. While estimates for countries such as the USA, Portugal, France and Germany for the 1990s indicate that this type of bias was not very significant, in the light of recent, rapid changes in market share among these retail formats, public authorities must nevertheless remain focused on the challenge of correctly measuring inflation. Apart from the importance of frequent sample updating, additional research in the area is desirable, for example in order to correctly estimate differences in quality. In Belgium, the index reform (base 2012 = 100) currently in preparation and which is likely to be applied starting in 2014 (replacing, after eight years, the index 2004 = 100 introduced in 2006) is a chance to guarantee the representativeness of the index by also including an adequate method for sample updating. This will also put the index in a position to incorporate future changes, such as the likely growth of online retailing (in which Belgium currently lags the rest of the euro area).

(1) Unless the price difference does actually only reflect a difference in quality. Nevertheless, the very success of the formats offering lower prices indicates that consumers tend to think that the price difference more than offsets any difference in quality.

of the retail trade sector as further potential obstacles to the development of online retailing in Belgium.

2. Regulation

Distributive trade sector regulations are one of the factors that may explain the material differences observed between the countries of the euro area with respect to the structural characteristics of commerce and employment in this sector, but also recent trends. As a matter of fact, Belgium is not in a very good position when it comes to retail trade regulation. According to the OECD's Product Market Regulation (PMR) indicator, only the Grand Duchy of Luxembourg has more restrictive regulations than Belgium. The PMR indicator is calculated using six base indicators that draw on qualitative data collected from the various countries concerned and codified on a standardised scale of 0 to 6. A higher score indicates more restrictive regulation [1]. While the indicator's simplicity is clearly an advantage, it is also a limitation. The criteria used sometimes offer a rudimentary view of reality, as questions often ask for straightforward binary (yes/no) answers. Furthermore, the PMR is calculated based on the existence of rules rather than their content.

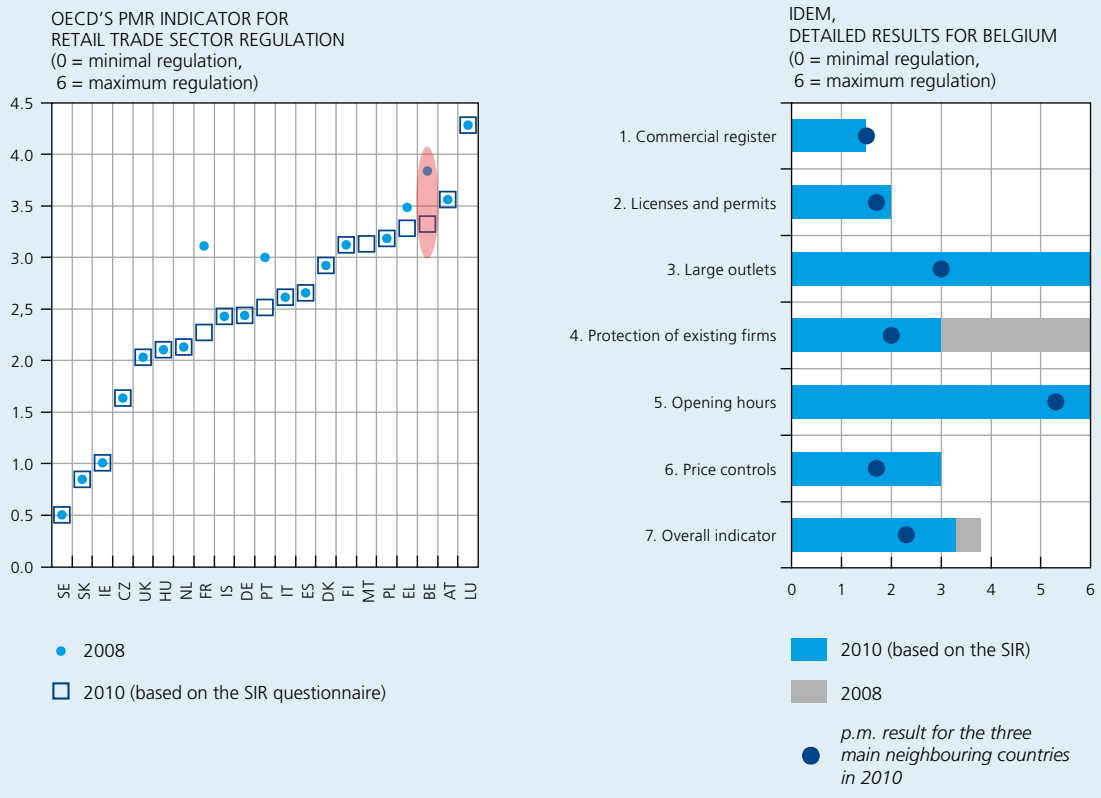
The principal laws and provisions that explain Belgium's poor ranking are the planning rules for large retailers, legally protected monopolies (pharmaceuticals), protections for existing firms, and laws governing opening hours. Furthermore, these are the regulations most often cited as potential obstacles to retail businesses, along with the Law on market practices and the protection of consumers, which covers a wide variety of provisions (seasonal sales, combined sales, etc.) [2].

The OECD has published this indicator every five years since 1998. The most recent figures (February 2009)

(1) The six base indicators are: registration with the commercial register (for the sale of food products), licences or permits needed to carry out a commercial activity (for the sale of food products), specific regulations for large outlets (in practice, only the minimum surface area to which regulations apply), protection of existing firms, opening hours (whether or not regulation exists and, secondarily, whether the regulation is national or local), and price controls (questions subdivided by product category). For detailed information on this indicator, see Box 1 in Baugnet *et al.* (2009).

(2) For detailed information on these regulations, see Baugnet *et al.* (2009).

CHART 5 REGULATION OF THE RETAIL TRADE



Sources: OECD and Eurosystem calculations.

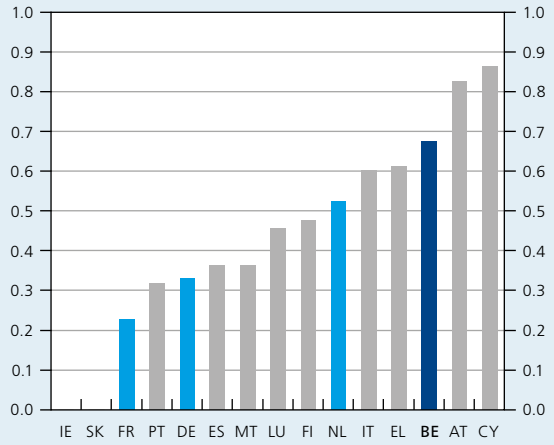
refer to 2008. In the Structural Issues Report, however, the various national central banks (NCBs) were asked to update the questionnaire that the OECD uses to calculate its indicator using data for the year 2010. The goal was to evaluate any progress made since 2008. In the four countries that have made changes to regulations since 2008 – Belgium among them – all of the changes involved easing regulations, resulting in a (modest) drop in their indicators, according to unofficial Eurosystem estimates. Even so, Belgium remains at the back of the pack, although it has now caught up with Austria.

This drop in the Belgian indicator, according to the SIR, is due to the assessment of the "Ikea" Law's effect on the protection of existing firms. Whereas economic criteria will no longer be considered in granting licences and permits – stipulated by the Law of 22 December 2009 transposing the Services Directive into national legislation – thus easing these restrictions, it is the assessment of the limited role of the representatives of professional organisations that is influencing the degree of regulation estimated in 2010. The Directive effectively forbids the involvement of professional organisations in permitting decisions, but, when the Directive was transposed, the legislature did not do away with the consulting role of the National Socio-Economic Committee for the Retail Sector (NSECRS), implicitly recognising that its non-binding opinions could not be considered an intervention in the decision. While this aspect of the legislation remains open to criticism, in any event the EU Directive takes precedence over the national legislation. Nevertheless, it is by no means certain that the OECD would make the same interpretation, so the progress actually observed would not necessarily be recorded as such by the official indicators.

One of the criteria taken into consideration for the PMR is the legislation on opening days and hours. This is a sensitive topic, because it deals with cultural and societal norms. In Belgium, opening days and hours in the retail trade are governed by the Law of 10 November 2006 (1). The criterion used by the OECD for the PMR indicator is the existence of relevant regulations, and the fact that it is a national regulation is an aggravating factor (2). This being the case, Belgium receives a maximum score of 6, like many other countries. To better gauge the flexibility of opening hours, it makes sense to look at the actual extent of the regulation. To this end, the Eurosystem created a new specific indicator focusing solely on regulations governing opening hours. It draws on information supplied by the members of the task force for the 2011 SIR (see Box 2 for more details). According to this indicator, Belgium is still one of the most restrictive countries, coming in ahead of only Cyprus and Austria. The explicit obligation to be closed one day of the week is particularly detrimental to

CHART 6 EUROSYSTEM INDICATOR FOR OPENING HOURS REGULATIONS

(0 = minimum regulation, 1 = maximum regulation)



Sources: OECD and Eurosystem calculations.

Belgium's score (3). However, when interpreting this indicator, it must be kept in mind that retailers often, especially in Belgium, decide not to operate the maximum number of hours allowed by law, which means that the average number of hours stores are open is below the legally allowed ceiling. The collective bargaining agreements in place in the retail trade sector probably have something to do with this as well.

Even so, there is substantial correlation between country rankings according to the OECD's PMR indicator and the opening hours indicator (Spearman rank correlation of 0.73, significant at 99.5 %), which indicates that the penchant for regulation tends to affect multiple aspects of a sector, and that Belgium appears to suffer from legislative creep. Progress has been made, admittedly, largely due to the transposition of EU Directives, but a real effort to simplify and streamline existing laws needs to be made. Even though not all regulations are restrictive, the mere

(1) This law consolidated and updated earlier legislation from 1960 and 1973 without altering the main concepts. With respect to opening days, the principle is that businesses must be closed one day a week, or rather an uninterrupted 24-hour period starting on the business' chosen day – Sunday by default, but not necessarily – at 5:00 am or 1:00 pm. With respect to opening hours, the principle is that businesses may be open between 5:00 am and 8:00 pm from Monday to Saturday, and until 9:00 pm on Friday and the day before legal holidays. Three types of exceptions may be granted: depending upon the type of business (transport hubs, newsstands, petrol stations, etc.), for exceptional circumstances (15 days per year maximum) and in tourist areas.

(2) For example, the UK – a country where opening hours are virtually unlimited but nevertheless governed by specific legislation – receives the maximum score. Conversely, Germany receives a lower score because the *Länder* are responsible for opening hour laws.

(3) In other countries, such as France for example, there are indirect regulations governing opening hours via labour laws (Sunday opening hours). The indicator does not take these into account.

Box 2 – Methodology of the Eurosystem indicator for opening hours regulations

Because of the limitations of the PMR indicator for opening hours, the Eurosystem developed a new, more detailed indicator exclusively designed to accurately reflect the maximum number of store opening hours and days authorised under national law. For countries with a variety of regulations at the regional and local level, the regulations most representative of the national legislation are used.

The indicator is based on six variables, chosen to reflect the period during which stores are not authorised to open:

1. Time of day from which stores are authorised to open (between 0 and 24; average for all days of the week, Sunday included; if opening on Sunday is unauthorised, the variable takes the maximum value of 24);
2. Time of day by which stores must be closed (same as for variable 1, but defined as equal to 24 minus the weekly average so that a high value accurately reflects a restrictive regulation);
3. Maximum number of opening hours per day (defined as equal to 24 minus the maximum number of opening hours);
4. Maximum number of opening hours per week (defined as equal to 168 [7x24] minus the maximum number of opening hours);
5. Minimum number of closing days per year;
6. Minimum number of Sundays and holidays when stores must be closed (defined as equal to 52 minus the maximum number of Sundays and holidays when stores may be open).

Each variable is re-graded on a scale of 0 (minimum regulation) to 1 (maximum regulation). The variables are put into three groups: limits on opening and closing hours (variables 1 and 2), maximum number of daily and weekly opening hours (variables 3 and 4) and minimum number of closing days per year (variables 5 and 6). Each group is assigned a weight of one-third, and within each group, the weight is divided either equally (group 2) or unequally (weights of 0.75 and 0.25) in order to give greater weight to variables thought to best reflect the constraints (variables 2 and 6).

In the euro area (with the exception of Slovenia and Estonia), only Ireland and Slovakia have no opening hours regulations. Among the other countries, only Italy is governed by local regulations rather than national regulations. Certain countries (Germany, Netherlands, Portugal and Spain) have national, regional and local laws. Belgian legislation stands out because of the fact that it requires a minimum of 52 closing days per year (one day a week), an obligation that exists in only two other countries, but which is much more flexible in those countries: 4 days minimum in Greece and 10 days minimum in Cyprus. The new indicator does not, however, take exceptions into account. These are relatively significant in Belgium and fall into three categories: according to the type of business (transport hubs, newsstands, petrol stations, etc.), for exceptional circumstances (15 days per year maximum) and in tourist areas. As for regulations governing opening hours and times, Belgium has more regulations than any other euro area country, but they are not necessarily the most restrictive. For example, with regard to the maximum number of opening hours per day, Austria, Finland, Italy and Cyprus impose a lower limit than Belgium does. The same is true of the maximum number of opening hours per week, where Austria, Portugal, Spain and Cyprus are also more restrictive than Belgium.

EURO AREA OPENING HOURS REGULATIONS[1]

	AT	BE	FI	FR	DE	EL	IE	IT
Existence of regulation	Yes	**Yes**	Yes	Yes	Yes	Yes	No	Yes
Type of regulation	National	**National**	National	National	Nat./Reg.	National	National	Local
Maximum number of opening hours per day	15	**16**	14			16		13
Maximum number of opening hours per week	72	**91**						
Opening time								
Ordinary weekdays	6	**5**	7			5		7
Saturdays	6	**5**	7			5		7
Sundays and holidays		**5**	12		13	5		7
Special weekdays		**5**						
Closing time								
Ordinary weekdays	21	**20**	21			21		22
Saturdays	18	**20**	18		20	20		22
Sundays and holidays		**20**	18		18	20		22
Special weekdays		**21**[2]						
Minimum number of closing days per year		**52**[3]				4		
Maximum number of opening days on Sundays and holidays	0	**15**		5	4	2		14
Exceptions to the general regulations	Yes	**Yes**	Yes	Yes	Yes	Yes	No	Yes

	LU	NL	PT	SK	ES	CY[4]	MT
Existence of regulation	Yes	Yes	Yes	No	Yes	Yes	Yes
Type of regulation	National	Nat./Loc.	Nat./Loc.	National	Nat./Reg.	National	National
Maximum number of opening hours per day			18			15	
Maximum number of opening hours per week			61		84	84.5	
Opening time							
Ordinary weekdays	6	6	6			5	4
Saturdays	6	6	6			5	4
Sundays and holidays	6	6	8		11		4
Special weekdays							
Closing time							
Ordinary weekdays	21	22				20	19
Saturdays	18	22				20	20
Sundays and holidays	13	22			23		22
Special weekdays						15[5]	
Minimum number of closing days per year						10	
Maximum number of opening days on Sundays and holidays		12			8	0	
Exceptions to the general regulations	No	Yes	Yes	No	Yes	Yes	Yes

Sources: Eurosystem calculations based on information supplied by the OECD and the NCBs.

(1) If there is no specific regulation, the space is left blank.

(2) Friday.

(3) One day per week.

(4) Regulation for summer opening hours. In winter: the maximum number of opening hours is 14.5 per day and 82 per week, and the closing time is 7:30 pm during the week and 7:00 pm on Sundays.

(5) Wednesday.

fact that they exist can influence market participants' perception of obstacles. This is likely to limit competition and be a source of inefficiency.

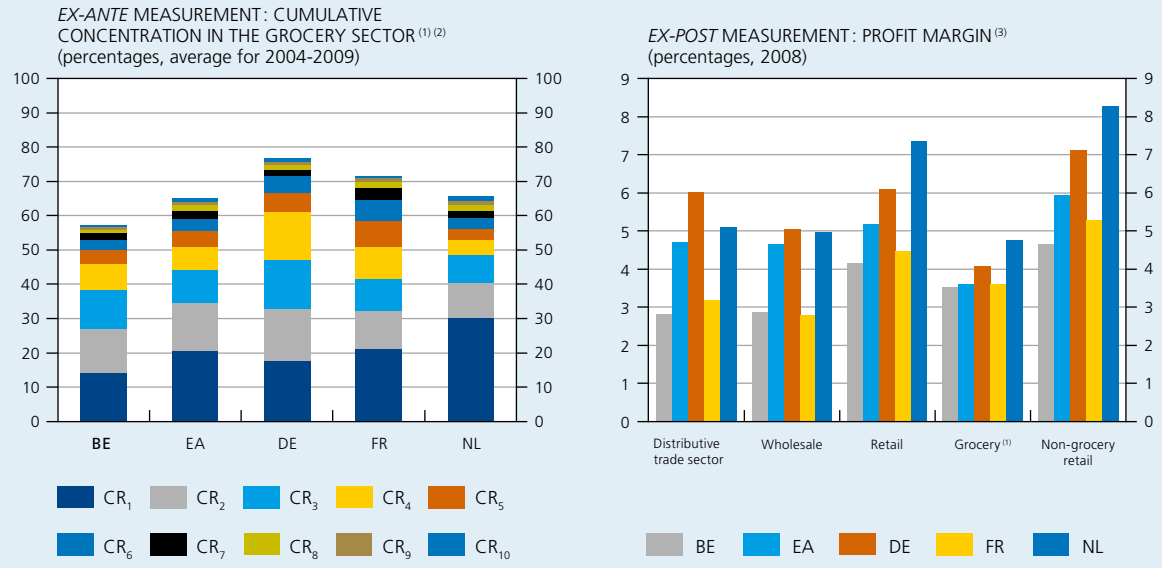
3. Competition

To assess the potential consequences of regulatory constraints, and thus to analyse the effective level of competition in the Belgian distributive trade sector compared with that of the euro area and neighbouring countries, several dimensions must be taken into account. The first is the geographic dimension; we can look at several levels: local, regional, national, international, or a combination of those. The second is the sector dimension, because not all retailers compete in the same market. For example, pharmacies do not compete with clothing stores; on the other hand, a grocer can wind up competing with various forms of retailers (supermarkets, online sellers, petrol stations, etc.). A third dimension is the segment of consumers targeted by the retailer. A supermarket offering a wide variety of products is not in direct competition with a hard discounter offering only a limited number of its private discount-label products, even though both belong to the grocery sector. Lastly, we can also make a distinction between downstream competition, or competition between retailers vis-à-vis consumers, and upstream competition, or competition between retailers vis-à-vis suppliers. This last dimension, however, is outside the scope of this article.

We initially analyse competition in the grocery sector at the national level. We have used two tools to quantify the level of competition: measures for concentration and for profitability. Measuring a market's concentration is an *ex-ante* measurement in the sense that, even if we expect a negative correlation between concentration and competition, this is not always borne out by the facts given the possibility for explicit or implicit collusion, or even barriers to entry or regulations preventing any sector consolidation. Thus, weak concentration does not guarantee strong competition, just as strong concentration does not automatically prevent competition. Furthermore, the advantages of strong concentration linked to efficiency gains may offset the negative effects of weak competition.

To calculate market concentration, we use the *k*-firm Concentration Ratio – CR_k, i.e. the sum of the market shares of the *k* largest companies present in a market. According to this measurement, we note that the Belgian grocery

CHART 7 COMPETITION IN THE DISTRIBUTIVE TRADE SECTOR



Sources: Euromonitor, Eurostat and Eurosystem calculations.
(1) The grocery sector includes not only food products, but also the common household products sold in supermarkets.
(2) CR_k = Concentration ratio of the *k* largest companies in terms of market share, calculated by adding together their market shares.
(3) Adjusted to account for the income of self-employed workers.

market is less concentrated overall than the average in the euro area and the three neighbouring countries, regardless of the value chosen for *k* up to the tenth company. The Belgian grocery sector is, after Slovakia, the least concentrated in the euro area excluding the southern countries – Greece, Spain, Italy and Portugal – where concentration is weaker due to the abundance of small shops[1].

Because the concentration measurement does not tell us with certainty what the level of competition is, it is useful to pair it with a profitability measurement, which may be considered an *ex-post* measurement[2]. In Belgium, the profit margin in the grocery sector is relatively small (Belgium ranks better in the euro area according to profit margin, 4th, than it does according to concentration, 6th, as measured by the CR_5). If we take into account the various distributive trade sub-sectors, we note that the profit margin in Belgium is lower than the average in the euro area and the three neighbouring countries, with the exception of the wholesale segment profit margin, which is slightly weaker in France. If we consider distributive trade as a whole, the profit margin in Belgium is actually the weakest of any euro area country. The combination of weak concentration and a small profit margin suggests a relatively high level of competition in the grocery sector in Belgium.

In Germany and France, the grocery sector is relatively concentrated, but that does not appear to prevent competition. Indeed the profit margins in those countries are relatively narrow. This is even more the case in Austria, where the market is highly concentrated as the margin is very low. In Greece and Spain, the situation is reversed: grocers are the least concentrated in the euro area, but profit margins are the highest (with the exception of Slovenia).

Whereas national competition measurements suggest a relatively high level of competition in the grocery sector in Belgium compared with the average in the euro area and neighbouring countries, it remains to be seen if the same is true at the local level. In fact, national concentration measurements can overestimate the competition in a market if there is collusion with retail chains splitting up a geographic market, leading to a lack of competition at the local level[3]. However, the criteria for the local market have yet to be defined, and would not be the same for a densely populated urban area and a sparsely populated rural area. Analysing the distribution of grocery points of sale in Belgium with a sales area of over 100 square metres, as was done in Baugnet *et al*. (2009)[4], it appears that the location of stores matches expectations, i.e. it is determined by population density, and that it does not appear to be dysfunctional in general.

The study presented in the 2011 SIR covers ten euro area countries, including Belgium, and thus provides a complement to the observations in Baugnet *et al.* (2009). In addition to national concentration, the study measures local concentration at the level of individual stores and parent companies (because two local stores that belong to the same parent company cannot be considered true competitors). Market shares are calculated on the base of sales areas in square metres[5], and the local market is defined as the sum of the retailers present within a radius of five or ten kilometres[6]. Concentration at the local level was measured using the Herfindahl-Hirschman Index (HHI). Data on the location of points of sale in 2010 were taken from Ac Nielsen, which covers nine countries and 130 000 points of sale, and from FPS Economy for data on Belgium. This list was then converted into a geographic database by using geocoding services, which

TABLE 2 CONCENTRATION ON THE BASIS OF POINT-OF-SALE DATA

	National market	Local markets (5 km)	
	by group	by store	by group
Three highest	Finland	France	Finland
	Austria	Finland	Portugal
	Netherlands	Portugal	France
Middle four	Germany	Greece	Netherlands
	France	Germany	Germany
	Belgium	**Belgium**	Greece
	Portugal	Spain	Spain
Three lowest	Spain	Italy	Italy
	Italy	Austria	Austria
	Greece	Netherlands	**Belgium**

Source: Eurosystem calculations based on the Ac Nielsen database of point-of-sale locations.

(1) An alternative to the CR_k indicator is the Herfindahl-Hirschman Index (HHI). This index takes into account all the firms participating in the market, but gives greater weight to those with larger market shares (using the sum of the squares of the companies' market shares). The index ranges from 0 to 10 000, from perfect competition to a pure monopoly. In general, it is considered that an HHI over 1 800 indicates a highly concentrated market, and that below 1 000 the market is weakly concentrated. The average HHI for 2004-2009 for the grocery sector confirms the results of the CR_5, as the HHI for Belgium is 590, less than the average for the euro area (979) and the three neighbouring countries (DE: 1 018, FR: 863, NL: 1 162). If we look only at the supermarket segment (non-specialised, self-service food retailers), as was the case in Baugnet *et al.* (2009), the concentration is higher, with an HHI of 1 890 in Belgium (based on the turnover of the seven biggest companies).

(2) Given that there are proportionally more self-employed workers in the retail trade, and especially in the southern countries, we have adjusted profit margins to account for the implied compensation of the self-employed worker, by stripping it out of the margin.

(3) Conversely, concentration at the national level may underestimate competition if a few retail chains present in the country are systematically present in every local market.

(4) See the map on p. 44 of Baugnet *et al*. (2009).

(5) This indicator was used because it was available for all countries. Alternative indicators for measuring market share are the number of cash registers or turnover. For countries where it is possible, the three indicators were calculated, and the correlation between the three indicators is above 0.9.

(6) Using a methodology similar to that used in Baugnet *et al.* (2009), which took its cue from a study published in 2008 by the UK Competition Commission (UKCC).

makes it possible to turn addresses into geographic coordinates such as those used by GPS systems.

In Finland, the strong concentration at the national level is confirmed at the local level, but such is by no means the case for every country. Whereas at the national level, southern European countries exhibit the weakest concentration for the grocery sector as a whole, reflecting the fact that those countries still have a large number of small businesses, it is far from the case when we analyse the situation at the local level for points of sale over 100 square metres. Whereas Italy and, to a lesser extent, Spain, also have a low level of concentration locally, this is not true of Greece or Portugal.

As for Belgium, its position is average both at the national level by group and at the local level by store. By contrast, if we examine local concentration at the parent company level, which is clearly the most relevant measure, Belgium is characterised by the weakest concentration of any of the countries included in the study[1]. Among the neighbouring countries, France exhibits the highest concentration at the local level, followed by the Netherlands and Germany, whose situation is more intermediate[2]. The research by Baugnet *et al*. (2009) already showed a weak level of concentration at the local level in Belgium, based on a comparison with the results of two studies devoted to concentration at the local level in the UK and France. The SIR study, which covers – using a harmonised methodology – Belgium and nine other euro area countries, confirms this weak level of concentration at the local level in Belgium.

4. Impact on prices

The retail sector, and more specifically the grocery sector, is characterised in Belgium by both a high degree of competition and a significant penetration by discounters and private labels, but not by online retailers. It is useful to study the ties between these characteristics and price formation, in particular in the context of a very invasive regulatory environment. Competition, structural characteristics and regulations can all potentially affect both price levels and price dynamics. The effect of tougher competition on the price level is theoretically a downward impact because the mark-up is lower in a competitive situation. The market will also tend to adhere more closely to conditions compatible with the law of one price (LOOP), which stipulates that, in an efficient market, each identical good must be sold at the same price at every point of sale in the market. The upshot is a lesser dispersion of price (levels) (for homogeneous products), and a lesser dispersion of price (levels) between countries, given the existence of a common market and the introduction of the euro.

Furthermore, because competition has the effect of reducing mark-ups, companies have less leeway to avoid passing on cost fluctuations, and this influences price dynamics, i.e. inflation. The result is more frequent price adjustments (confirmed by the results of the Inflation Persistence Network, updated at the time of the 2011 SIR[3]), a more pronounced and swifter transmission of costs, and thus a more volatile inflation rate. In a competitive market, there will also be greater symmetry in the transmission of cost fluctuations between cost increases and decreases.

It remained to be seen if these expected theoretical effects would be confirmed empirically, which was done in the context of the SIR. For example, to analyse and identify the factors that influence the dispersions of price levels among countries, one of the approaches used consisted in building a model dealing with eleven euro area countries (the first twelve Member States, with the exception of the Grand Duchy of Luxembourg) and 146 products, while incorporating both the classic determinants of price level inequalities identified in the literature and a series of variables describing the differences in structure in the distributive trade sector. The results of this panel-type estimate based on product[4] and country dimensions (with fixed effects for products and countries) partially match theoretical expectations.

With respect to the classic determinants, relative income levels and VAT rates have a significantly positive effect on price differentials. It is assumed that higher standards of living go hand in hand with higher price levels. As for VAT, a certain degree of harmonisation notwithstanding, gaps remain among the Member States that influence differences in price level. In addition, the intensity of spending negatively affects price gaps. This indicator measures consumers' attentiveness to prices : they pay more attention to higher-priced items and/or those that account for a large share of their spending (literature on rational inattention[5]). For example, if Italian households consume more pasta than those in other countries, they will probably spend more time researching and comparing pasta prices, and we can expect those efforts to affect price differences. Population density also negatively influences

(1) For both a 5km and 10km radius. In the case of Belgium, this consolidation between different entities belonging to the same group was applied to the fullest extent to avoid underestimating concentration. For example, Spar stores are considered to belong to the Colruyt group. Even using such an approach, which could overestimate concentration at the local level, the Belgian market emerges as the least concentrated.

(2) If we measure competition at the store level, concentration is weakest in the Netherlands.

(3) The principal findings being that greater competition is associated with more frequent price changes in the retail sector and more particularly in supermarkets and hypermarkets, although their magnitude is not bigger on average.

(4) Based on the 146 series of products available in the Eurostat purchasing power parities (PPP) database.

(5) See, for example, Sims (2003).

TABLE 3 SUMMARY OF THE ECONOMETRIC ANALYSIS OF FACTORS AFFECTING DIFFERENCES IN PRICE LEVELS BETWEEN COUNTRIES[1]

Classic determinants	
Income level	Positive
VAT	Positive
Spending intensity	Negative
Population density	Negative
Variables that measure the structural characteristics of the distributive trade sector	
Concentration (HHI)	Negative
Concentration (CR_5)	Positive
Profitability	Positive
Regulation (barriers to entry)	Positive
Regulation (price controls)	Negative
Regulation (operational restrictions)	[2]
Regulation of the labour market (EPL)[3]	Negative

Source: 2011 SIR.
(1) Analysis covering eleven euro area countries (the first twelve Member States, excluding the Grand Duchy of Luxembourg) and 146 products.
(2) Not statistically significant.
(3) EPL refers to the OECD's Employment Protection Legislation indicator.

price levels because high density is likely to be accompanied by greater efficiency (a densely populated area offers a larger market, permitting economies of scale, for example, or a more optimal point-of-sale size, which would be impossible to achieve in a more sparsely populated area).

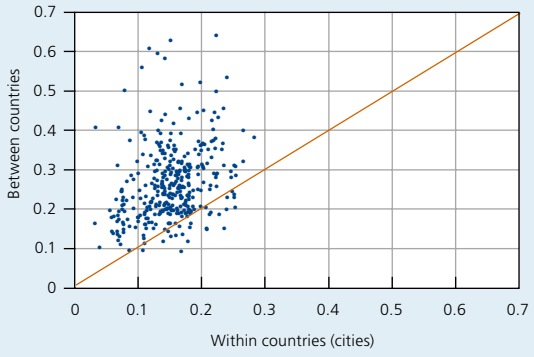
With respect to the variables intended to measure the structural characteristics of the distributive trade sector, the picture painted by those dealing with concentration appears to be contradictory at first glance. On the one hand, the CR_5 degree of concentration appears to exert an upward pressure on the price level, suggesting that more competition would effectively reduce prices. On the other hand, the HHI indicator points in the opposite direction, as it is associated with a downward pressure on prices. This apparent contradiction is ultimately not so surprising, given the ambivalence of the theoretical impact of concentration on prices: it drives prices upward by reducing competition but drives them downward by improving efficiency (tied to returns to scale).

The indicator based on profitability (adjusted to account for the implied incomes of self-employed workers) shows the expected sign: prices are higher when this indicator is high. Lastly, the variables reflecting the degree of regulation give mixed results: only the indicators related to barriers to entry show the expected positive sign. By contrast, operational restrictions do not have a significant impact, whereas greater price controls and labour market regulation exert downward pressure on prices.

Overall, these results suggest that structural characteristics can have an impact on price levels. They may thus explain the divergences observed within the euro area. The creation of the common market and introduction of the euro notwithstanding, and despite a certain convergence between the mid-1990s and the mid-2000s, there are still significant inequalities in the prices of goods among euro area countries, although they are smaller than the differences in services prices. Belgium is among the most expensive countries, with a price level more than 10 % higher than the euro area average. The only countries with higher prices are Ireland, the Grand Duchy of Luxembourg and Finland, and Belgium is just ahead of France, whereas the Netherlands and especially Germany have lower price levels. Belgium's price level gap relative to the euro area average has steadily widened since 2003.

Knowing that there remains a significant dispersion in prices among euro area countries, it makes sense to ask whether the dispersion among countries is greater than what exists within each country. If the dispersion of prices between two cities in the same country is smaller than that between two cities the same distance apart but in two different countries, that means that there is clearly a "border effect". To do this, the SIR uses highly detailed

CHART 8 DISPERSION OF THE PRICES OF 356 FOOD AND NON-ALCOHOLIC DRINK ITEMS BETWEEN COUNTRIES AND WITHIN COUNTRIES
(coefficients of variation)[1]



Source: Eurosystem.
(1) The dispersion within the countries refers to the median of the coefficients of variation of prices within each country, and the dispersion between the countries refers to the coefficient of variation of the national average prices.

data on the prices of 356 food products in different cities in the euro area. By comparing for each product the median of the coefficients of variation of prices within each country with the coefficient of variation of the national average prices, we can see that the dispersion in prices among the countries is generally higher than the dispersion within the countries (most points fall above the 45-degree line).

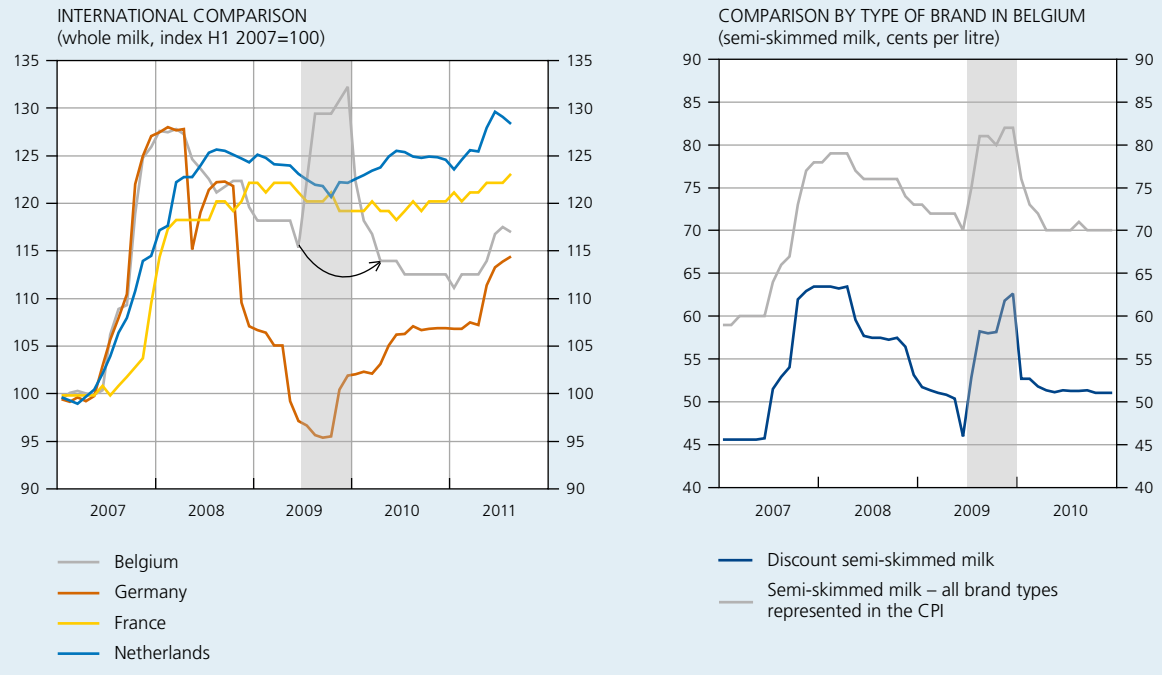
To verify that the border effect shown by this analysis does not simply hide a distance effect, due to the fact that cities in different countries are often farther away from each other than are cities within a country, an additional study was performed looking at four German cities (Berlin, Bonn, Karlsruhe and Munich) and four cities in four countries bordering Germany (Amsterdam, Brussels, Luxembourg and Paris). This analysis shows that, whereas the four cities in these four neighbouring countries are closer to each other (330 km on average) than are the four German cities (500 km on average), they exhibit a greater price dispersion than that of the four German cities, suggesting that the border effect is more important than the distance effect.

Apart from their impact on price levels, structural characteristics also affect the transmission of shocks to consumer prices. In the case of food products, an analysis using Vector Auto Regression (VAR) models performed as part of the SIR indicates that consumer prices tend to react less briskly than producer prices to a commodity shock. Furthermore, it appears that responses vary considerably from one country and from one sector (type of food product) to another, and there seems to be a material link with structural characteristics. For example, greater penetration by discounters appears to be more likely to be associated with a strong transmission and, conversely, markets characterised by a greater number of small shops appear to be less sensitive to shocks coming from commodity prices.

This can be illustrated by looking at milk. The price of milk on the international market, as well as that on the EU internal market, experienced a significant upward shock during the first eight months of 2007, followed by a significant decline from end-2007, which lasted until mid-2009. An upward trend then took hold until early 2011. In 2007, consumer prices reacted fairly strongly and quickly, particularly in Belgium and Germany. In France and the Netherlands, the reaction was slower and more sluggish.

Conversely, the transmission of the drop in international prices, from 2008, was much more differentiated. Apart

CHART 9 CONSUMER MILK PRICE



Sources: CBS, DESTATIS, DGSIE and INSEE.

from Germany, where consumer prices appear to have reacted fairly symmetrically, the decrease was slower and less pronounced in Belgium, and was much less perceptible in France and the Netherlands. The increase seen in Belgium between July 2009 and January 2010 is attributable to a specific factor, which it would make sense to cancel out; it was caused by an agreement between Comeos (formerly Fedis), the Boerenbond, and the Algemeen Boerensyndicaat, an agreement under which Comeos undertook to pay a surcharge over six months – from July to December 2009 – capped at € 0.14 per litre of drinking milk in order to offset farmers' losses stemming from the drop in international prices. In practice, it was the consumer who paid the surcharge, resulting in a (temporary) increase in consumer prices.

Overall, the trend in consumer milk prices appears to show a highly competitive market in Germany: the transmission in that country was brisk both during the upward phase (because it is hard not to pass on higher costs to the consumer in a competitive market, as margins are slim in principle) and during the downward phase. Belgium appears to fall somewhere in the middle; while the drop in consumer prices following the decrease in costs was not as pronounced as in Germany, it was more pronounced than in France or the Netherlands. This seems to corroborate certain difference observed between countries with respect to concentration indicators (lower in Belgium and Germany, higher in France) and to discounters' market share, for example (particularly high in Germany, high in Belgium, and much weaker in France). The case of the Netherlands stands out, however, given its fairly average degree of concentration and large discounter market share. This may be attributable to a desire to restore margins after they were eroded by the impact of the price war that took place in the Netherlands after 2003 [1].

In addition, the Price Observatory highlighted, in its second quarter 2011 report, that pricing and marketing policies differ from one brand to the next, and strategies for so-called discount products and private-label products most closely approach a competitive price formation [2]. These products are distinctive not only for their lower prices, but also for their more pronounced and more symmetric transmission of cost fluctuations. We note that these brands exhibit above-average price volatility and react more strongly and more rapidly to cost increases and decreases. Thus, price trends for this type of milk were less asymmetric than the average.

(1) See Box 4 in Baugnet *et al.*(2009).
(2) Price Observatory, *Analyse des prix: deuxième rapport trimestriel 2011 de l'institut des comptes nationaux* (Analysis of prices: second quarterly report 2011 of the National Accounts Institute).

Conclusion

At a time of consolidation and increasing internationalisation of the distributive trade sector, three major phenomena have been simultaneously altering the structure of euro area trade for several years now: the success of hard and soft discounters, the emergence of retailers' private discount-label products, and the growth in online shopping. All three tend to exert downward pressure on price levels. Whereas the first two factors are particularly pronounced in Belgium, online shopping is less of a factor. Furthermore, these trends are not neutral with respect to inflation measurement, because the basket of consumer goods used to calculate the price index needs to reflect the extent of the three phenomena.

Belgium has a high number of points of sale, both relative to the surface area of the country – which makes sense given its high population density – and relative to its population. This is partly a reflection of the important role that small-scale grocers and specialised shops continue to play in the grocery sector. However, if we limit our analysis to points of sale larger than 100 square metres, these observations are confirmed by measurements of concentration and profit margins in the grocery sector at the national level, according to which Belgium's position is relatively favourable with respect to the level of competition. These results also hold at the local level; if we consider concentration by parent company, Belgium has the least concentrated market of the ten countries covered by the study. And yet, despite improvements in recent years, Belgian regulation of store locations, prices and business hours remains very intrusive and could discourage the opening of new points of sale.

Given the impact of the distributive trade sector's structural characteristics on price-setting behaviour and on the differences in price levels within each country and between euro area countries, structural reforms are needed to enhance competition and take better advantage of the common market. A good first step would be the complete application of the Services Directive, which would help foster increased market liberalisation and harmonisation. Other regulatory barriers, such as those linked to VAT or consumer protection laws, could be harmonised and simplified in order to unlock economies of scale and the potential for online and cross-border trade. For Belgium, a simplification/clarification of its multitude of regulations would already be significant progress, given that what is restricting the development of trade in Belgium is not so much the constraints imposed by the regulations as their complexity.

While the transition to more competitive markets may result in lower prices, it may also reduce price rigidity and

thereby enhance the transmission of cost fluctuations to prices (making them more volatile). Such a change is also likely to lead to more symmetrical price formation. While the analysis performed as part of the SIR did not show any significant anomalies in Belgian competition, it is still necessary to continue monitoring price trends, a task assigned in particular to the Competition Authority and the Price Observatory.

Even though harmonising regulations and eliminating implicit barriers should help lessen differences within the euro area in terms of both the structure of trade and price formation, some differences are unavoidable due to consumer preferences and cultural differences from one country to the next, and even regionally. For example, the success in Belgium of soft discounters and private-label products has not been won solely at the expense of specialised shops, which still have a greater market share than their counterparts in neighbouring countries, suggesting that Belgian consumers still value the services provided by small retailers, even though their prices are higher. Similarly, the spread of discount brands has not caused the disappearance of name brands, which still have significant market share, even though price formation appears to be less competitive in this market segment.

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International trade in services

A growing contribution to Belgium's current balance

Cédric Duprez (*)

Introduction

Service activities hold an ambiguous position in the economy. Although they represent a dominant share of activity and employment, they have only a minor position in international trade. Generally speaking, trade in services has therefore attracted less interest than trade in goods in the context of the policy on competitiveness, and economic research has paid less attention to it. Moreover, economic analysis of this trade has been hampered by the fact that it is difficult for statisticians to cover trade in services, the trade is heterogeneous and the market players are scattered (1).

Yet despite the relatively low gross amount of service exports and imports compared to international trade in goods, Belgium's services balance – taken as the difference between exports and imports of services – has grown over time, and some years ago it became the primary driver of the current balance.

Thus, exports of services broadly linked to trade in goods and to Belgium's role as a centre for numerous companies or organisations have grown steadily in Belgium. These activities have developed thanks to a favoured geographical position at the heart of Europe, and Belgium's attractiveness for multinationals and the European Union institutions. Conversely, services more concerned with advanced technology have not produced particularly strong growth.

(*) The author is particularly grateful to L. Dresse for his contribution to this article. P. D'havé and D. Desie also provided a valuable insight into the data for Belgium.

(1) Cf. François and Hoekman (2010) for a review of the scientific literature on this subject.

This article addresses all these points. It is in three parts. Part 1 describes and illustrates the position of trade in services in the global economy and in the Belgian economy. Part 2 describes the general context surrounding trade in services, identifying the main obstacles to that trade. Finally, part 3 refines the analysis of Belgium's performance for each category of services.

1. Position of trade in services in the economy

1.1 The share of services in the global economy

The share of services increases as an economy develops. Thus, as is evident from table 1, the share of services in activity and employment has risen over the past thirty years, to reach around 70 % in the industrialised countries. In this respect, Belgium is above the level of neighbouring countries and the euro area average, with services representing 76 % of value added and 73 % of employment. This tertiarisation of the economy – the corollary to the worldwide trend towards deindustrialisation – is also evident in the low-income countries as defined by the World Bank, even though services account for only 50 % of value added there, and provide only one-third of employment.

The shift towards a service economy is the outcome of various moving forces. The increasing consumer preference for services has intensified demand for services, with rising incomes giving a particular boost. As budgetary constraints ease, demand for industrial products is to some extent saturated and the private consumption

TABLE 1 SHARE OF SERVICES IN THE ECONOMY
(in %)

	Value added		Employment 2005
	1980	2008	
World	41	70	43
High-income countries	59	73	71
United States	64	77	78
Japan	56	71	66
Euro area	58	72	67
Germany	57	69	68
France	63	78	72
Netherlands	63	73	72
Belgium	**62**	**76**	**73**
Middle-income countries	41	54	37
Low-income countries	41	50	–

Source: World Bank.

profile tends to change in favour of services. Demand for services is also bolstered by socio-demographic developments, such as the increased participation of women in the labour market, population ageing, and increased leisure time.

These demand effects are combined with supply effects which also encourage the process of tertiarisation of the economy. The substantial wave of technological progress has produced productivity gains which industry has been better able to incorporate in its production process than services. Those industrial productivity gains were also stimulated by greater international competition, which has intensified with the decline in transport costs and the elimination of barriers to trade in manufactured goods. Ultimately, the productivity gains in the industrial sectors have freed up the labour necessary for expanding the service sectors.

These trends have also occurred against the backdrop of globalisation, which has affected the position of services in activity and in international trade. In particular, the decline in transport costs and the development of information and communication technologies have led to fragmentation of the production processes, according to the tasks to be performed[1]. In concentrating on their core activities, producers make more use of external firms to perform certain specific tasks. This has meant the expansion of outsourcing in the case of services for producers in such spheres as telecommunications, transport, distribution and logistics, financial intermediation, etc. Nowadays, the competitiveness of industrial firms is determined partly by access to suppliers of these services offering both quality and low cost.

This movement is conducive to the explicit development of services which industrial companies formerly provided for themselves. In order to cut costs still further, some of these tasks are sometimes commissioned to foreign firms. This implies less interaction between the firm using the service and the service provider, and may affect the monitoring and control of the intermediate service production. Consequently, offshoring generally concerns routine or codifiable tasks which lend themselves more readily to remote monitoring and checking of the quality of execution.

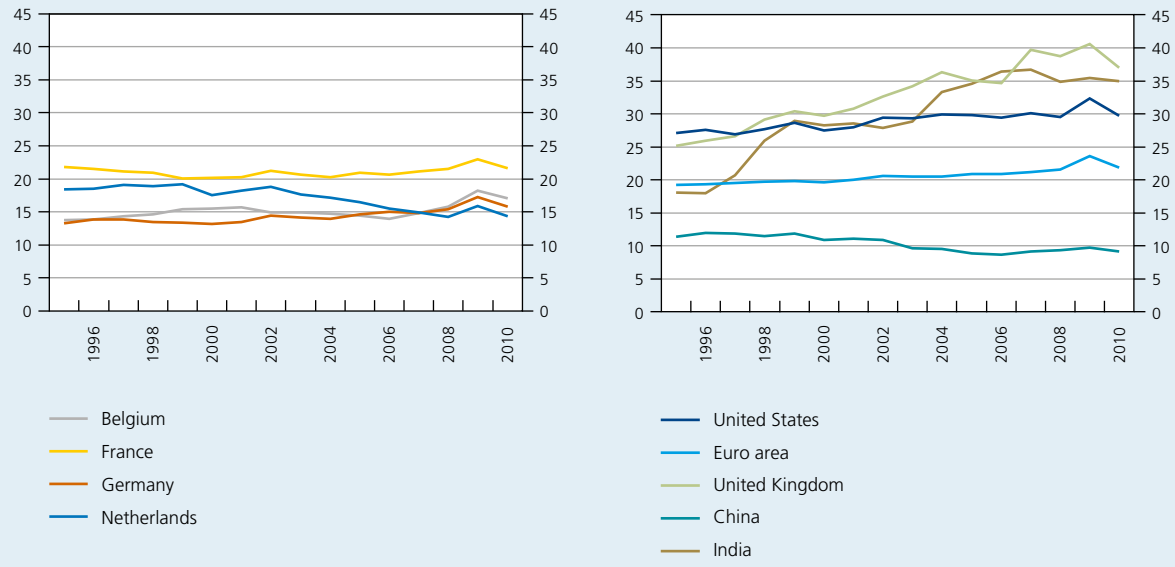
However, the offshoring of certain tasks to low-wage countries is not without consequences for the developed countries. While the reduction in the cost of certain inputs permits efficiency and productivity gains which benefit the firms concerned and the economy in general, there may be redistribution effects between the sectors and between categories of workers. The possibility of transferring routine tasks thus exerts downward pressure on wages for industrial production activities in the advanced economies. Conversely, it strengthens the position of cognitive or analytical services[2].

In addition, the borderline between trade in goods and trade in services has become more blurred, in that the sale of products is accompanied by related services such as installation, training, maintenance or finance. While it is sometimes difficult to measure the value of these services separately from the value of the product, their quality is undeniably a competitiveness factor for firms.

All these factors have given services a central position in economic activity. However, their share in the economy is curiously at odds with their relative insignificance in international trade. It is true that, in most countries, service imports and exports have expanded steadily, as in Belgium where they tripled between 1995 and 2010. However, this trend is comparable to that recorded for trade in goods. As chart 1 illustrates, the share of services in total trade has therefore remained stable in Belgium and in some other European countries at around 15 %. Trade in goods therefore still accounts for by far the bulk of international trade.

(1) For more details, cf. Lanz et al. (2011).
(2) Grossman and Rossi-Hansberg (2008) present a theoretical analysis of offshoring.

CHART 1 SHARE OF SERVICE EXPORTS IN TOTAL EXPORTS
(in %)



Source : UNCTAD.

Although the contraction of world trade following the 2008-2009 crisis was less marked in the case of services, which accounts for a temporary increase in their share of international trade, the low level of trade in services is applicable to all countries in general. Thus, the trade of countries which specialise in international trade in services, such as the United Kingdom, India and the United States, is still dominated by trade in goods even though the share of services has grown over the past fifteen years to more than 30 %.

1.2 Belgium's general performance in trade in services

Despite the relatively low level of trade in services, Belgium's balance of services has been rising steadily since 1995, as exports of services have grown faster than service imports. In recent years, the balance of trade in services has also been the main positive component of the current balance in the national accounts [1]. While the balance of services stood at 0.1 % of GDP in 1995, it came to 2.4 % of GDP in 2010.

However, that increase did not compensate for the decline in the goods balance over the same period. Moreover, the deficit in current transfers – Belgium being a net contributor to the EU budget – and the positive balance of income deteriorated slightly, the latter recording a stronger fall in 2009 owing to the reduction in net income from direct investment. Despite the rise in the balance of services, the current balance therefore contracted steadily between 2002 and 2009, falling from 6.0 to 0.7 % of GDP. In 2010 it climbed back to 3.1 % of GDP [2]. These developments can be seen in chart 2 [3].

Belgium's good performance in regard to the services balance is due to strong exports rather than weak imports. If we compare Belgium with other euro area countries, we see that the share of GDP represented by trade in services is among the highest in the euro area, with one of strongest rates of export growth. Moreover, the only countries with a higher services balance are those with specific characteristics such as Austria and Portugal, which specialise in travel, and Luxembourg which specialises in financial services.

The healthy state of Belgium's service exports is also borne out by the analysis of market shares in chart 3. In terms

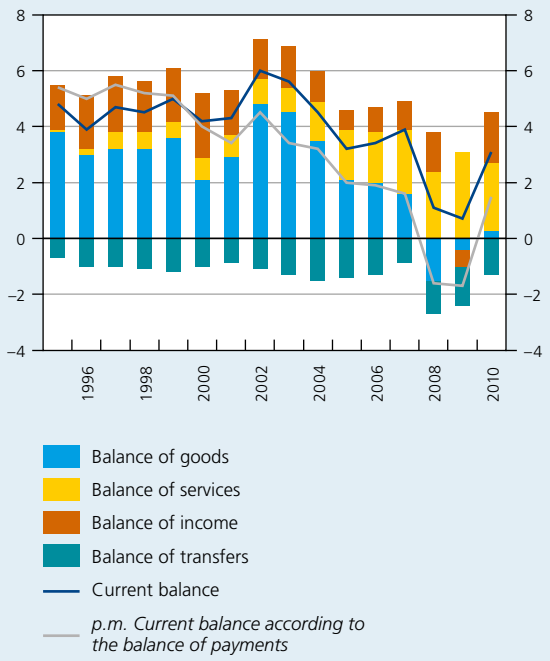
(1) Belgium's current account balance with the rest of the world is available both in the balance of payments statistics and in the national accounts, which are mainly derived from that source. However, there are differences between the two sources: these differences are largely methodological and chiefly concern the composition of the main aggregates. There are also divergences in the estimate of the total current balance. However, the main movements are similar in both sets of statistics.

(2) For a more detailed analysis of the current balance and its determinants, see CEC (2011).

(3) See also Annex 1 which gives detailed data on the last four years according to the balance of payments statistics, since these provide details of service transactions.

CHART 2 BREAKDOWN OF BELGIUM'S CURRENT BALANCE

(in % of GDP)



Sources : NAI (national accounts), NBB (balance of payments).

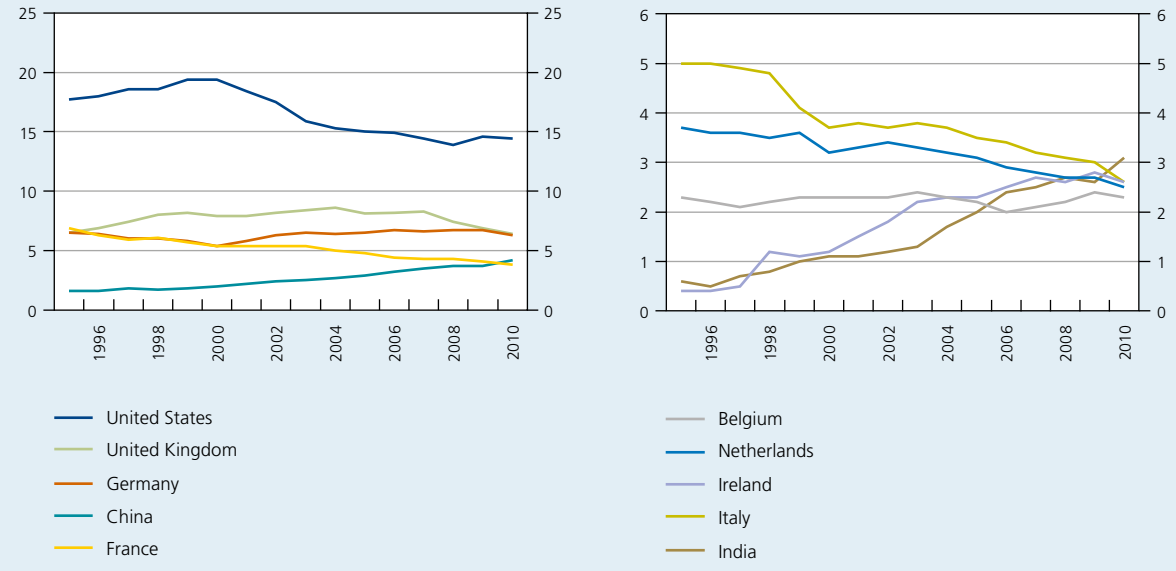
of value, the share of Belgium's service exports in world trade in services remained constant during the period 1995-2010, hovering around 2.3 %. Over the same period, Germany's share of world service exports remained steady at around 6.5 %, while the shares of the Netherlands and France declined respectively from 3.7 to 2.5 % and from 6.8 to 3.8 %. For comparison, Belgium's performance in the export of goods was inferior to its performance on the services market: in value terms, the share of Belgium's goods exports dropped by more than a third over the same period, from 2.9 to 1.8 % of global goods exports.

Analysis of the performance on foreign markets also confirms the vigour of Belgium's service exports in value terms. Thus, the annual average growth rate of these exports was 1.3 percentage points higher than the growth of imports of services from partner countries, which are the foreign markets for Belgian service providers. However, these gains in market share were concentrated on the period 2007-2010 (1). The strong performance in service exports reflects the vigorous growth of the export volume.

(1) It should be noted that this break in the trend in market shares in 2007 coincides with the introduction of a new data collection method by the balance of payments. The data are no longer based on payments for international transactions, but on a combination of surveys, in some cases supplemented by data from various external sources. Although it must be acknowledged that the change of system affected the statistics, the persistent, steady increase in market share after 2007 when the new collection method was firmly established confirms that these gains reflect economic reality.

CHART 3 SHARE OF SERVICE EXPORTS IN WORLD TRADE IN SERVICES

(in %)



Source : UNCTAD.

According to the national accounts statistics, the average annual growth of the volume of service exports came to 5.0 % between 1995 and 2010, while the increase in value averaged 7.2 % per annum over the same period. The differential, which is due to the movement in prices, is not at all unusual as service prices have risen steadily in most European countries[1].

The analysis of the population of service export firms presented in table 2 sheds additional light on that performance[2]. On the one hand, it shows that there is considerable rotation among the companies involved in the international provision of services. Over 3 400 firms actively exporting services in 1995 were no longer doing so in 2005, while more than 11 000 firms began exporting services during that period[3]. Also, the microeconomic analysis highlights the crucial role of the intensive margin – i.e. the average amount exported by exporters – in the growth of exports. In fact, out of the 46.2 billion increase recorded between 1995 and 2005, 80 % was due to higher exports by firms already exporting in 1995, with an average of € 19.9 million per firm. The development of companies focusing strongly on service exports is therefore necessary to support Belgium's revenues from this source.

The rest of the increase in revenues recorded between 1995 and 2005 is attributable to the extensive margin, i.e. the growth in the number of exporting firms. It is true that, in comparison with 1995, more than 7 600 additional firms were active on the export markets in 2005, representing an increase of over 140 %. If that rise is not the deciding factor in the total increase, that is because the exports of the new exporters were relatively low compared to those of firms already active on the export markets in 1995. It is interesting that this smaller role of the extensive margin in the long-term growth of service exports contrasts with what is seen on the market in goods. The main reason for the relatively weak exports of goods by Belgium is the decline in the number of exporting firms.

The degree of concentration of exports in the various service branches also illustrates the importance of the large exporters among the service providers. In 2010, the amounts exported by the three or ten largest exporters represented shares of the total in the category in question for Belgium amounting to 46 % and 64 % respectively in maritime freight, 54 and 81 % in financial services, 39 and 52 % in IT services, 76 and 90 % in telecommunications, 79 and 85 % in advertising services, 38 and 69 % research and development, and 24 and 43 % in business-to-business services. In view of these high percentages, these service transactions therefore seem to have a relatively narrow base.

The concentration among service exporters is linked to the relatively low level of international trade in services. In this connection, it indicates the problems which seem to be inherent in international trade in services. Part 2 of this article aims to describe the context in which trade in services takes place, identifying the impediments and limits confronting trade in services.

TABLE 2 POPULATION OF SERVICE EXPORTING FIRMS

	Number of exporters	Average exports per firm (in € million)	Total exports (in € million)
Situation in 1995	5 346	3.4	18 215
Situation in 2005	13 029	9.8	64 430
Change 1995-2005	**+7 683**	**+ 6.4**	**+46 215**
Firms exporting in 1995 but no longer exporting in 2005	–1 852	0.8	–1 436
Firms exporting in 1995 but no longer in existence in 2005	–1 633	2.2	–3 532
Firms still exporting in 2005	1 861	+19.9	+37 011
New exporting firms in 2005	+6 360	1.8	+11 562
Firms existing in 1995 recorded as new exporters in 2005	+4 808	0.5	+2 609

Source: Ariu and Mion (2010).

2. Impediments and limits confronting trade in services

Various factors contribute to the relatively low level of trade in services, compared to the importance of services in the economy. Since many services are, by nature, incapable of being stored, the service provider needs to be located close to the consumer, and speedily accessible, for trade in services to be feasible. Despite the development of information and communication technologies, this proximity requirement is still a major natural barrier to trade in many services.

(1) See ECB (2009), which sets out the factors contributing to higher inflation for services than for goods.
(2) For more details, see Ariu and Mion (2010).
(3) Owing to the need for data collected by a uniform system, the analysis can only be conducted for the period from 1995 to 2005.

Other factors, of a statistical nature, have also contributed to the relatively low level of trade in services. Unlike trade in goods, associated with the physical crossing of a frontier, trade in services takes the form of flows which are by definition difficult to measure. Combined with the problem of separating the services from the goods with which they are sometimes linked, this situation has probably led to under-estimation of trade in services.

More fundamentally, the low level of trade in services is also due to the existence of alternative channels which a service firm can use to market its products to foreign consumers. Research by the World Trade Organisation in connection with the General Agreement on Trade in Services (GATS) identified four forms of trade in services [1].

Strictly speaking, the concept of trade in services can only refer to the first form, namely cross-border trade, that being the form most similar to trade in goods. We refer to cross-border trade where production and consumption are geographically separated by a border. The use by a Belgian firm of software developed in the United States, or the use of a foreign call centre, are examples of cross-border trade in services.

In the second form of trade, it is the consumer and not the service that crosses the border. Foreign consumption takes place, for example, if non-residents obtain medical services or if foreign tourists consume services at their holiday destination.

The presence of the service provider in the foreign country via establishment of a subsidiary is the third form of trade. Although the literature concentrates mainly on goods, foreign direct investment is generally presented as an alternative to exports, as a way of avoiding the variable costs – transport, customs, etc. – albeit in return for the higher overheads entailed in setting up a foreign establishment. The same argument can doubtless be applied to certain service categories [2]. However, in the case of services which, by their nature, cannot really be traded, foreign direct investment is the only opportunity for a firm to reach consumers abroad. Retailing and major construction projects are two examples.

Finally, in the fourth form of trade the firm providing the service sends a representative to the foreign country, but the firm remains based in the producing country. All services performed by workers who travel to a foreign country to carry out an assignment there for their employer fall into this category.

Analyses of external service flows generally take account of cross-border trade and foreign consumption because these two forms are included in the service statistics of the balance of payments, as the travel item includes expenditure by residents abroad. Conversely, the statistics on foreign direct investment – the third form – and on the provision of services by sending workers abroad – the fourth form – are often incomplete. However, analysis of the available figures on foreign direct investment may provide some information.

2.1 An alternative to exports: foreign direct investment

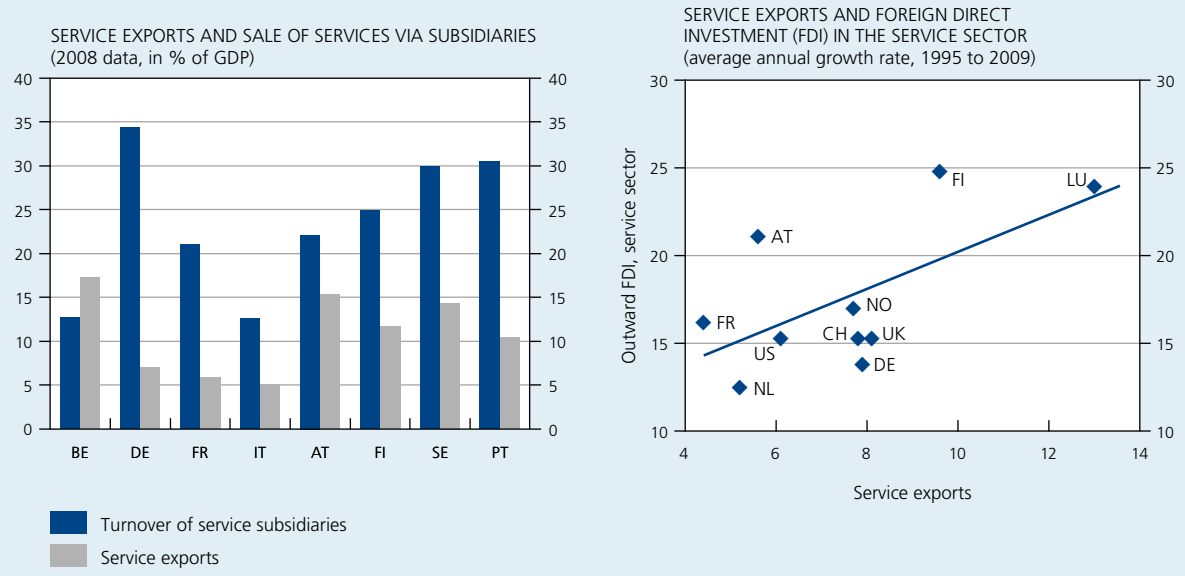
Generally speaking, foreign direct investment means that a resident firm owns shares in a foreign company or plays an actual role in its management. To assess the importance of this compared to the provision of services abroad, we need to look at the amount of the services provided by the direct investment companies on the market where they are based, rather than the financial value of the investments.

Chart 4 presents the turnover figures available for a selection of European countries on foreign service subsidiaries in which resident companies own a majority interest (over 50%). In regard to these amounts, it seems that recourse to sales via subsidiaries is particularly significant in the case of services. For Belgium, the amount of trade in services, which came to 17.3 % of GDP in 2008, exceeds the amount of sales via subsidiaries, which totalled 12.7 %. The opposite applies in other countries, notably those where large multinational service companies are based. In Belgium, trade and repairs, financial intermediation and consultancy services are the main branches of activity where sales take place via foreign subsidiaries. This also applies to the building and civil engineering sector, including dredging – activities in which Belgian companies are particularly active at international level. However, as these activities may take the form of temporary associations or joint ventures, they are sometimes difficult to record.

One question which naturally arises when we compare exports and sales via subsidiaries concerns whether these two forms are substitutes for one another, in which case it is detrimental to use both, so that it is advisable to specialise in one or the other, or conversely, whether they are complementary, so that the use of one facilitates the use of the other. At macroeconomic level, a comparison by country of the trend in service exports and the trend in foreign direct investment seems to indicate that these two forms of trade are to some extent complementary,

(1) See WTO (2008).
(2) See in this connection Ramasamy and Yeung (2010).

CHART 4 SERVICE EXPORTS AND FOREIGN DIRECT INVESTMENT IN THE SERVICE SECTOR



Sources: Eurostat, OECD.

although the scientific literature on the subject is not unanimous. However, this article is not concerned with direct investment. The rest of this analysis is therefore devoted mainly to cross-border trade in services.

2.2 Administrative barriers

There is one last key factor which hampers trade in services: the administrative barriers[1]. Generally speaking, the question of regulation is multi-dimensional and involves considerations which may be beyond the realms of economics. However, a comparison between sectors and between countries is possible with the aid of the market regulation indices calculated by the OECD. These indices aim to offer an assessment – which is consistent in time and between countries – of the current regulations governing various sectors, including product markets, transport, telecommunications, postal services and professional services. The indices, established on a scale ranging from 0 (no regulations) to 6 (maximum regulations), cover the rules applicable to market access (granting of licences, requirements concerning qualifications, quotas, etc.) or the pursuit of activities (price control, advertising restrictions, specific legal form required, etc.).

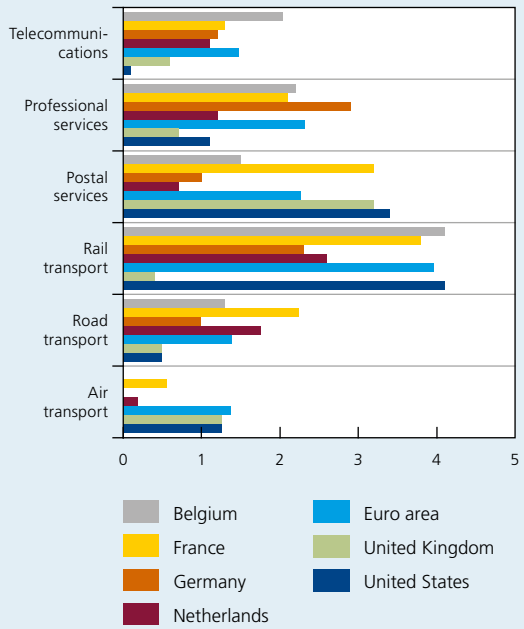
(1) For a detailed analysis, see Nordas and Kox (2009).

On the basis of this indicator, it seems that the barriers to trade in services diminished between 1998 and 2007 in all OECD countries, from an average index of 3.5 to an index of 2.1. However, they are still higher than on the goods markets, where the index stood at 1.4 in 2008. An international comparison of the indices per sector, presented in chart 5, shows that Belgium had relatively strict regulations in telecommunications and rail transport in 2007. In the other service branches, Belgium is in an intermediate position. These data seem to suggest that there are barriers on the service market in Belgium. Those barriers, and particularly the ones affecting the telecommunications sector, may prove prejudicial, in that information and communication technologies are one of the catalysts of productivity growth. However, as the available information dates from 2007, the current situation may be different.

In theory, there are several factors which may explain the disparity in the indices of regulation between countries and between sectors. For instance, some service sectors have natural or network monopolies or oligopolies. A natural monopoly occurs in a specific situation where the production facilities generate increasing returns. This situation is typical of industries requiring a substantial infrastructure which has a particularly high fixed cost in relation to the variable costs, such as the supply of water or electricity, railways, etc. Where the economies of scale

CHART 5 MARKET REGULATION INDICES

(normalised scale from 0 – no regulation – to 6 – maximum regulation, 2007 data)



Source : OECD.

occur on the consumption side, as in the case of information technology or telecommunications, the monopoly is due to the network effects. In both situations, the monopoly may be more efficient than competition as a result of economies of scale, either on the supply side in the case of a natural monopoly, or on the demand side for a network monopoly. However, the lack of competition may encourage the producer to profit from a market rent. To avoid such abuse of a dominant position, it may be desirable for the State to intervene in the management of the monopoly under some circumstances.

Moreover, on some markets, consumers may have considerable difficulty in assessing the quality of a service in advance, or deciding whether the service is safe to use. Examples are public transport and health care. If consumers lack information or reliable points of reference on which to base their decisions, information asymmetry arises between the consumer and the service provider. In some circumstances, State intervention via licensing or targeted monitoring may prove sufficient to combat this asymmetry, which gives rise to economic inefficiency.

State intervention may be designed to achieve objectives other than economic efficiency. For instance, regulations may aim to redistribute wealth between citizens. Price control, for example, may be introduced to enable some consumers to obtain access to a service which they could not otherwise afford.

Despite these various factors justifying the existence of barriers, it is not always obvious that the barriers achieve economic objectives concerning efficiency or redistribution. Discriminatory measures hampering access to certain markets may thus result from a form of protectionism.

Against that backdrop, the European Union adopted the Services Directive in 2006. That Directive, which had to be transposed into national law by 1 January 2010, was motivated by the desire to proceed with the establishment of a Single Market and, at the same time, to facilitate productivity gains in the services sector. The principle of freedom to provide services lies at the very heart of that directive. According to that principle, Member States must guarantee free access to service activities for service providers from other EU countries. However, each Member State remains free to impose a number of requirements on the pursuit of an activity, so long as they are justified on grounds in the public interest, are proportionate to the aims pursued and are not discriminatory. The Services Directive also includes a section on the simplification of the administrative procedures applicable to service providers.

In its final form, the scope of the Directive includes the building industry, real estate activities, leasing, miscellaneous technical or consultancy services, hotels, restaurants and catering, personal services and leisure services. As Piette and van der Linden (2009) demonstrated in a study conducted jointly by the Bank and the Federal Planning Bureau, exports and imports of services attributable to these activities represent only a very small proportion of total international trade, despite their importance in the economy. Consequently, the directive is expected to have a positive but minor effect on activity and employment. The effects on activity are put at less than 1% of GDP. Similar conclusions may be drawn from research by Copenhagen Economics (DK, study conducted for the EC) and the Centraal Planbureau (NL).

On a larger scale than the European Union, negotiations took place under the GATS which also aimed to abolish barriers to trade in services. In the absence of a general consensus, these talks sometimes led to the signing of bilateral agreements[1].

(1) According to Gootiiz and Mattoo (2009), there are still many problems to be resolved in liberalising trade in services.

3. Analysis by type of service

Despite the barriers to trade in services, Belgium has generally performed well in this area, primarily thanks to the dynamism of service exports. In order to examine Belgium's strengths and weaknesses in more detail, it is necessary to determine which types of services have thrived in the past fifteen years and, conversely, which have been more sluggish.

To find out, the analysis which follows is based mainly on the balance of payments statistics as, in contrast to the national accounts, they supply a breakdown of revenue and expenditure per service category[1]. These statistics, compiled on the basis of the IMF standards, also have the advantage of permitting international comparison.

Various indicators can be used to assess a country's specialisation in a service category. For each category, a country's balance in relation to the rest of the world is one of those indicators, as a positive balance shows that domestic output exceeds the level of consumption, and vice versa. Another indicator, the Balassa index of revealed comparative advantage, is based on export flows for each service category by comparing the share of services in total exports of each country. To construct this index, the share of exports of each service category in total service exports is compared with the corresponding share for a reference region, in this case the euro area. An index of more than 1 indicates specialisation in relation to the reference region, as the share of exports of that category in the total is higher there than in the reference region. Conversely, an index of less than 1 indicates under-specialisation, as the share of exports of this service category in the total is smaller than in the reference region.

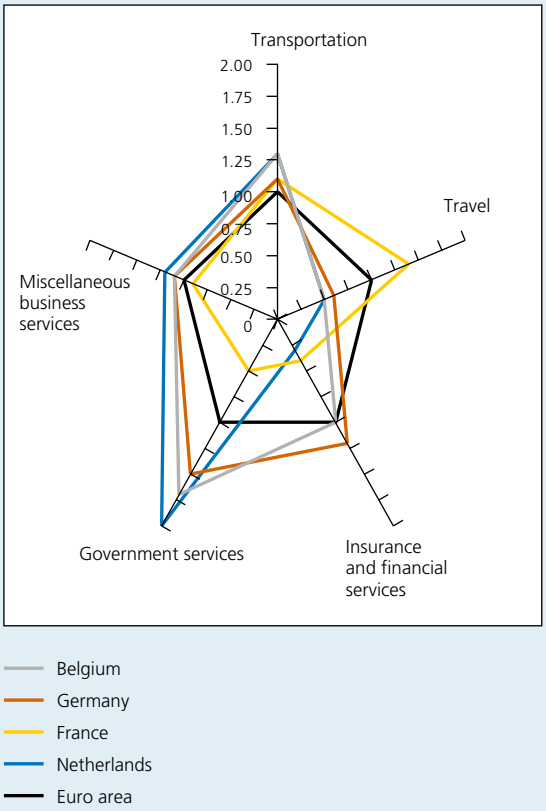
For the reader's convenience, the analysis groups services into five main categories: transport, travel, financial and insurance services, government services and miscellaneous business services. Chart 6 shows the index of revealed comparative advantage for each of these service categories for Belgium and the three neighbouring countries.

This index shows that Belgium specialises in government services, transportation and miscellaneous business services. Conversely, Belgium is under-specialised in travel services and is not particularly specialised in financial and insurance services.

(1) Note that the external balance of trade in services as stated in the national accounts includes other components. Of these, financial intermediation services indirectly measured (FISIM) and various adjustments, particularly those concerning methodology, have a significant impact. Annex 1 provides details of service transactions since 2007.

CHART 6 REVEALED COMPARATIVE ADVANTAGES

(share of each category in total service exports, normalised in relation to the euro area, 2009 data)



Sources: Eurostat, NBB.

Overall, the situation of the Netherlands is comparable to that of Belgium except for a marked under-specialisation in financial and insurance services. As the analysis which follows will show, however, there are considerable differences between the two countries. Germany's specialisation profile is similar overall to that of Belgium, although its exports include more financial and insurance services, whereas France – which relies essentially on its tourism exports – has a very different profile.

The analysis which follows aims to review these various service categories and identify characteristics specific to Belgium.

3.1 Government services

The "Government services" heading in the balance of payments concerns some of the transactions with the European Union institutions, as these are considered as

extra-territorial entities. In 2009, the amounts recorded under this heading gave rise to net revenues totalling € 1.2 billion. The item includes two types of transactions, namely reimbursement of the collection costs relating to own resources, and the operating expenses of the European institutions.

The reimbursement of the costs incurred by Belgium in collecting the European budget's own resources on behalf of the EU came to € 474 million in 2009. Each Member State is remunerated for the customs duties and the share of VAT revenues accruing to the EU. However, in view of the importance of the port of Antwerp in the EU's trade with the rest of the world, the amount of the remuneration for collection costs attributed to Belgium is relatively high, as it represented 9.8 % of total EU expenditure under that heading, whereas in terms of GDP Belgium's share is 2.9 %.

Government services also include part of the operating expenditure of the European institutions, in the form of rents or other unidentified transactions. The corresponding revenues received by Belgium as the seat of a number of major institutions came to over € 700 million, equal to almost 35 % of EU expenditure on that type of services.

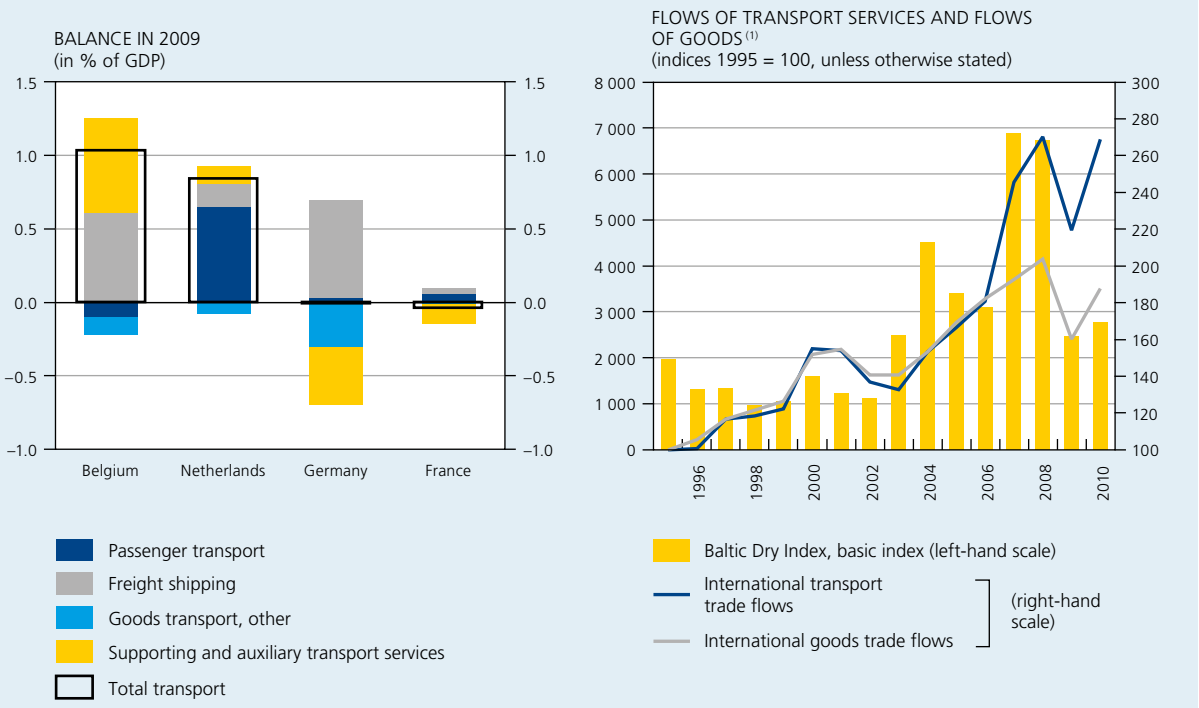
The figure of € 1.2 billion recorded under the heading of government services does not cover all the services which Belgium provides for the European institutions, since revenues totalling around € 800 million are imputed directly to the various headings in the balance of payments. This mainly concerns professional and technical services, and IT, information and communication services. Altogether, the European Union institutions contributed € 2.1 billion to the surplus on service transactions recorded in the balance of payments.

Apart from services, these institutions also pay salaries to their officials, and those established in Belgium are regarded as Belgian residents. These salaries are included under the "Labour income" item in the balance of payments. For the record, they came to € 3.1 billion in 2009.

3.2 Transport

Belgium also records a large quantity of exports of transport services. As in the Netherlands, another country which acts as a transport hub for Europe, transport services make a significant contribution to the positive balance of services.

CHART 7 TRANSPORT



Sources : Thomson Reuters Datastream, Eurostat, NBB.
(1) Average of exports and imports.

However, the similarities between Belgium and the Netherlands in regard to transport services end there. The Netherlands in fact records a positive balance mainly in respect of passenger transport by air, whereas for Belgium the positive balance is due solely to maritime freight transport and auxiliary and related transport services, namely activities relating to loading and unloading, storage and transhipment, and to a lesser extent transport via pipeline.

These Belgian transport activities are by their nature connected with trade in goods. Comparison of the pattern of international trade flows in transport with those in goods, illustrated in chart 7, confirms that link. The series move in parallel, with the exception of a sudden surge in transport revenues in 2007 and 2008. As indicated by the Baltic Dry Index, a price index for the transportation of bulk dry goods by sea, that jump is attributable to a strong rise in sea freight prices. Following the overheating in maritime transport during those two years, the fleet capacity was increased in subsequent years, driving down prices. Belgian shipping companies participated in the expansion and renovation of the fleet, particularly for the transportation of commodities to the emerging economies.

3.3 Miscellaneous business services

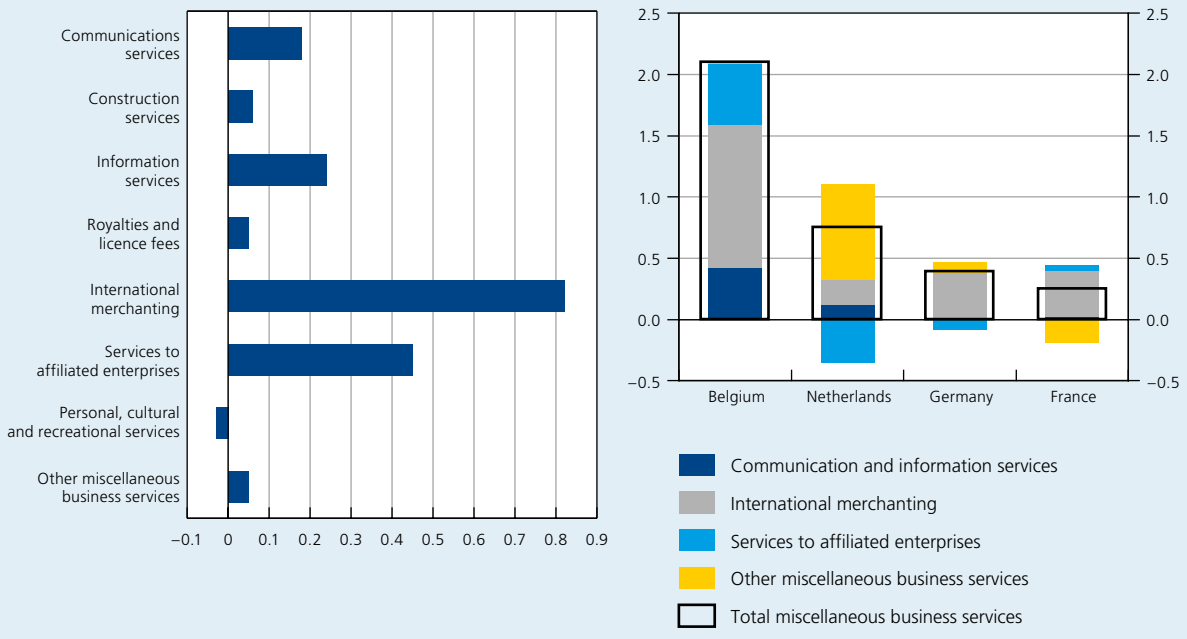
As the last of the main components of particular importance in Belgium, "Miscellaneous business services" covers a mixed bag of transactions. Of these, two main sub-categories predominate in Belgium in terms of the balance: international merchanting and services to affiliated enterprises (cf. chart 8).

Net exports under the heading of international merchanting are high in Belgium in relation to both other services and neighbouring countries. The international merchanting balance is the difference between the value of goods acquired by residents and intended for resale abroad and their value at the time of that resale. The goods in question do not always physically pass through Belgium. International merchanting is the term used where there are two consecutive transfers of ownership of a good, initially from a non-resident to a resident, and then from that resident to another non-resident[1]. However, these transfers may take place abroad. The balance of these

(1) International merchanting has to be distinguished from trade intermediaries who sell products on behalf of non-residents. The trade intermediary receives commission for his intermediation service but never becomes the owner of the product. In 2010, Belgium recorded a negative balance of 0.7 billion in respect of commission for trade intermediation.

CHART 8 BREAKDOWN OF THE BALANCE OF MISCELLANEOUS BUSINESS SERVICES

(in % of GDP, 2009 data)



Sources: Eurostat, NBB.

two movements – international merchanting only being defined as a net figure – determines the remuneration for the resident merchanting firm. This service item is therefore closely linked to trade in goods and, in particular, to the role of intermediation in the broad sense in international trade in goods. The net revenues accruing to the economy under this heading amount to 1.2 % of GDP.

Services between affiliated enterprises cover the general administrative and operating expenses of the parent companies, subsidiaries, branches and agencies insofar as the payments are total amounts which cannot be assigned accurately to a more specific service heading. Belgium's central position and its attractiveness for multinationals, particularly for the coordination of their European activities, help to boost the balance in this service category, which came to 0.5 % of GDP in 2009.

The scale of international merchanting and services to affiliated enterprises influences the geographical focus of Belgium's service exports, presented in table 3 [1]. While goods are exported mainly to Germany, France and the Netherlands, the three main destinations for service exports are the United Kingdom, the Netherlands and the United States. The United Kingdom is the main consumer of international merchanting services, while the United States is one of the main importers of services between affiliated enterprises. These two countries are also major importers of Belgium's transport services.

Apart from international merchanting and services between affiliated enterprises, the other service categories which come under miscellaneous business services are down slightly in net terms. Thus, services relating to information and communication technologies, though relatively substantial compared to neighbouring countries, do not represent a significant share of the balance. In this regard, the administrative barriers identified in this sector by the OECD market regulation index may have hampered the sector's development. Nevertheless, as a catalyst of productivity growth, these services are vitally important for the development of the economy.

In addition, the amount of exports in the form of royalties and licences, construction and personal, cultural and recreational services is very low [2]. Leasing, consultancy, advertising, research and development, architecture and engineering services can be added to these service categories, as the balance for all these categories constituting other miscellaneous business services is close to zero. There is a big difference here in relation to the Netherlands, which records a significant positive balance for these service categories.

The growth of Belgium's exports of miscellaneous business services, transport and government services is closely linked to the country's role as a nodal point resulting from its central location in Europe. As is evident from chart

(1) The data for Belgium are exhaustive up to 2006. After that, owing to the new method of collecting data via surveys, it is no longer possible to produce an accurate geographical breakdown of service exports.

(2) We should make it clear that in the IMF recommendations, building work by construction companies on sites in other countries concerning projects lasting more than one year does not come under services but is regarded as income from direct investment. For Belgium, the amounts involved are significant.

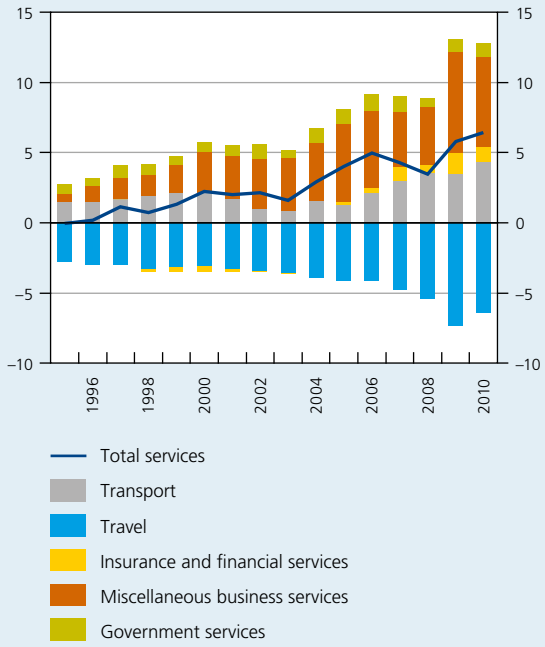
TABLE 3 GEOGRAPHICAL ORIGIN OF SERVICE REVENUES

(in % of total exports of the category, 2006 data)

	Total services	Transport	International merchanting	Services between affiliated enterprises	*p.m. Total goods*
EU	74.9	73.0	84.2	67.7	*76.0*
of which:					
United Kingdom	16.7	18.4	74.3	14.1	*7.8*
Netherlands	15.7	14.8	0.0	12.1	*12.9*
France	12.7	13.8	1.2	8.2	*17.1*
Germany	9.4	14.2	1.8	8.9	*17.2*
Luxembourg	5.2	2.3	0.0	0.0	*2.4*
Non EU	25.1	27.0	15.8	32.3	*24.0*
of which:					
United States	13.2	11.7	10.2	n.c.	*4.7*
Switzerland	3.2	3.5	0.9	7.3	*1.4*

Source: Eurostat.

CHART 9 BREAKDOWN OF BELGIUM'S BALANCE OF SERVICES
(in € billion)



Source: NBB (balance of payments).

9, these three service categories also make the biggest contribution to the growing surplus in service transactions on Belgium's current account balance with the rest of the world.

3.4 Travel and financial and insurance services

The service categories which are under-represented in export revenues, and in which Belgium does not specialise, comprise international exports of financial and insurance services, on the one hand, and travel. In terms of the balance, the first of these two categories has recorded a surplus since 2005. In contrast, the deficit in travel is steadily growing. This section will end with brief comments on these two categories.

Travel, which covers expenditure on goods and services by non-residents travelling abroad for less than one year, has traditionally recorded a negative balance in Belgium. Nonetheless, that balance has grown larger over the past fifteen years. The net figure for business travel has remained close to equilibrium, as business travel by non-residents in Belgium counterbalances business travel by Belgian residents abroad. However, owing to the increase in expenditure on foreign travel by Belgian residents, for personal or recreational reasons, the deficit on travel came to 1.8 % of GDP in 2010.

Generally speaking, such a negative balance is attributable to the relative endowment with natural or historical sites, climate and the wealth of the population. Apart from the indirect effect on incomes, the negative balance in tourism is therefore relatively unconnected with competitiveness and beyond the scope of economic policy.

In financial and insurance services, Belgium's exports are in line with those of the euro area as a whole. However, a positive balance of € 1 billion was recorded in trade in financial services in 2010. It should be noted that the amounts recorded under this heading in the balance of payments only relate to commission and other costs directly invoiced. In this sector, some services may, however, be remunerated via the interest margin. In that case, the flows are recorded under the income heading, and not under services. In the national accounts, Belgium's balance of financial intermediation services indirectly measured (FISIM) on transactions with the rest of the world was estimated in net terms as a surplus of € 1.5 billion in 2010. As a result of the financial crisis, this intermediation margin has become much larger, but also much more volatile.

Conclusion

The surplus on trade in services has increased in Belgium in the past fifteen years. Net exports of services have gradually become the engine of the current account balance, partly offsetting the deterioration in the balance of trade in goods. In macroeconomic terms, they therefore help to preserve the economy's external position, by bringing in additional resources which can be used for the balanced financing of domestic demand.

Belgium's central position in the European economic fabric is one of the main contributory factors in the good performance of Belgium's trade in services. This position at the heart of Europe favours a geographical intermediation role which has been reflected in a range of services suited to the internationalisation of trade. This has led to the development of trade and logistics services, particularly thanks to the importance of the port of Antwerp in maritime traffic.

However, Belgium's role as a nodal point is not confined to services relating to trade in goods. Combined with its central position, the quality of its human capital is another decisive factor in the growth of Belgium's exports of

services. That human capital, and the guarantees which it offers, have enhanced Belgium's attraction for major institutions, both public and private. As the location for the headquarters of the European institutions and several multinational bodies, Belgium has gained a foothold in an economy which has become global in the past two decades.

Nevertheless, Belgium's good general performance in trade in services is not seen in all service categories. Some, such as building or civil engineering, are usually offered to foreign consumers via other means instead of cross-border trade. In these sectors, foreign direct investment is in fact a way of overcoming the proximity requirement necessary for trade. The analysis presented in this article was therefore unable to confirm the strength of that trade.

Other service categories are also less developed. In particular, services connected with information and communication technologies have not grown particularly strongly. Moreover, the share of services which centre on creativity, such as research and development or patents, is still modest. Yet all these services constitute a growth catalyst that could benefit the whole economy, and the human capital needed for such a development is available in Belgium.

In the end, while the expansion of services connected with Belgium's central position in Europe is a considerable guarantee for the future, the more hesitant development of certain services conducive to growth still requires attention. The policies implemented must therefore endeavour to reinforce the latter by supporting the development of businesses active in these areas while continuing to underpin the growth of the former.

Annex 1

DETAILED PRESENTATION OF SERVICE TRANSACTIONS IN THE CURRENT ACCOUNT BALANCE

(in € billion, unless otherwise stated)

	Credit				Debit				Net			
	2007	2008	2009	2010	2007	2008	2009	2010	2007	2008	2009	2010
Total current transactions (according to the balance of payments)	**353.0**	**365.9**	**300.2**	**337.7**	**347.5**	**371.6**	**305.8**	**332.5**	**5.4**	**–5.7**	**–5.7**	**5.2**
Goods	218.4	225.1	179.1	211.1	217.8	236.2	183.9	214.5	0.6	–11.1	–4.8	–3.4
Services	54.4	60.2	60.5	65.7	50.1	56.8	54.7	59.3	4.3	3.4	5.8	6.4
Transport	17.0	18.9	15.6	19.2	14.0	15.3	12.1	14.8	3.0	3.6	3.5	4.4
Travel	8.0	8.0	7.3	7.7	12.8	13.4	14.6	14.1	–4.7	–5.4	–7.3	–6.4
Communications services	2.7	2.7	2.9	3.1	2.1	2.1	2.3	2.4	0.5	0.6	0.6	0.6
Construction services	0.8	1.1	1.1	1.2	0.6	0.7	0.9	0.9	0.2	0.4	0.2	0.2
Insurance services	0.8	0.9	0.9	0.8	0.6	0.8	0.8	0.9	0.2	0.1	0.1	0.0
Financial services	2.7	2.7	2.8	2.5	1.9	2.3	1.4	1.4	0.8	0.4	1.4	1.1
Computer and information services	2.2	2.5	3.0	3.0	1.6	1.9	2.2	2.2	0.6	0.7	0.8	0.9
Royalties and licence fees	1.2	0.8	1.7	1.6	1.5	1.3	1.5	1.4	–0.2	–0.5	0.3	0.2
Other business services	15.0	19.4	22.6	23.5	12.1	16.3	17.2	18.9	2.9	3.2	5.3	4.7
Personal, cultural and recreational services	0.4	0.4	0.4	0.5	0.4	0.5	0.5	0.6	–0.1	–0.1	–0.1	–0.1
Government services	1.6	1.5	1.4	1.4	0.1	0.2	0.2	0.2	1.5	1.3	1.2	1.2
Other services	2.0	1.4	0.8	1.3	2.4	2.1	1.1	1.5	–0.4	–0.7	–0.3	–0.2
Income	73.0	73.0	53.0	52.4	67.8	64.9	53.1	43.9	5.2	8.0	–0.1	8.5
Transfers	7.2	7.6	7.7	8.5	11.9	13.7	14.2	14.9	–4.6	–6.1	–6.5	–6.3
p.m. Total current transactions (in % of GDP)												
according to the balance of payments	*105.2*	*105.7*	*88.2*	*95.3*	*103.5*	*107.3*	*89.8*	*93.8*	*1.6*	*–1.6*	*–1.7*	*1.5*
according to the national accounts	*105.8*	*106.8*	*89.5*	*96.4*	*101.9*	*105.7*	*88.9*	*93.3*	*3.9*	*1.1*	*0.7*	*3.1*

Source: NBB.

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Results and financial situation of firms in 2010

D. 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. This year the new IT system at the Central Balance Sheet Office has made it possible to extend the population to companies which file their annual accounts very late. Those companies, which were not previously included in the final statistics, represent only a minority of annual accounts and their economic importance is particularly low, so that the resulting changes to the aggregate statistics are only marginal.

Part 2 presents an extrapolation of the main items in the operating account for the 2010 financial year. In particular, 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.

Part 3 assesses the financial position of companies in terms of profitability and solvency. For a number of years there has been increasing attention to the distribution of the financial ratios, for the purpose of studying the various population strata. This type of analysis shows, for example, that while the financial independence of most firms is improving, the opposite applies to a significant minority of the population, particularly in the SME group. Part 3 also presents the results of the financial health model developed by the Bank. This model is useful because it summarises the position of each company in a single value which takes account simultaneously of solvency, liquidity and profitability. On that basis, ten financial health classes have been defined. These classify companies into groups which are stable and uniform in terms of the failure rate observed in the past.

Finally, Part 4 places the analysis of the annual accounts in a regional perspective. The regional breakdown of the annual accounts is based on data from the National Accounts Institute, which give details of employment in firms for each registered office and each operating establishment.

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 adjusted if necessary to meet the required quality standards. By the autumn, an initial analysis is then possible.

However, every year the population of annual accounts relating to the latest year considered, in this case 2010, 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. Owing to this bias, the 2010 figures are not directly comparable with those of previous years. To overcome this problem, a constant sample is used. This year's constant sample comprises firms which filed annual accounts for a 12-month financial year for both 2009 and 2010.

The method consists in extrapolating the 2010 results on the basis of developments observed in the constant sample: the 2010 figures are obtained by applying the rates of change in the sample to the final figures for 2009. It is therefore assumed that the movements in the sample are 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 majority of cases, the estimates give a good indication of the direction and scale of the actual movements.

This year, in order to ensure that the sample is sufficiently representative, it was drawn on 12 October 2011. It comprises 182 432 companies, or 58 % of the annual accounts filed in 2009. In terms of value added, its representativeness is much higher, being 84 %. The reason for the difference between the two percentages is that it is mainly small or very small firms that are late in filing their accounts. Every year, the coverage rate for large firms is therefore much higher in terms of both the number of companies and the value added. Annex 1 gives details of the composition and representativeness of the sample.

This year a methodological complication has arisen owing to large-scale mergers in the telecommunications sector. Following the integration of the companies taken over, the accounts of the acquiring companies record increases which are largely artificial. Since the pro forma data published are much more stable, it was decided to exclude these companies from the sample because they create a considerable bias in the estimates. That exclusion amounts to considering that the figures of the companies concerned remained unchanged from 2009 to 2010. Only the goodwill resulting from the mergers was taken into account, since it will have a recurrent impact on the depreciations.

1.2 Description of the population studied

The population studied corresponds to all non-financial corporations as defined by the Central Balance Sheet Office. That group contains a very great majority of the annual accounts filed, with the notable exception of a large proportion of the financial sector and insurance companies. Annex 2 sets out the NACE codes of the branches of activity covered. For the past two years, the sectoral distinctions have been based on the NACE-Bel 2008 nomenclature. For the purpose of presentation and interpretation, 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. The distinction is based on the format used for the accounts. Pursuant to the Company Code, small firms not listed on the stock market may use the simplified format whereas large firms and small listed companies are required to use the full format.

On the basis of the Company Code, a firm is considered small if it has not exceeded more than one of the following limits in the past two financial years:
– number of employees (annual average): 50;
– turnover (excluding VAT): € 7 300 000;
– balance sheet total: € 3 650 000;
unless the annual average number of employees exceeds 100 (1).
In all other cases, the firm is regarded as large.

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.

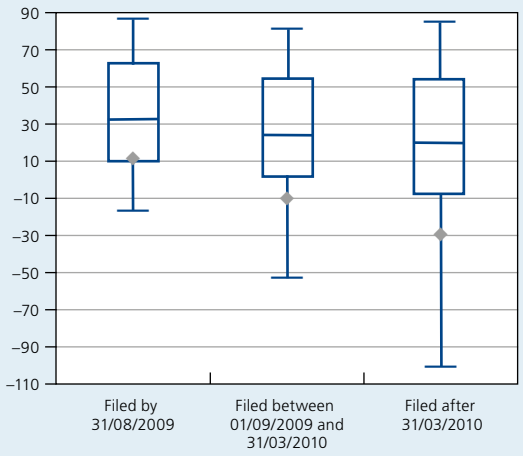
In the previous editions of this article, the population studied comprised companies which had filed their annual accounts before the statistical cut-off date set by the Central Balance Sheet Office, i.e. generally before the end of March N+2 (for a given financial year N). Following the change in the data processing system, it is now possible to study companies which filed their annual accounts after the cut-off date. The population has therefore been extended to include those companies, for the past as well. The companies thus added represent a minority of annual accounts (less than 1 %) and their economic importance is particularly low (0.1 % of total value added) so that their impact on the statistics is marginal.

However, these companies are of interest in terms of financial analysis since their situation is less favourable overall than that of the other companies. For example, chart 1 presents box plots which show the distribution of the degree of financial independence according to the date of filing the annual accounts for 2008. This shows that the distribution of companies which filed their accounts after 31 March 2010 (i.e. after the Central Balance Sheet Office statistical cut-off date) tends particularly towards seriously

(1) If the financial year is shorter or longer than twelve months, the turnover criterion is calculated pro rata. If the company is linked to one or more companies, the criterion relating to the annual average number of employees is calculated by adding together the average number of employees for all the firms concerned, and the criteria relating to turnover and the balance sheet total are calculated on a consolidated basis. For more information, please refer to the Belgian Accounting Standards Commission notice CNC 2010-5 (www.cnc-cbn.be).

CHART 1 BOX PLOTS OF FINANCIAL INDEPENDENCE ACCORDING TO THE DATE OF FILING THE ANNUAL ACCOUNTS, FINANCIAL YEAR 2008

(in %)



Source: NBB.

negative values: for instance, it is evident that the financial independence of 10 % of these companies is less than –100 %. Consequently, they are far more vulnerable: their failure rate at five years (calculated from the 2005 financial year) is 16 %, compared to 4 % for companies which meet the statutory deadlines for filing their accounts.

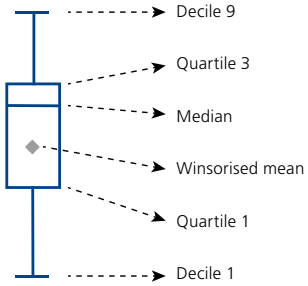
Table 1 describes the population studied. The data for 2010 are given for the record, because as already pointed out they were incomplete when this article went to press. SMEs make up the great majority (296 155 companies in 2009, or 94 % of the total). However, in terms of value added it is the large firms that clearly predominate (over € 120 billion in 2009, or 73 % of the total).

In line with the long-term trend, the number of companies filing annual accounts has continued to rise in recent years, increasing from 273 837 in 2005 to 314 631 in 2009. This net creation of companies is mainly attributable to services (business services, IT activities, real estate, etc.) and construction. In manufacturing industry, the number of companies has grown only very slightly. Generally speaking, the new firms are relatively small entities: for example, in 2009 the companies formed after 1 January

Box 1 – Box plots

A box plot (or box-and-whisker plot) is a graphic representation tool introduced in 1977 by the American statistician, John W. Tukey. Box plots can be used to compare the distributions of different populations, including their dispersion and asymmetry. The box plots presented in this article are to be interpreted as follows:

- the top end of the upper whisker corresponds to the 9th decile;
- the top of the box corresponds to the 3rd quartile;
- the line inside the box corresponds to the median;
- the bottom of the box corresponds to the 1st quartile;
- the bottom end of the lower whisker corresponds to the 1st decile;
- the grey dot corresponds to the winsorised mean (1).



(1) Mean calculated on the basis of the distribution winsorised at the 1st and 99th percentiles: for each financial year, values below the 1st percentile are assigned the value of the 1st percentile, while values above the 99th percentile are assigned the value of the 99th percentile. This neutralises the impact of extreme values on the calculation of the mean.

TABLE 1 POPULATION STUDIED
(situation on 12 October 2011)

	2005	2006	2007	2008	2009	*p.m. 2010*
Number of companies	**273 837**	**283 543**	**294 730**	**303 079**	**314 631**	***226 708***
Large firms	16 377	16 576	17 103	17 794	18 476	*16 858*
SMEs	257 460	266 967	277 627	285 285	296 155	*209 850*
Manufacturing industry	21 517	21 757	22 005	21 850	21 941	*15 179*
Non-manufacturing branches	252 320	261 786	272 725	281 229	292 690	*211 529*
Value added (€ million)	**146 023**	**154 901**	**164 973**	**170 023**	**164 138**	***146 506***
Large firms	111 613	117 677	122 744	126 154	120 379	*117 266*
SMEs	34 410	37 224	42 229	43 869	43 760	*29 240*
Manufacturing industry	45 469	48 286	47 976	46 468	43 301	*42 881*
Non-manufacturing branches	100 554	106 615	116 997	123 556	120 837	*103 626*

Source: NBB.

2005 generated value added averaging € 149 000, compared to € 638 000 for companies formed before that date.

The first part of chart 2 shows that the increase in the number of companies is due mainly to the private limited companies. In the last ten complete financial years available, the number of private limited companies has in fact risen by 80 700 units, or 65 %. Over the same period, those companies have constantly made a positive contribution to the creation of value added, including in 2009 (second part of chart 2).

In contrast, the number of public limited companies has hardly risen at all since 2000, and has actually declined since 2005, to a total of 86 300 units in 2009. While public limited companies disappear at a similar rate to private limited companies, far more of the latter are created, and that is the main reason for the divergence between the two forms of company. It should be noted that almost a quarter of the public limited companies which disappear undergo a merger (compared to just 4 % of private limited companies), so that, strictly speaking, they do not go out of business. Moreover, although their number is no longer increasing, public limited companies still have a significant influence on value added in Belgium.

In recent years the number of cooperative societies has continued to diminish, in line with the long-term trend. Cooperatives represent a minority of annual accounts (fewer than 10 000 in 2009), so that their influence on the overall trend is marginal.

Finally, the past decade has brought sustained growth of other legal forms. That trend is due largely to the rise of non-trading partnerships, the number of which has grown from 2 500 in the early 2000s to almost 10 000 today. This form is particularly popular with professionals such as accountants, lawyers, notaries and architects.

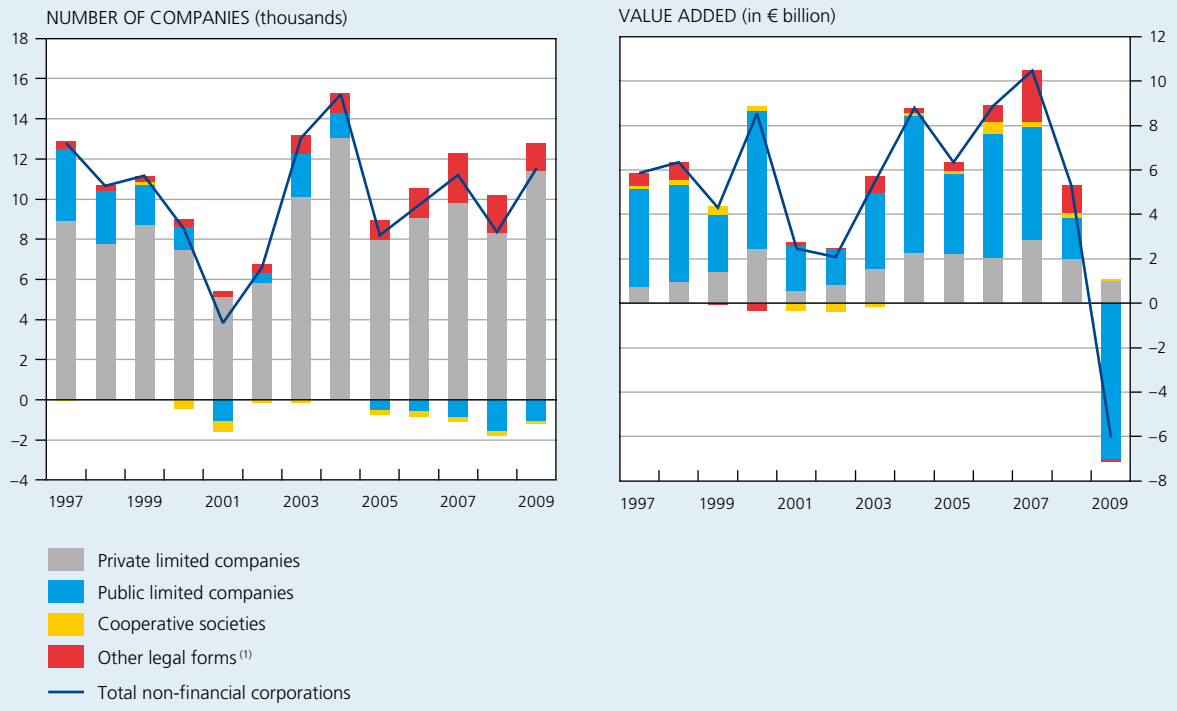
2. Trend in components of the operating result

This section shows how the trend in the components of the operating result relates to general economic developments in 2010. For more details on the latter, see the Bank's Annual Report 2010. The latest developments are also analysed in another article in this Economic Review.

2.1 Economic climate

The economic recovery which began in Belgium in mid-2009 persisted in 2010, as it did in the euro area. GDP recovered from the first quarter of 2010, with growth peaking at 2.9 % in the second quarter. After that, as in other euro area countries, the initial revival in activity lost some of its vigour. Though it contrasts with the decline recorded in the previous year, GDP growth was consequently relatively modest in 2010. At the end of the year, Belgium's GDP was still below the peak attained before the recession, i.e. in the second quarter of 2008. From that point of view, the shock suffered by the economy will have had a more lasting impact than in

CHART 2 NET GROWTH IN THE NUMBER OF COMPANIES AND IN VALUE ADDED, BY LEGAL FORM
(contribution by legal form)



Source : NBB.
(1) Including non-trading partnerships, limited partnerships or partnerships limited by shares, general partnerships, social-purpose companies and state-controlled companies.

the three previous recessions. It should be remembered that the recession which began in 2008 was the worst in sixty years.

The collapse of world trade and the ensuing drastic reduction in inventories were the primary reasons for the recession. The turnaround in the first of these factors initiated the recovery, while the effect of de-stocking declined significantly. These developments were accompanied by the revival of private consumption in 2010, while the scaling down of investment continued, though at a more modest pace than in 2009.

Belgian exporters took full advantage of the world trade recovery which began in mid-2009. The export rebound was supported mainly by the dynamism of demand from the emerging economies, particularly those in Asia. Belgian firms benefited from the vigour of those markets either directly, by exporting their products there, or indirectly, by supplying partners in other countries – particularly in Germany – who themselves deal with Asian customers. The export revival was particularly strong for intermediate products, such as chemicals and iron and steel. As an annual average, after an 11.3 % decline in volume in 2009, exports expanded by 9.9 % in 2010. The import profile was fairly similar to that of exports, largely reflecting the fact that production processes are increasingly involving entities located in different countries. In 2010, however, the import growth rate (+8.7 %) was well below the growth of exports, owing to the less dynamic domestic demand. Altogether, over the year as a whole, net exports of goods and services contributed almost half of GDP growth, at 1.1 percentage points, after having made a negative contribution in the two preceding years.

De-stocking, which had depressed activity particularly in 2009, eased off considerably in 2010. Over the year as a whole, the contribution of the change in inventories to annual GDP growth was very slightly positive (+0.1 %).

The other components of demand played a less noticeable role than foreign trade in the large fluctuations in activity in recent years. In 2010 they were influenced in varying degrees by the financial crisis and the recession, even though they made a positive contribution to growth overall.

Among these components, public spending was the only one to increase in 2009. Public consumption continued to rise in 2010 (+0.2 %), while public investment contracted by 1.8 %. Households, which had seriously curbed their consumption expenditure at the end of 2008 and in early 2009, began spending more again. In 2010 this trend continued so that, on average, household consumption was up by 2.3 % in real terms. Conversely, business investment continued to fall (–1.6 %), albeit more slowly than in 2009. Finally, after two years of decline, household investment in housing recovered somewhat in 2010 (+1.6 %).

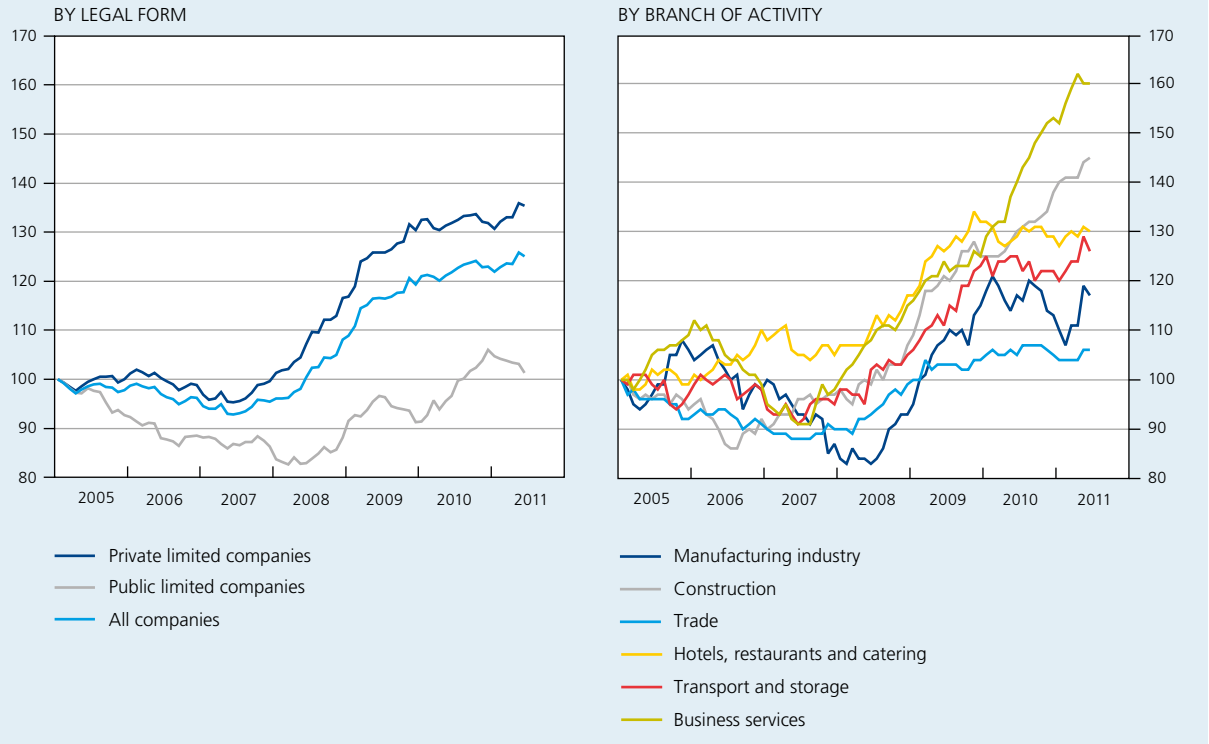
These macroeconomic developments were reflected in the vulnerability of Belgian companies, as is evident from the bankruptcies declared by the commercial courts to the Central Enterprise Data Bank (chart 3). While the number of corporate bankruptcies had increased very sharply in 2008 (+13 %) and 2009 (+10 %), the cyclical upturn slowed the rise in 2010 (+3 %). These variations were largely determined by private limited companies, which represent over 75 % of the bankruptcies recorded in Belgium each month. While all branches of activity had followed the upward trend in 2008 and 2009, that was not so in 2010: while the number of bankruptcies remained stable or even declined slightly in industry, trade, hotels, restaurants and catering, and transport, the rise persisted at a sustained rate in business services and construction.

It is a little difficult to compare the recent period with the past owing to the implications of the law on business continuity. This law, which came into force on 1 April 2009, replaces judicial administration with new procedures putting greater emphasis on preventive measures. The Central Enterprise Data Bank does not currently identify companies resorting to these procedures, so that the influence of the law on the number of bankruptcies cannot be assessed in detail. In any case, it is known that the new procedures are being much more widely used than judicial administration. Thus, from April 2009 to the end of 2010, 1 878 firms applied for suspension of payment under the new law. That is more than the total number of firms which applied for judicial administration between 1998 and 2009 (1).

(1) See Graydon Belgium (2010), *20 maanden wet op continuïteit ondernemingen: een half succes* (www.graydon.be).

CHART 3 NUMBER OF BUSINESS BANKRUPTCIES IN BELGIUM

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



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

TABLE 2 TREND IN THE MAIN COMPONENTS OF THE OPERATING ACCOUNT
(current prices)

	Percentage changes compared to the previous year					In € million	In % of value added
	2006	2007	2008	2009	2010 e	2010 e	2010 e
Value added	**6.1**	**6.5**	**3.1**	**–3.5**	**6.0**	**174 039**	**100,0**
Staff costs (–)	4.4	7.3	5.6	–0.1	2.1	99 399	57,1
Depreciation and downward value adjustments[1] (–)	5.4	7.9	6.6	6.1	2.9	31 421	18,1
Other operating expenses (–)	12.7	–8.6	11.9	–4.6	–4.9	10 152	5,8
Total operating expenses	*5.3*	*6.0*	*6.3*	*0.8*	*1.8*	*140 972*	*81,0*
Net operating result	**9.1**	**8.4**	**–8.6**	**–21.6**	**29.2**	**33 067**	**19,0**

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

2.2 General developments in the operating account

The cyclical upturn in 2010 had a favourable impact on the value added of non-financial corporations, i.e. the difference between sales revenues and the cost of goods and services supplied by third parties. Having recorded a fall in 2009 for the first time in over fifteen years, total value added at current prices recovered strongly in 2010 (+6.0 %, table 2).

The value added which 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 make up the major part of the operating costs: in 2010 they represented 57.1 % of value added. In 2009, for the first time in over ten years, they were down slightly (–0.1 %) owing to the reduction in the number of employees on the staff register (–2.1 % in full-time equivalents) and the large-scale use of systems permitting some flexibility in the use of labour (such as temporary lay-offs, reductions in overtime, and time credit). In 2010, staff costs began rising again but relatively slowly (+2.1 %) in comparison with the pace seen in the pre-recession years. The number of workers showed a similar increase (+1.6 %). Recent trends in employment are detailed in another article in this Economic Review (see "The social balance sheet 2010").

After staff costs, the biggest operating expense items are depreciation and downward value adjustments on tangible and intangible fixed assets and start-up expenses (item 630 in the annual accounts). In 2010 their growth slowed for the third consecutive year (+2.9 %), against the backdrop of a renewed decline in business investment. It should be noted that the increase in the amounts of depreciation in 2010 is largely due to the recording of substantial goodwill in the telecommunications sector, following the mergers mentioned in section 1.1. Without these book entries, the amounts recorded under item 630 would have risen by 1.4 % between 2009 and 2010.

Acquisitions of tangible fixed assets continued to diminish in 2010 (–6.5 %), albeit more slowly than in 2009 (–17.6 %)[1]. As in 2009, this decline concerned the great majority of branches studied. As a result, the investment rate of non-financial corporations (i.e. the ratio between acquisitions of tangible fixed assets and value added) fell sharply in the past two years, from 31.2 % in 2008 to 23.2 % in 2010, its lowest level in the past ten years. As is also evident from the distribution, this decline occurred throughout the population.

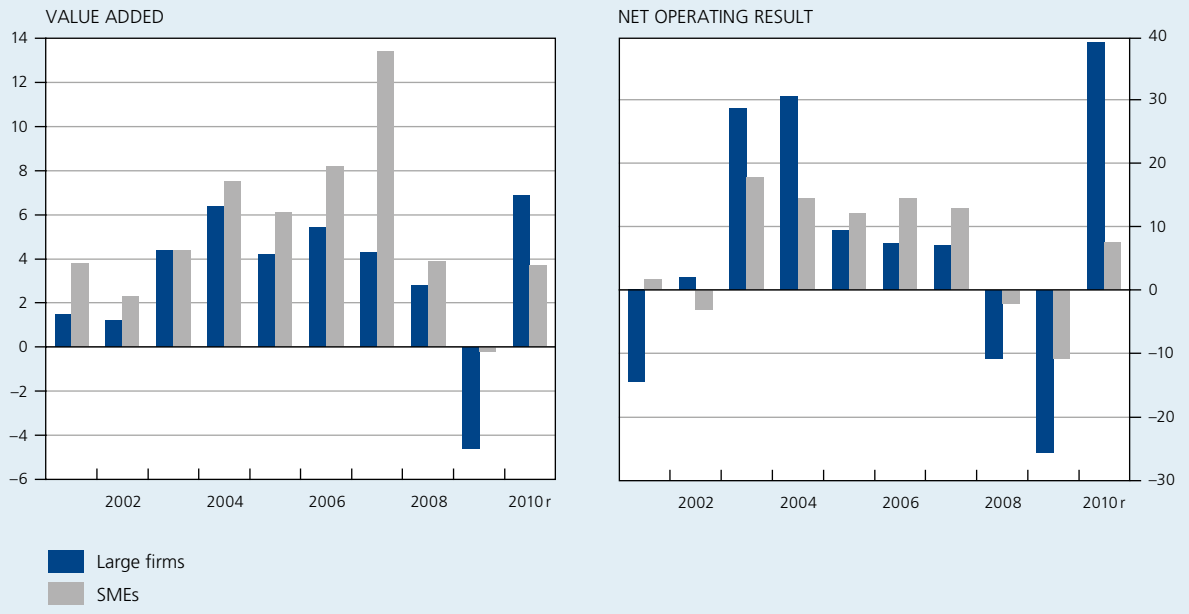
For companies filing full-format accounts, the annex to the annual accounts permits an assessment of the intensity of research and development activities[2]. Such an assessment may give some indication of the potential

(1) Acquisitions of tangible fixed assets are defined as the sum of the acquisitions of tangible fixed assets (item 8169, including capitalised production costs) and the capital gains on tangible fixed assets acquired from third parties (item 8229), less depreciation and downward value adjustments on tangible fixed assets acquired from third parties (item 8299).

(2) The information is not available for companies filing their annual accounts in the abridged format. Research and development costs mean the costs of research, making and developing prototypes, products, inventions and know-how, useful for the company's future activity (Royal Decree of 30 January 2001).

CHART 4 VALUE ADDED AND NET OPERATING RESULT, BY SIZE OF FIRM

(percentage change compared to the previous year)



Source : NBB.

future growth of firms, and hence of the economy as a whole. In 2010, for the first time in several years, both the number and the percentage of companies involved in research and development contracted : 731 firms (or 4.0 % of full-format accounts) recorded capitalised research and development costs in 2010, compared to 785 (4.2 %) in 2009. In 2010 the total amount capitalised came to € 3.1 billion [(1)]. In comparison with the long-term trend, the growth of the amounts capitalised was rather weak in both 2009 (+0.2 %) and 2010 (+1.8 %).

Total operating costs, determined mainly by staff costs and depreciation, increased by 1.8 % in 2010 (table 2). In contrast to the two preceding financial years, the rise in operating expenses was therefore considerably less than the increase in value added.

This combination of cost control and a revival in activity produced a strong rebound in the net operating result in 2010 (+29.2 %), following a 28 % fall during 2008 and 2009 as a whole. Although the level of the operating result recorded in 2010 (€ 33.1 billion) is still below the pre-recession figure (€ 35.7 billion in 2007), the economic upturn therefore enabled firms to eliminate most of the impact of the crisis on their commercial performance. It must also be said that the net operating result more than doubled between 2001 and 2007.

Taking 2008 and 2009 together, the net operating result of large firms contracted by 33.6 %, compared to 12.7 % for SMEs (chart 4). While large firms were therefore much harder hit by the deteriorating economic conditions, their recovery was also more vigorous once the environment became more favourable : in 2010 the net operating result of large firms surged by 39 %, against 7.5 % for SMEs. This sensitivity of large firms to the business cycle is due mainly to their stronger focus on industrial activities, which were particularly affected by the fluctuations in world trade in recent years. In 2010, 32 % of the value added of large firms came from manufacturing branches, compared to 11 % for SMEs.

2.3 Results per branch of activity

This section describes the main developments in the operating account per branch of activity. The figures are presented in Annexes 4, 5 and 6.

(1) Every year the pharmaceutical industry represents more than two-thirds of the amounts capitalised. Moreover, these amounts are concentrated on a small number of firms : the ten companies investing the most in this respect account for over 75 % of the total amount.

CHART 5 VALUE ADDED PER BRANCH OF ACTIVITY

(percentage changes compared to the previous year)

Source: NBB.

2.3.1 Manufacturing industry

The collapse of world trade in 2008 and 2009 took a particularly heavy toll on industry. Taking these two years together, value added in manufacturing was down by almost 10 %, one of the steepest falls ever recorded since companies began filing their annual accounts with the Central Balance Sheet Office. The most severe falls occurred in metallurgy (–29 % between 2007 and 2009), textiles (–24 %) and metalworking (–14 %), which are among the branches most geared to exports. Conversely, some branches proved more resilient, being less exposed to external demand, such as the agro-food industry (+12 %).

In 2010, value added in manufacturing increased by 8.4 %. The strongest improvements were seen in metallurgy (+14 % in 2010), chemicals (+14 %), and metalworking (+13 %), branches which gained direct benefit from the recovery of world trade. This consolidation of

industrial activity was nevertheless insufficient to restore activity to a level comparable to that before the recession: in 2010, value added in the manufacturing branches was still 2.8 % below its 2007 level.

In parallel with this revival in activity, and despite the further marked fall in the number of full-time equivalents (–3 %), staff costs increased by 1.9 % in 2010. Over half of this rise is due to the restructuring costs recorded in the metalworking branch. Depreciation was down for the first time in several years (–0.1 %), as a result of a further fall in acquisitions of tangible fixed assets (–12.2 %). This new decline occurred despite the marked recovery of the capacity utilisation rate as measured by the Bank. After having fallen to a record low in April 2009, that rate picked up steadily thereafter so that, in the final quarter of 2010, it was back to a level close to the average for the past three decades. It therefore seems that manufacturers waited for confirmation of a lasting recovery before proceeding with new investments.

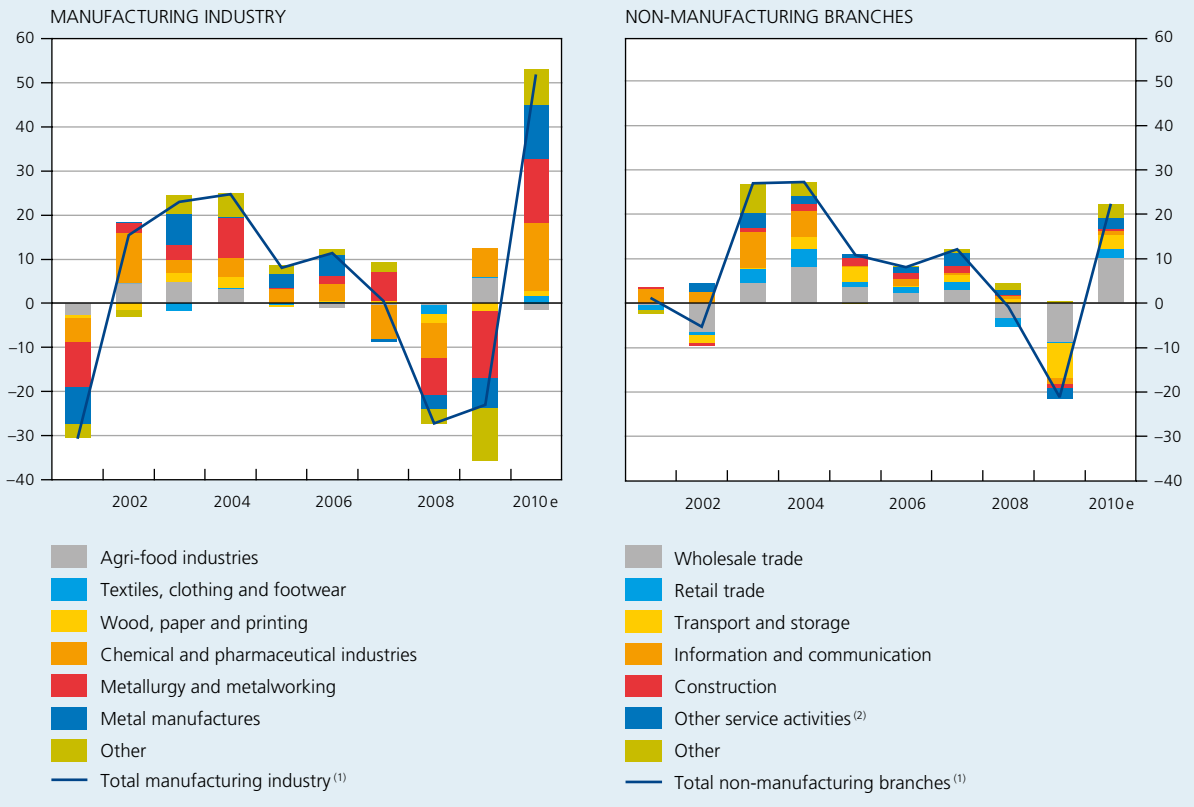
The movements in staff costs and depreciation resulted in a relatively moderate rise in the total operating expenses in 2010 (+1.6 %). Combined with the recovery of value added, this led to a particularly strong surge in the net operating result of the manufacturing branches (+52 %), after two years of steep decline. Almost all branches contributed to this revival in operating performance (chart 6). However, in 2010 the operating result of manufacturing industry was still below its 2007 peak.

2.3.2 Non-manufacturing branches

Overall, being less sensitive to the international environment, non-manufacturing branches proved more resilient to the recession. In 2008, growth of value added slowed down but remained positive (+5.8 %). In 2009 it was negative (–2.2 %) but the fall was much less marked than in industry. Most of this fall was attributable to the transport sector (–8.2 %) and the wholesale trade (–9.6 %), where the contraction of industrial activity had a direct impact.

CHART 6 TREND IN THE NET OPERATING RESULT

(contributions to the annual change in the net operating result, in percentage points, unless otherwise stated)



Source: NBB.

(1) Percentage annual change.

(2) Namely section M ("professional, scientific and technical activities") and N ("administrative and support services") in the NACE-Bel 2008 classification.

In 2010 the total value added of the non-manufacturing branches recovered (+5.2 %). The wholesale trade recorded a particularly vigorous upturn (+11 %), particularly in pharmaceuticals and petrochemicals. Temporary employment and recruitment agencies (+13.5 %) benefited greatly from the demand for labour resulting from the economic recovery. Conversely, growth was weaker in construction (+1.9 %) and in real estate (+0.2 %), but it should be noted that these two branches had been less affected than others by the recession. For one thing, they were supported by the recovery plans implemented by the government. Also, unlike other countries, Belgium did not have to contend with the bursting of a property bubble.

For the first time since 2007, the staff costs of the non-manufacturing branches rose more slowly (+2.2 %) than value added (+5.2 %). After contracting in 2009 (–1.2 %) the number of employees picked up in 2010 (+2.5 %), boosted by temporary employment agencies and more generally by business services. The growth of depreciations slowed significantly (+ 4 %), in the context of a further fall in acquisitions of tangible fixed assets.

As a result of these developments, total operating expenses increased more slowly than value added in 2010 (+1.8 %). Consequently, after two years of decline, the operating result of the non-manufacturing branches staged a strong recovery (+22.4 %). Yet as in industry, this revival was not enough to fully offset the losses suffered during the recession.

Overall, in the past three years the fluctuations in the operating account have been less marked in the non-manufacturing branches. However, in view of their weight in the economy, these branches still made the largest contribution to the total variation.

3. Trend 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 3.

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.

In the past few years, to gain an idea of the various population strata, the analysis has been extended to cover the whole distribution. The box plot charts thus present not only the medians but also the 1st and 3rd quartiles and the 1st and 9th deciles. Those charts also give the winsorised averages for the 1st and 99th percentiles (the calculation method is explained in box 1). For analysing the ratios, the winsorised average is greatly preferable to the simple average because it is unaffected by extreme values.

3.1 Profitability

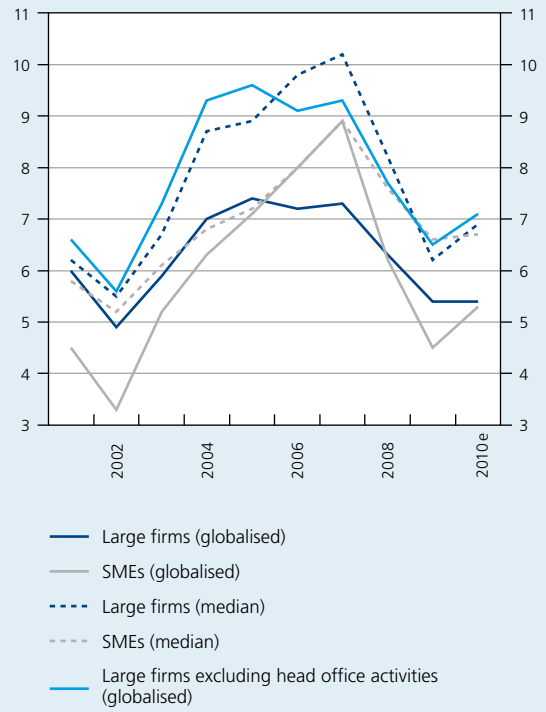
In this article profitability is first assessed on the basis of the net return on own funds. This figure, also referred to as return on equity, divides the net result after tax by the equity capital. That ratio indicates the return which shareholders receive after deduction of all expenses and taxes. In order to obtain a representative picture of the recurrent performance of firms, the net return is considered here exclusive of exceptional items.

Over 2008 and 2009 as a whole, the return on equity had dropped sharply, regardless of company size, in both global figures and medians. Taken as a whole, 2010 saw the end of this contraction (chart 7). The globalised ratio of large firms (excluding head office activities) recovered, to reach 7.1 %. On the one hand, the net profit of large firms rose strongly (+8.9 %) after declining for two years. Conversely, the increase in the equity capital (+9.4 %) tended to curb the rise in the ratio. Although small in comparison with previous years, this further increase in the equity capital is in line with a long-term trend towards improved solvency for Belgian companies (cf. below). The globalised ratio of large firms including the "head office activities" (sub-category 70 100 in NACE-BEL 2008) is given for information. This ratio is in fact depressed by the weight of equity capital in this branch which, though it concentrates more than one-third of the own funds of non-financial corporations, represents little more than 1 % of total value added[1]. The globalised ratio of SMEs

(1) The "head office activities" branch essentially comprises finance companies which act as an internal banker within a group of companies.

CHART 7 RETURN ON EQUITY EXCLUDING THE EXCEPTIONAL RESULT

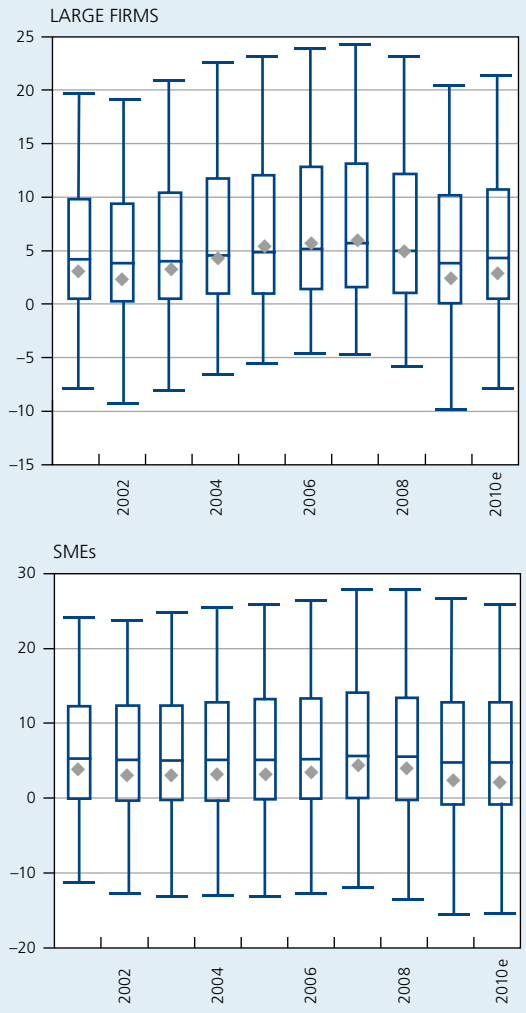
(in %)



Source : NBB.

CHART 8 DISTRIBUTION OF THE NET RETURN ON TOTAL ASSETS BEFORE TAX AND DEBT INTEREST

(in %)



Source : NBB.

also increased in 2010 to reach 5.3 %. Just as in the case of large firms, the increase in the net result was partly absorbed by the expansion of the equity capital.

The pattern presented by the median ratios shows that the decline in profitability was curbed throughout the population as a whole. However, the median increases are still modest, for all sizes of firms. In general, the return on equity in 2010 remained well below the peak levels achieved before the recession.

Furthermore, combined with the cyclical upswing, the improved financial performance encouraged firms to become less conservative in their profit allocation policy. Thus, after falling in 2009, the percentage of firms paying out dividends increased from 12.5 % to 13.4 %. The amounts paid out were also bigger.

Chart 8 shows the full distribution of the net return on total assets before taxes and debt interest. That ratio is preferable for studying the distribution, since it is available for all firms, unlike the return on equity which can only be calculated where the equity is positive. This ratio is independent of the financing structure, and is therefore also known as the "economic return".

Chart 8 reveals that, over the past decade, the economic cycle has influenced both the most and the least profitable strata of the population. Thus, the generally favourable economic climate from 2003 to 2007 coincided with an upward shift in the entire distribution. This was followed by a downward migration in 2008 and 2009, caused by the deteriorating economic situation, before a recovery in 2010, primarily for large firms. It should be noted that the greater dispersion of SMEs implies a visual narrowing of the differences in the chart relating to those firms.

3.2 Solvency

Solvency concerns the ability of firms to honour their short and long term liabilities. In this article, it is assessed according to three concepts: the degree of financial independence, the degree to which borrowings are covered by cash flow, and interest charges on financial debts. The concept of solvency is fundamental in the financial assessment of a company. It is also at the heart of the financial health model developed by the Bank (see section 3.3).

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; next, 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.

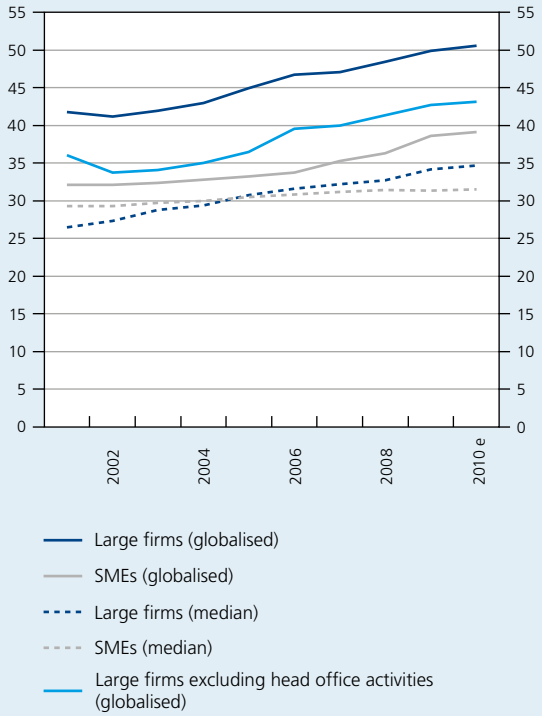
In 2010 the globalised degree of financial independence improved further to 43.1 % for large firms (excluding head office activities) and 39.1 % for SMEs (chart 9). The upward trend apparent for many years therefore persisted. In the space of ten years, the ratio has risen by more than 7 percentage points for both categories of firms.

Since the 2005 financial year, this long term trend has been encouraged by the introduction of the tax allowance for risk capital ("notional interest"). This measure led to a massive inflow of foreign capital into Belgium in the form of shares in Belgian companies. The foreign counterparties are mainly affiliated companies or companies with capital ties to the target company. If we exclude "head office activities", for which those inflows have been particularly significant, the ratio for large firms thus drops by more than 7 points. However, the year-on-year fluctuations remain much the same.

The upward trend in solvency applied to the entire population studied, as is evident from the medians. In the past ten years the median ratio has in fact gained 8.2 points in the case of large firms, and 2.2 points for SMEs. Since 2008, though the ratio has still risen significantly for large firms (+2.0 percentage points) the rise has been minimal for SMEs (0.07 points).

It must also be said that long-term debts hold an increasingly important position in total debts. In 2001, long-term debts represented 32 % of the total debt burden of non-financial corporations, but by 2010 that had risen to 41 %. The distribution of the portion of long-term

CHART 9 DEGREE OF FINANCIAL INDEPENDENCE
(in %)



Source: NBB.

debt also moved upwards during that period. While the median remained fairly stable, the third quartile increased from 47.6 % in 2001 to almost 52 % in 2010. This change in the financing structure can be considered favourable, as it increases the stability of the capital available to firms and limits the liquidity risks associated with short-term debt. Work on the financial health model developed by the Bank has also shown that short-term debt is a much more accurate predictive variable for failure than long-term debt.

According to the full-format accounts, which permit accurate identification of this type of debt, the amounts which non-financial corporations owe to credit institutions increased in 2010 (+3.0 %), following a sharp fall the year before. Over 2010 as a whole, the further decline in bank debt at up to one year (–7.0 %) was more than offset by the expansion of bank debt at over one year (+10.3 %).

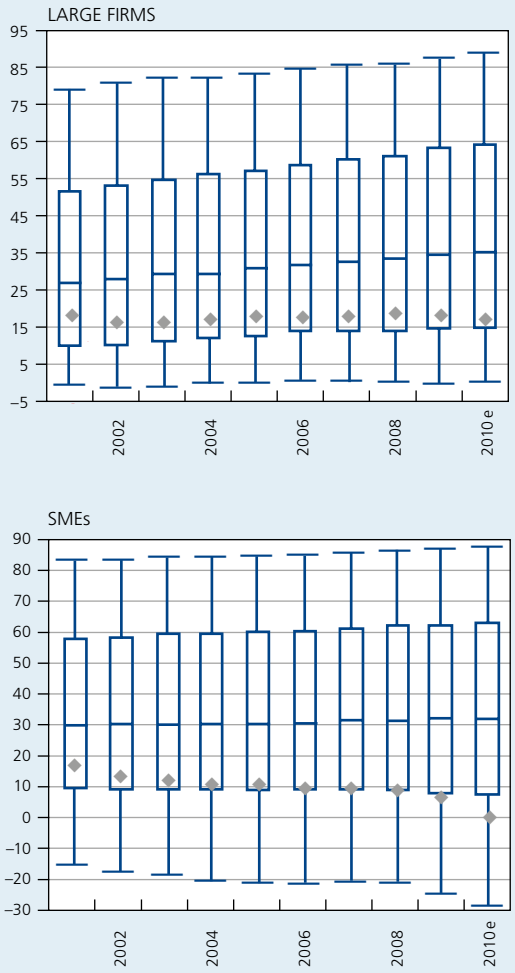
Although chart 9 displays a picture of constantly improving financial independence, that conclusion has to be qualified following examination of the distribution as a whole (chart 10). For large firms, it is evident that the

increase in financial independence primarily benefited the most solvent strata in the population: since 2001, the gain has exceeded 10 points for the 9th decile, compared to just 0.5 points for the 1st decile. In the case of SMEs, the rise in the 9th percentile was smaller (+ 4.1 points), while the 1st quartile declined (–1.8 points) and the 1st decile showed a very sharp fall (–13.4 points). These declines at the bottom end of the distribution indicate that a large proportion of SMEs have moved in the opposite direction to the majority trend.

While the winsorised mean is relatively close to the median for profitability, it is at the level of the 1st quartile in the case of financial independence, reflecting a greater dispersion towards the lower values. This situation arises because the financial independence ratio has an upper limit (at 100 %), but no lower limit.

CHART 10 DISTRIBUTION OF THE DEGREE OF FINANCIAL INDEPENDENCE

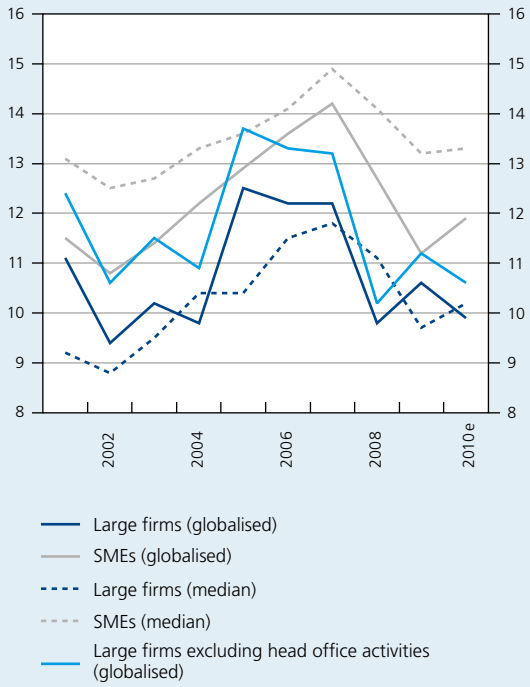
(in %)



Source: NBB.

CHART 11 DEGREE TO WHICH BORROWINGS ARE COVERED BY CASH FLOW

(in %)



Source: NBB.

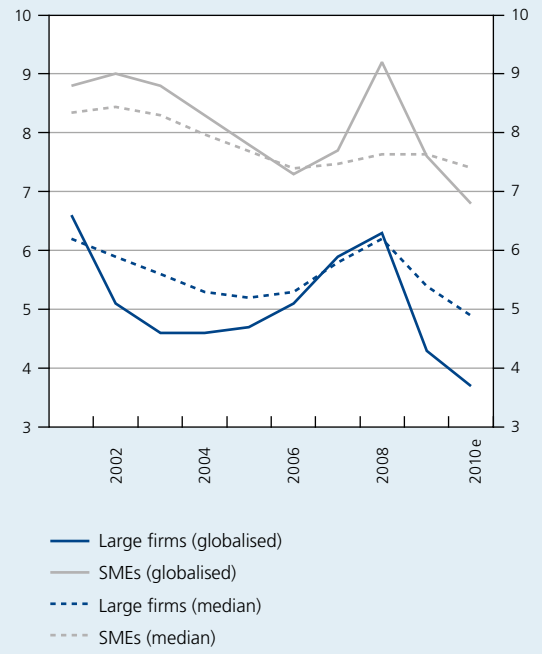
The degree of financial independence and its reciprocal, the debt level, provide a picture of the general equilibrium of the balance sheet figures. That picture is necessary for diagnosing solvency, but it is not sufficient, because it does not permit assessment of the firms' ability to repay their debts, or of the level of charges associated with those debts.

The 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[1]. 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 information given by this ratio completes that obtained from the financial independence

(1) The English term cash flow is used to refer to the net flow of liquidity generated by the firm, i.e. the difference between income received and expenses paid out. The cash flow, which thus represents the firm's ability to finance itself, is of vital importance for the firm's development: in particular, the firm can use its cash flow to finance new investments, pay its debts or distribute profits.

CHART 12 AVERAGE INTEREST CHARGES ON FINANCIAL DEBTS

(in %)



Source : NBB.

ratio, as a high debt level may be offset by a high repayment potential, and vice versa.

After having been under stress during the recession, the coverage of borrowings improved slightly in 2010 according to most of the measures studied (chart 11). However, just as in the case of the return on equity, this revival was not enough to restore the pre-recession levels.

It can be said that the globalised ratio for large firms sometimes fluctuates wildly. Thus, during the last two years under review it moved contrary to the general trend. In 2009 the increase in the ratio was due mainly to a large capital gain on the sale of fixed assets in the Agri-food industries. In 2010, a number of intra-group transfers led to the recording of debts to associated companies, counterbalanced on the assets side by cash investments or financial fixed assets.

The average interest charges on financial debts can be used to assess the cost of recourse to external sources of funding. In 2010, the ratio declined once again (chart 12). Over the last two years, the global ratio declined by more than 2 percentage points for both large firms and SMEs. In terms of medians, the decline was more modest, particularly for SMEs. Overall, the movement in the ratio reflects the reduction in interest rates on bank loans in 2009 and 2010.

3.3 Results of the financial health model

3.3.1 Presentation of the model

In order to assess the financial position of firms, the Bank developed a financial health indicator based on the annual accounts. This indicator is designed as a weighted combination of variables, obtained by means of a model constructed in the same way as a failure prediction model. The model takes the form of a logistic regression discriminating between failing and non-failing companies. The definition of failure is based on a legal criterion, namely that a company is considered to have failed if it has faced bankruptcy or judicial administration in the past.

All the methodological elements underlying the construction of the model can be found in the Bank's Working Paper 213 (1).

The goal of the indicator is to summarize the position of each company in a single value which takes account simultaneously of the solvency, liquidity and profitability dimensions. These dimensions are complementary in the establishment of a financial diagnosis, as a high debt level, for example, may be offset by a plentiful cash flow, and vice versa. The indicator also takes account of the companies' age and size, in particular via interaction variables.

The indicator is a strictly financial assessment of companies at a given point in time. The assessment is based on data from the annual accounts, and therefore disregards other fundamental elements such as development prospects, competition, management calibre or shareholders' willingness to provide financial support. In that respect, the indicator should be viewed as one of the elements permitting a comprehensive appraisal of a firm's situation.

The Bank initially aimed to have an indicator for all non-financial corporations filing annual accounts at the Central Balance Sheet Office : more than 300 000 observations for recent financial years. However, preliminary analysis revealed that some companies' data are difficult to interpret in a large-scale statistical model. Much of the preliminary work therefore consisted in determining the contours of a homogenous population, in order to

(1) Vivet D. (2011), *Development of a financial health indicator based on companies' annual accounts*, National Bank of Belgium, Working Paper 213.

guarantee a minimum level of reliability. Thus, the indicator is calculated for companies which meet the following conditions:

- they must pass the logical and arithmetical checks conducted by the Central Balance Sheet Office;
- the balance sheet total must be € 50 000 or more;
- the financial year must be equal to twelve months;
- legal form: public limited company, private limited company or cooperative society;
- conditions regarding content: current assets, borrowings, short-term borrowings and debts at up to one year must be greater than zero.

The population thus defined contains over 200 000 observations for the most recent financial years (234 274 in 2009). It is much larger than the populations examined in most comparable studies. Nevertheless, the model performs very well and the results are stable over time. The size of the population also implies that the results are very widely applicable

On the basis of the indicator, ten financial health classes were defined. Each class is associated with a specific risk level defined by the failure rate at three years observed in the past (table 3). The percentages in the table are calculated on the basis of all the annual accounts for the financial years 2000 to 2007, and therefore relate to failures which occurred between 2001 and 2010. This means that they are independent of the business cycle and very stable over time. In view of the number of observations used for the calculations (almost 1.6 million sets of accounts) they can be interpreted as reliable probabilities.

The failure rate comes to 0.09 in class 1, i.e. the class corresponding to the highest values of the financial health indicator. That rate means that, in the past, fewer than one in a thousand companies in that class failed at a 3-year horizon. The failure rate then increases steadily as we move from class 1 to class 10, what implicitly corresponds to a deterioration in the financial situation. The rate reaches 26.2 % in class 10, i.e. the class corresponding to the lowest values of the indicator. This means that, in the past, over a quarter of class 10 companies failed at a 3-year horizon.

Classes 1, 2, 3 and 4 are associated with below-average failure rates, and therefore correspond to a favourable financial situation. However, the rates are not zero, which means that these classes are not totally risk free. Conversely, classes 6, 7, 8, 9 and 10 are associated with above-average failure rates, and therefore correspond to a situation of vulnerability. That is why belonging to one of these classes can be interpreted as a warning sign, which becomes stronger as we move from class 6 to class 10.

TABLE 3 FAILURE RATE AND DISTRIBUTION OF COMPANIES AMONG THE FINANCIAL HEALTH CLASSES

(collection of annual accounts for the financial years 2000 to 2007, or 1 581 280 observations)

Financial health classes	In % of firms failing within three years	In % of companies belonging to the class
Class 1	0.09	8.42
Class 2	0.23	16.84
Class 3	0.48	15.98
Class 4	0.98	15.95
Class 5	2.45	24.58
Class 6	5.75	11.69
Class 7	10.31	4.65
Class 8	15.51	1.23
Class 9	19.71	0.46
Class 10	26.09	0.21
Total companies	**2.37**	**100.00**

Source: NBB.

Finally, class 5 is equivalent to the grey zone mentioned in the previous section. It corresponds to an average failure rate (2.3 %) and is therefore neutral in terms of interpretation.

It should be noted that the failure rates presented in table 13 concern companies in order of filing their annual accounts, and that failure to fulfil that statutory obligation is a warning signal prior to any financial diagnosis. Those rates also concern a specific definition of failure, namely bankruptcy or judicial administration situations at a 3-year horizon. If that horizon is extended to 5 or 10 years, the rates become markedly higher. Table 14 relating to the 1999 financial year shows that, in class 10 for example, the failure rate is 45.4 % at 10 years, compared to 37.3 % at 5 years and 27.8 % at 3 years.

Moreover, apart from bankruptcy, companies belonging to the last classes could be exposed to other undesirable consequences, such as payment default, restructuring, dissolution or liquidation. At a 10-year horizon, if we add to the bankruptcies the cases of companies which have disappeared for any other reason, the business cessation rate exceeds 60 % in class 10 and 50 % in classes 8 and 9. The continuity of companies positioned in the last classes is therefore seriously compromised sooner or later. Most of the companies remaining in business subsequently obtain financial support from their shareholders in the form of loans, capital increases or soaking up of losses.

3.3.2 Financial health

The first part of table 4 presents the distribution of companies among the financial health classes. We can see that, while the percentage of companies in the lowest classes had been constantly declining since 2003, that proportion showed a marked rise in 2008 and 2009 as a result of the recession. Thus, the percentage of companies in classes 7 to 10, i.e. the classes associated with a failure rate of at least 10 %, increased from 5.77 % (or 12 779 companies) in 2007 to 6.69 % (or 15 669 companies) in 2009. Moreover, the percentage of companies in classes 8, 9 and 10 had already risen slightly in 2007, probably because of the economic slowdown which gradually made itself felt from mid-2007.

According to the constant sample, the percentage of companies in the lowest classes declined in 2010, thanks to the more favourable economic climate. However, as is clear from the last two columns in the table, the sample underestimates the percentage of companies in those classes. In particular, it takes no account of new companies or of companies which are late in filing their annual accounts, which are structurally more vulnerable. The picture for 2010 will therefore have to be confirmed once all the annual accounts are available.

It is also evident that the percentage of companies in the top classes increases in the long term. For instance, the proportion of companies in classes 1 and 2 increased from 24 % in 2003 to almost 31 % in 2009. The reason lies in the trend towards improvement in many ratios in the upper percentiles. Solvency, which is the dominant variable in the financial health model, typifies that trend (cf. chart 10).

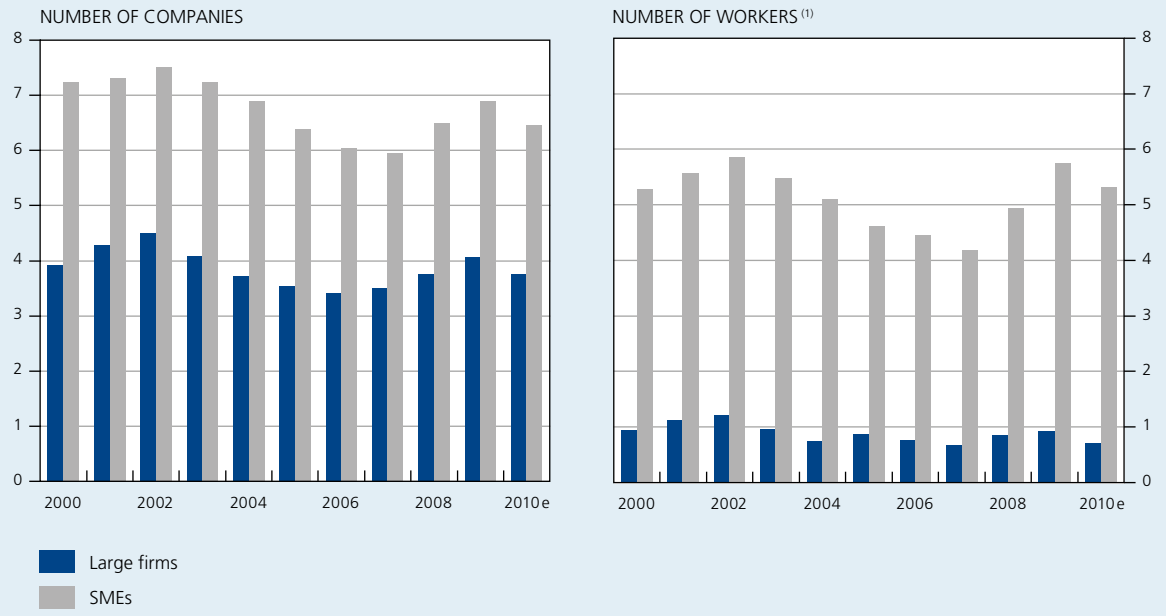
The second part of table 4 reveals that the companies regarded as vulnerable are relatively small. For instance,

TABLE 4 DISTRIBUTION OF THE POPULATION AMONG THE FINANCIAL HEALTH CLASSES

								Sample	
	2003	2004	2005	2006	2007	2008	2009	2009	2010
In % of the number of companies									
Class 1	7.90	8.44	8.93	9.55	10.38	10.67	11.32	12.82	13.61
Class 2	16.24	16.94	17.64	18.32	18.92	19.02	19.26	20.98	21.65
Class 3	15.61	15.96	16.23	16.45	16.62	16.40	16.05	16.87	17.01
Class 4	16.04	15.88	15.91	15.79	15.64	15.34	14.95	15.04	15.02
Class 5	25.08	24.59	24.03	23.33	22.29	21.87	21.43	20.19	19.41
Class 6	12.12	11.54	11.08	10.69	10.38	10.40	10.30	8.90	8.51
Class 7	4.93	4.72	4.43	4.22	4.10	4.33	4.55	3.68	3.45
Class 8	1.31	1.27	1.16	1.08	1.08	1.22	1.32	1.00	0.86
Class 9	0.50	0.45	0.43	0.41	0.41	0.51	0.54	0.36	0.32
Class 10	0.26	0.21	0.17	0.16	0.18	0.24	0.28	0.17	0.15
Total	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
In % of workers entered in the staff register (1)									
Class 1	7.17	7.45	8.02	8.56	8.50	8.32	9.26	9.91	12.83
Class 2	21.70	23.74	23.97	26.15	26.70	26.79	27.20	28.71	27.91
Class 3	21.71	22.09	22.67	22.72	21.66	23.29	20.58	21.78	22.28
Class 4	18.68	19.53	18.78	17.80	19.98	16.95	18.40	18.67	18.58
Class 5	22.55	20.04	19.54	18.28	16.94	17.77	16.92	15.30	14.30
Class 6	5.79	5.02	4.95	4.53	4.41	4.74	5.17	4.09	2.83
Class 7	1.66	1.46	1.45	1.31	1.22	1.43	1.60	1.07	0.90
Class 8	0.45	0.42	0.40	0.37	0.35	0.42	0.49	0.28	0.22
Class 9	0.19	0.15	0.13	0.17	0.15	0.16	0.22	0.11	0.10
Class 10	0.10	0.11	0.09	0.10	0.09	0.13	0.17	0.07	0.05
Total	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**

Source : NBB.
(1) Full-time equivalents (item 9087).

CHART 13 SHARE OF COMPANIES AND JOBS IN THE LOWEST FOUR FINANCIAL HEALTH CLASSES, ACCORDING TO SIZE
(in % of the total)



Source : NBB.
(1) Full-time equivalents.

the 6.69 % of companies in classes 7 to 10 in 2009 represented barely 2.47 % of the total number of workers on the staff register, or just over 40 000 jobs. Conversely, the proportion of jobs in the top four classes (i.e. classes in a sound financial position) came to 75 %.

Finally, SMEs are structurally more vulnerable than large firms (chart 13). In 2010, according to the estimates, 6.5 % of SMEs were in fact in the lowest four classes, compared to 3.7 % of large firms. In terms of jobs, the difference is greater since the proportion was 5.4 % for SMEs and 0.7 % for large firms. Despite these differences of level, the two categories of companies have followed a similar trend in the past ten years.

3.3.3 Transition matrix

The population concerned by the above statistics is not constant : every year, a number of companies join the population while others leave. In particular, numerous vulnerable companies disappear, contributing to a natural decline in the percentage of companies in the lowest classes. Moreover, the companies remaining in the population may move from one class to another, depending on their financial situation. Transition matrices can be used to study that type of movement.

Table 5 presents the transition matrix for 2008-2009. It compares the situation of the companies in the 2008 and 2009 financial years. The matrix comprises a main matrix showing the companies allocated to a class in 2008 and 2009, i.e. the companies for which an indicator was calculated for both years. The companies for which an indicator is only calculated for 2008 are allocated to the "failure" or "other" column. The "failure" column concerns companies which have disappeared following a failure in the sense defined above. The "other" column concerns companies which have disappeared for any reason other than bankruptcy (liquidation, dissolution, merger by takeover, etc.) and companies whose 2009 accounts do not satisfy the conditions for calculating the indicator. Finally, the last line of the matrix indicates the situation of new entrants, i.e. newly formed companies and pre-existing companies whose annual accounts fail to meet the calculation conditions for 2008 but satisfy them for 2009.

The diagonal of the main matrix indicates the proportion of companies not changing their class from one financial year to the next. It contains 49.6 % of the companies in the main matrix. The tri-diagonal corresponds to the companies which have either not changed their class or have moved to an adjacent class. The tri-diagonal contains 86.8 % of the companies in the main matrix, which

TABLE 5 FINANCIAL HEALTH CLASSES – TRANSITION MATRIX 2008-2009

(in %)

From / To	1	2	3	4	5	6	7	8	9	10	Bankruptcy[1]	Other[2]	Total
1	**70.1**	19.2	3.5	1.3	0.5	0.1	0.0	0.0	0.0	0.0	0.0	5.2	**100.0**
2	15.3	**55.5**	15.6	5.5	2.8	0.5	0.1	0.0	0.0	0.0	0.1	4.7	**100.0**
3	3.0	24.7	**39.3**	16.9	8.7	1.2	0.3	0.0	0.0	0.0	0.2	5.6	**100.0**
4	1.1	8.0	22.2	**34.9**	22.1	3.6	0.8	0.1	0.0	0.0	0.5	6.6	**100.0**
5	0.5	2.8	7.2	17.2	**46.7**	12.6	3.0	0.5	0.2	0.1	1.2	8.2	**100.0**
6	0.2	0.8	2.0	5.0	27.4	**36.3**	11.2	2.0	0.6	0.3	2.9	11.3	**100.0**
7	0.1	0.6	0.9	2.1	11.6	25.9	**28.1**	7.3	2.3	0.9	5.6	14.6	**100.0**
8	0.0	0.3	0.6	1.2	6.0	13.6	25.2	**17.0**	6.1	2.6	9.7	17.7	**100.0**
9	0.2	0.3	0.5	0.8	4.0	8.1	17.7	17.0	**13.0**	7.0	11.7	19.7	**100.0**
10	0.4	0.0	0.4	0.6	3.0	3.9	9.1	14.6	13.1	**19.1**	16.3	19.6	**100.0**
New entrants[3]	4.4	11.0	13.3	14.9	26.0	16.1	8.9	3.2	1.4	0.8	–	–	**100.0**

Source: NBB.

(1) Companies disappearing following a failure in the sense defined above.

(2) Companies disappearing for any reason other than bankruptcy (liquidation, dissolution, merger by takeover, etc.) and companies whose 2009 accounts do not satisfy the conditions for calculating the indicator (including companies which have failed to file their accounts).

(3) Newly formed companies and pre-existing companies whose annual accounts failed to meet the conditions for calculating the indicator in 2008 but did satisfy them for 2009.

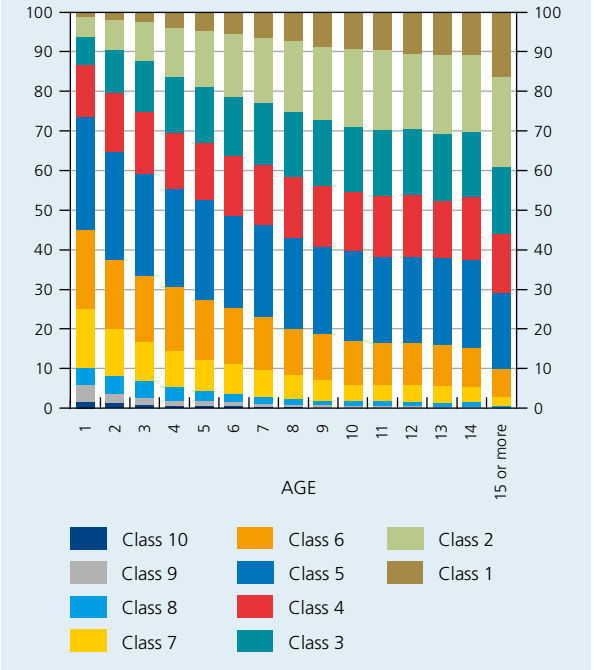
means that the company breakdown is fairly stable from one year to the next. For the record: changes by more than two classes are uncommon; they represent 3.4 % of companies in the main matrix.

The matrix also demonstrates that, every year, numerous companies in the lowest classes leave the model population. For instance, 36 % of the companies in class 10 in 2008 disappeared from the matrix in 2009 (16.3 % owing to bankruptcy, 19.6 % for other reasons), compared to just 5.2 % of companies in class 1. It should also be noted that the economic situation has an impact on the company distribution: in the matrix for 2008-2009, 30.0 % are found to the right of the diagonal (which means that they are moving towards a more vulnerable class or disappearing) compared to 27.6 % in the matrix for 2005-2006, for example.

Finally, it is evident that companies joining the matrix are much more vulnerable than others: 14.2 % of new entrants are in the lowest four classes, against 5.7 % of companies in the main matrix (in 2009). Young companies, which represent around half of the new entrants, have a particular influence on this figure. On this subject, chart 14 shows the distribution of companies among the classes according to age. It indicates that the older the companies, the more likely they are to be in the top classes and therefore the more financially sound they are. The impact of age on vulnerability is particularly marked in the initial years.

CHART 14 DISTRIBUTION OF COMPANIES AMONG THE FINANCIAL HEALTH CLASSES ACCORDING TO AGE[1]

(2009, in %)



Source: NBB.

(1) The age is defined as the difference between the closing date and the date on which the company was formed. That difference, expressed as a number of years, is rounded up to the next unit.

4. Regional perspective

This section contains a regional analysis of the results and the financial position of firms. The analysis is based on a breakdown of the annual accounts according to the region where the firms are located. The methodology used for that breakdown is explained in section 4.1. The subsequent sections set out the findings.

4.1 Methodology

The regional breakdown of the annual accounts is based on the data from the National Accounts Institute.

Single-region firms, i.e. companies whose registered office and operating establishment(s) are located in one and the same region, are assigned immediately to a region. In 2009 the population comprised 313 229 single-region firms, or 99.6 % of the firms studied in this article. Most of them are relatively small: almost 60 % of these firms have no workers on the staff register, and their average value added is less than € 400 000.

In 2009 there were 1 402 multi-region firms, i.e. firms located in more than one region, of which 386 were operating in three regions and 1 016 in two. Multi-region firms are generally large businesses: their average value added exceeds € 31 million. For these firms, the annual accounts items were 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.

Chart 15 presents the regional breakdown of the value added obtained following these procedures. In 2010, Brussels firms represented 16.9 % of total value added, of which 10.5 % was generated by single-region firms and 6.4 % by multi-region firms. Flanders represented 62.3 % of the total (47.7 % + 14.6 %) and Wallonia 20.8 % (15.1 % + 5.7 %). Single-region firms, despite their relatively small size, are so numerous that they represent almost three-quarters of total value added. The choice of aggregate considered may significantly alter the regional breakdown: for instance, Brussels represents a much larger share of the balance sheet total (32.2 %), because many firms have their registered office there.

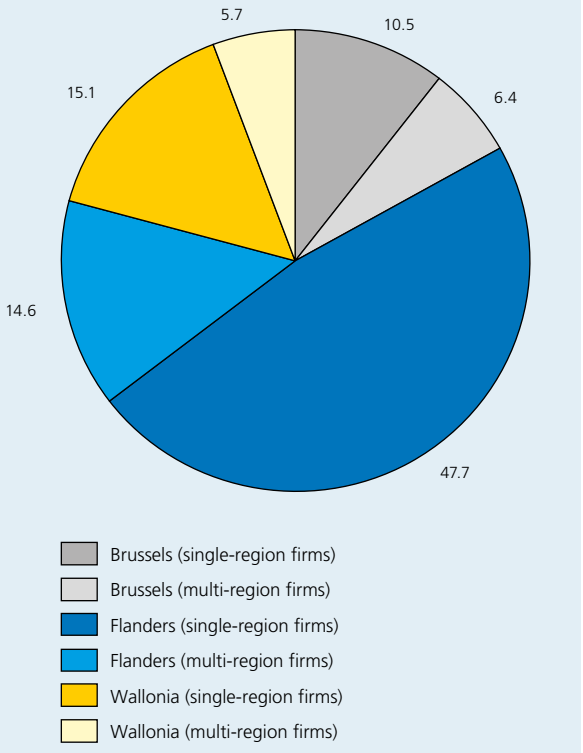
By taking account of each registered office and each operating establishment, it is possible to achieve a better regional breakdown than just on the basis of registered offices, as such a method in fact implies distortions in the case of multi-region firms, and more particularly an over-estimate of the share allocated to Brussels: if only the registered offices according to the Central Enterprise Data Bank are considered, Brussels represents 27.4 % of value added, Flanders 56.0 % and Wallonia 16.6 %.

The sectoral breakdown of value added reveals certain specific regional characteristics (table 6). Brussels is notable for a strong focus on non-manufacturing branches (over 90 % of value added) particularly telecommunications, IT services, head office activities ("other service activities" group) and real estate. Conversely, construction and activities relating to 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 differences of structure between the two regions in several respects. For

CHART 15 REGIONAL BREAKDOWN OF VALUE ADDED IN 2010

(in %)



Source: NBB.

TABLE 6 REGIONAL STRUCTURE OF VALUE ADDED IN 2009
(in % of the total)

	Brussels	Flanders	Wallonia	Belgium
Manufacturing industry	**8.6**	**29.8**	**30.8**	**26.4**
of which:				
Agri-food industries	1.6	5.0	4.4	4.3
Textiles, clothing and footwear	0.3	1.2	0.3	0.9
Wood, paper and printing	0.5	2.2	2.1	1.9
Chemical and pharmaceutical industries	2.3	6.8	9.8	6.7
Metallurgy and metalworking	0.5	4.0	4.8	3.6
Metal manufactures	2.7	5.6	4.8	4.9
Non-manufacturing branches	**91.4**	**70.2**	**69.2**	**73.6**
of which:				
Trade	18.2	21.5	20.7	20.7
Transport and storage	4.7	9.8	8.4	8.6
Hotels, restaurants and catering	3.5	1.5	1.6	1.8
Information and communication	17.4	5.2	4.7	7.1
Real estate activities	5.5	2.4	2.1	2.8
Other service activities[1]	21.9	14.8	10.6	15.1
Energy, water and waste	9.3	4.2	6.7	5.6
Construction	4.3	8.0	8.1	7.4
Total	**100.0**	**100.0**	**100.0**	**100.0**

Source: NBB.
(1) Other service activities include legal and accountancy services, head office and management board activities, architectural and engineering activities, research and development, advertising and market research, leasing and employment-related activities.

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.

Apart from these sectoral differences, it should be noted that the proportion of value added generated by SMEs is lower in Brussels (18 %) than in Flanders (29 %) and Wallonia (28 %). 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 to 24 % of Flemish firms and 25 % of those in Wallonia.

Since these structural differences have a direct influence on the results and financial position of firms, the regional 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, including their great dispersion.

4.2 The main components of the operating account

In recent years, the regions have all seen a similar trend in value added: in the three regions, value added increased steadily from 2001 to 2008, then contracted in 2009 and picked up again in 2010 (table 7).

In the recent period, the wholesale trade has been a major factor in the fluctuations in activity in Brussels. In Flanders and Wallonia, the movements were determined mainly by the manufacturing branches, particularly metallurgy and manufacture of metallic products. In Wallonia, activity was supported by the increase in the sales and margins of the pharmaceutical industry, even at the height of the recession.

TABLE 7 TREND IN THE MAIN COMPONENTS OF THE OPERATING ACCOUNT, BY REGION

(percentage changes compared to the previous year)

	2005	2006	2007	2008	2009	2010 e	In % of value added 2010 e
Brussels							
Value added	**3.7**	**4.8**	**0.6**	**4.8**	**–6.0**	**6.4**	**100.0**
Staff costs (–)	2.2	–0.3	5.4	3.1	0.7	1.1	51.2
Depreciation and downward value adjustments[1] (–)	0.2	8.5	1.0	5.1	11.4	4.8	18.5
Other operating expenses (–)	4.1	23.4	–25.3	44.7	–5.8	–3.6	11.8
Total operating expenses	*2.1*	*4.7*	*–0.5*	*8.6*	*1.8*	*1.2*	*81.5*
Net operating result	**9.4**	**5.2**	**4.5**	**–7.3**	**–35.4**	**36.9**	**18.5**
Flanders							
Value added	**5.0**	**6.3**	**7.6**	**2.1**	**–3.0**	**5.8**	**100.0**
Staff costs (–)	3.1	5.4	7.5	6.1	–0.3	2.5	57.9
Depreciation and downward value adjustments[1] (–)	4.3	6.1	8.5	6.9	5.5	1.4	18.0
Other operating expenses (–)	7.0	2.0	2.0	–0.4	–5.4	–7.1	4.5
Total operating expenses	*3.6*	*5.3*	*7.3*	*5.8*	*0.6*	*1.7*	*80.5*
Net operating result	**10.3**	**10.0**	**8.7**	**–10.9**	**–17.9**	**27.2**	**19.5**
Wallonia							
Value added	**4.6**	**6.6**	**8.5**	**4.4**	**–2.8**	**6.4**	**100.0**
Staff costs (–)	3.6	5.0	8.0	5.8	0.1	1.8	59.4
Depreciation and downward value adjustments[1] (–)	1.8	0.6	12.6	6.9	3.7	5.8	17.9
Other operating expenses (–)	10.6	32.1	–7.9	1.5	0.5	–0.6	4.9
Total operating expenses	*3.6*	*5.7*	*7.7*	*5.7*	*0.8*	*2.5*	*82.2*
Net operating result	**9.6**	**10.6**	**11.9**	**–1.3**	**–19.8**	**29.7**	**17.8**

Source: NBB.

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

Owing to its specific characteristics and relatively small size, the Brussels economy is more sensitive to developments concerning certain large firms, which may lead to erratic variations. For instance, the weak growth of Brussels value added in 2007 was due mainly to the significant restructuring in the motor vehicle industry. Brussels is also notable for the greater weight of "other operating expenses" (item 640/8 in the annual accounts), due largely to the excise duty recorded in the fuel trade.

In the three regions, staff costs make up the major part of the operating expenses: in 2010 they represented 51.2 % of value added in Brussels, 57.9 % in Flanders and 59.4 % in Wallonia. Following a very small rise or even a fall in 2009, staff costs increased again in the three regions in 2010 owing to the rise in the number of workers.

Depreciation is the next biggest operating expense after staff costs: in 2010 depreciation came to between 18 and 19 % of value added, depending on the region considered. Brussels was notable for a large increase in depreciation in 2009, due mainly to investment by Infrabel. In Flanders the increase in depreciation eased from 2008 to 2010, as a result of the slowdown and subsequent contraction of investment in tangible fixed assets. Wallonia recorded a similar pattern in 2008 and 2009, before depreciation picked up again in 2010, a major factor

being the capitalisation of research and development costs in the pharmaceutical industry.

Owing to the changes in staff costs and depreciation, total operating expenses in the three regions rose more slowly than value added in 2010. After falling for two years, the net operating result therefore recovered strongly: +36.9 % in Brussels, +27.2 % in Flanders and +29.7 % in Wallonia. In the past decade, industry has had a much bigger impact on the movement in the operating result in Flanders and Wallonia.

4.3 The financial position of firms

This section presents regional statistics for profitability, financial independence and the results of the financial health model.

To avoid double counting, the statistics for distribution and frequency are based on a majority regional breakdown: to obtain these statistics, multi-region firms are assigned entirely to the region where they record the largest number of jobs. There are very few of these companies (see above), so that the method has negligible impact.

4.3.1 Profitability

In the past decade, the three regions have followed similar trends in profitability. On average, over the period as a whole, Flemish firms of all sizes have recorded higher profitability, whatever the measure considered (chart 16). The difference between Wallonian and Flemish firms has, however, diminished in recent years; in some cases it has even been reversed. This section begins by presenting the results for the return on equity and the return on the operating assets. Points relating to the distribution of the net return on the total assets are then discussed; on that basis it is possible, for instance, to identify certain specific characteristics of the Brussels Region.

4.3.1.1 Return on equity

In globalised terms, over the past ten years, large Flemish firms have enjoyed a higher return on equity. That is due mainly to one company active in oil refining, which receives dividends from a number of foreign subsidiaries. The stakes owned in the latter are financed mainly by bank loans, so that the equity is low in comparison with the dividend income. That is reflected in a high return on equity which, in view of the amounts involved, has a significant influence on the regional total. Expressed in relation to the total assets rather than the equity, the profitability gap between Flanders and the other two regions is smaller. It should also be noted that the difference between the regions has declined in the past few financial years. In 2010, in particular, the globalised profitability exhibited a much more favourable trend for large Wallonian firms, so that the gap between them and their Flemish counterparts has largely disappeared. The recovery of large Wallonian firms in 2010 is due mainly to the manufacturing branches, namely pharmacy and iron and steel. The stagnation of Flemish and Brussels firms is attributable largely to the decline in the financial results.

In median terms, the difference between large Wallonian and Flemish firms has gradually dwindled to the point where, since 2009, the Wallonian median has matched the level of the Flemish median. In contrast, the gap between the Brussels median and that of the other two regions widened over the same period. The median of large Brussels firms was affected by the downward shift in the distribution of the non-manufacturing branches, including the retail trade, real estate, hotels, restaurants and catering, and construction.

The SME ratio improved in the three regions in 2010, in terms of globalised figures and medians. The global movements tend to be larger for Brussels SMEs, particularly on account of the fluctuations in the wholesale trade and real estate in the capital. After declining slowly throughout the decade, the median of Wallonian SMEs drew level with that of Flemish SMEs in 2009. However, the profitability measure selected influences the findings: the median of the return on the total assets is still higher in Flanders for all sizes of firms.

4.3.1.2 Return on operating assets

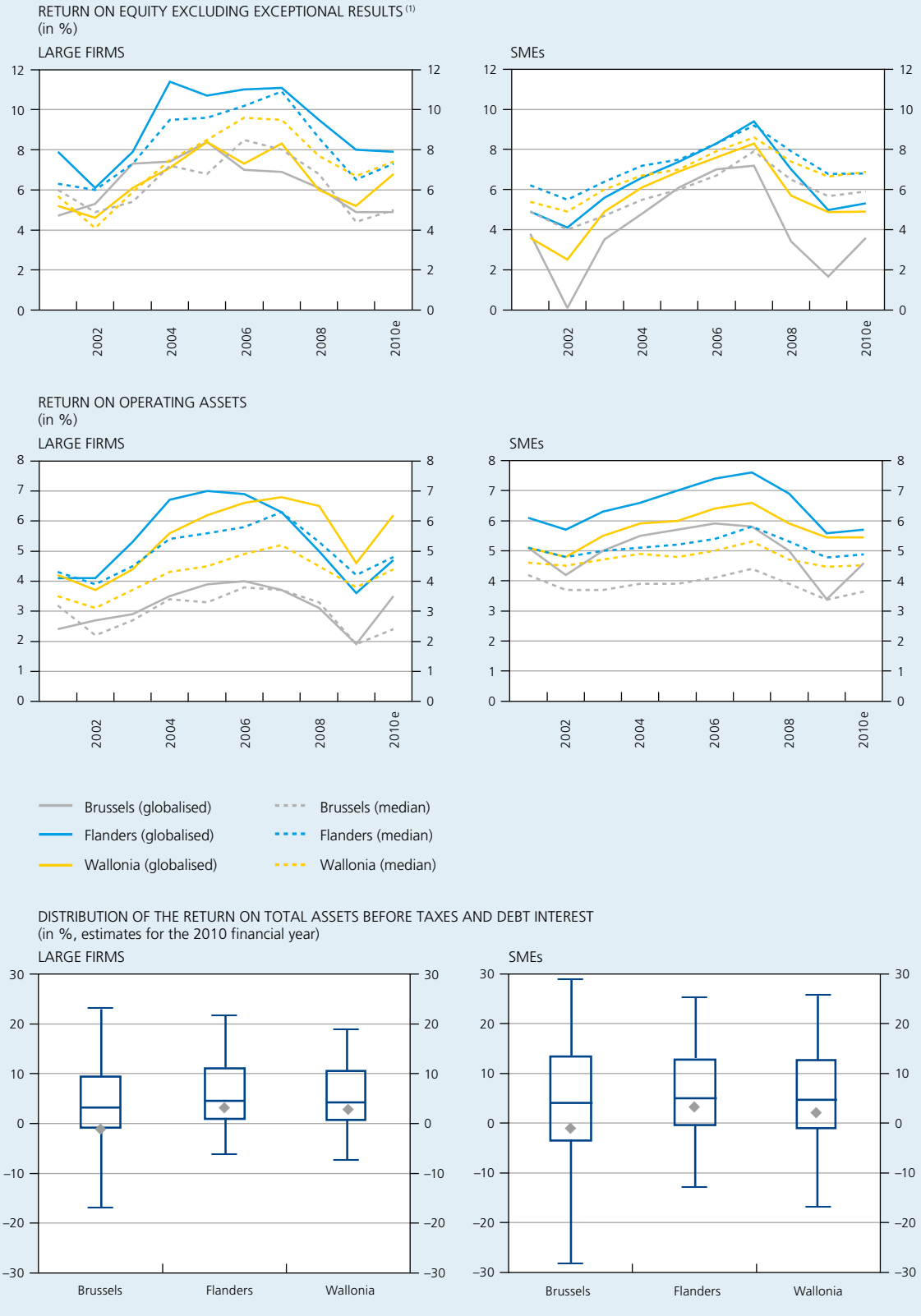
Another point of comparison concerns the return on operating assets, namely the ratio between the net operating result and the operating assets. That ratio neutralises the impact of financial factors on corporate profitability. In this article, operating assets are defined in the same way as in Ooghe and Van Wymeersch (2006)[1]:

Operating assets = start-up costs + intangible fixed assets + tangible fixed assets + inventories and work in progress + receivables at up to one year + adjustment accounts.

The other assets (financial investments, receivables at over one year, cash investments and liquid resources) are regarded as financial assets and are not included in the ratio's denominator.

(1) Ooghe and Van Wymeersch (2006), *Handboek financiële analyse van de onderneming*, Intersentia, Antwerp-Oxford.

CHART 16 PROFITABILITY OF FIRMS, PER REGION



Source : NBB.
(1) Excluding head office activities.

Unlike the return on equity, the operating return of large firms recovered strongly in the three regions in 2010. Moreover, since 2007 the global ratio for large Wallonian firms has been higher than that for large Flemish firms. In terms of medians, for both large firms and SMEs, the ratio of Flemish firms has been higher throughout the period under review. However, the gap in relation to Wallonian firms has narrowed in recent years.

4.3.1.3 Distribution factors

The above findings should be read in the light of the total distributions. The third part of chart 16 presents the distribution of the return on the total assets before taxes and debt interest. This ratio is preferable for analysing the distribution as a whole, since it is calculated for all firms.

In general, the Flemish distributions are closer to the higher values, for all sizes of firms. The chart also illustrates the specific feature of the Brussels distributions. On the one hand, they are much more dispersed towards the lower values: in 2010 the 1st decile of SMEs was equal to –28 % in Brussels, compared to –13 % in Flanders and –17 % in Wallonia. But on the other hand, the Brussels distributions are also more dispersed towards the higher values: in 2010 the 9th decile of SMEs reached 29 % in Brussels, compared to 25 % in Flanders and Wallonia. In short, Brussels has a higher proportion of firms with low profitability, but it also has more highly profitable firms. This greater dispersion is due mainly to the smaller size of Brussels firms and their specialisation in the tertiary sector, two factors which tend to heighten the volatility of the financial ratios.

4.3.2 Degree of financial independence

In the past ten years, financial independence has improved in the three regions for all sizes of firm and regardless of the criterion (chart 17).

In global terms, the biggest rise occurred in large Brussels firms, where the ratio gained almost 11 points in the space of ten years. Brussels benefited especially from the reinforcement of the equity capital in certain corporate head offices based in its territory. The globalised ratio for large firms also increased in the other two regions, but to a lesser extent (+5.4 percentage points in Flanders, +5.0 points in Wallonia).

In the three regions, the upward trend applied to all large firms: since 2001, the median financial independence has increased by 9.2 percentage points in Flanders, 6.2 in Brussels and 5.7 in Wallonia. As a result, the difference between the Flemish median and the Brussels and Wallonian medians has gradually widened over time. Most of the branches studied contributed to this picture. As in the case of the profitability ratios, the Brussels distribution is much more dispersed, including towards the higher values (second part of chart 17). In particular, in 2010 the third quartile and the ninth decile of large firms were higher in Brussels than in the other two regions.

The globalised ratio for SMEs also exhibited an upward trend: over ten years it gained 7.9 percentage points in Flanders, 7.2 in Wallonia and 2.5 in Brussels. During the past decade as a whole, the global independence of Flemish SMEs has been higher in most of the branches covered; in 2009 it was boosted by a large issue premium recorded in the energy branch. In Brussels and Wallonia, the globalised ratio for SMEs was bolstered in 2007 and 2008 by capital increases in business services and in real estate.

Finally, the median solvency of SMEs recorded a more moderate increase: over a ten-year period it gained 2.9 percentage points in Flanders and 1.7 in Wallonia. In Brussels it remained stable (+0.0 percentage points). In 2010 the Flemish distribution was closer overall to the higher values. Finally, it should be noted that in the three regions the 1st quartile and the 1st decile of SMEs deteriorated in the past decade. A large fraction of the population in each region therefore moved contrary to the majority upward trend. This phenomenon was particularly marked in Brussels.

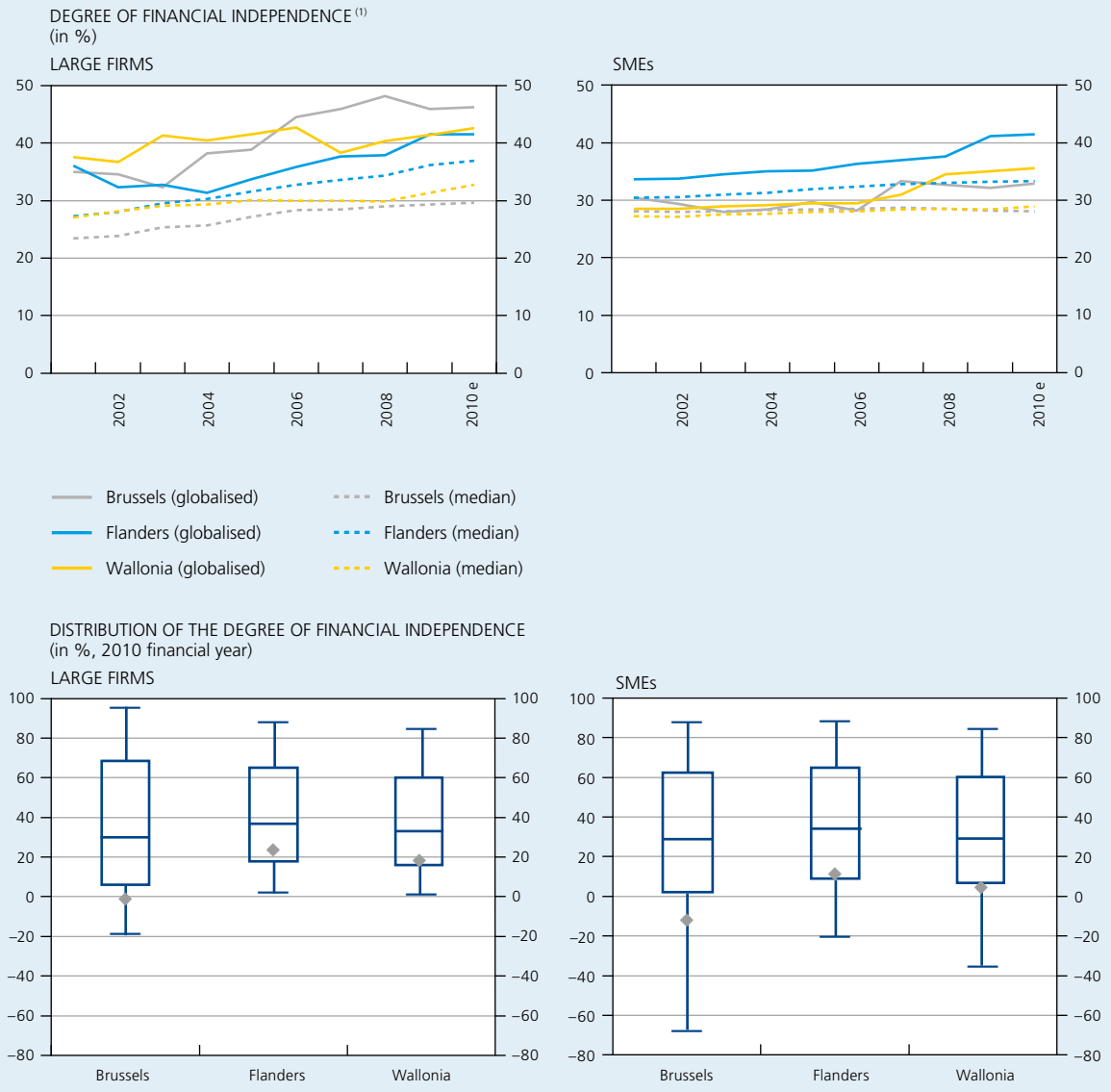
4.3.3 Financial health

Annex 7 shows the distribution of firms across the financial health classes. These are defined in section 3.3.1. The table reveals that the regional trends were similar in recent years. In the three regions, the proportion of firms in the lower classes increased markedly during the recession: between 2007 and 2009 the percentage of firms in classes 7 to 10, i.e. the classes associated with a bankruptcy rate at three years of at least 10 %, increased from 7.91 % to 8.87 % in Brussels, from 5.24 % to 6.11 % in Flanders and from 6.09 % to 7.13 % in Wallonia[1]. In 2010, according to the constant sample, the percentage of firms in the lowest classes declined in all three regions, as a result of the more favourable economic climate.

For a number of years, the percentage of firms considered sound has been rising in the three regions. Between 2003 and 2009, the proportion of firms in the top two classes,

(1) In Brussels and Wallonia the percentage had already risen slightly in 2007, as a result of the economic slowdown during the second half of 2007.

CHART 17 SOLVENCY OF FIRMS, BY REGION



Source : NBB.
(1) Excluding head office activities.

i.e. the ones associated with a bankruptcy rate of 0.23 % or lower, increased from 24.37 % to 28.15 % in Brussels, from 25.01 % to 32.12 % in Flanders and from 21.44 % to 27.52 % in Wallonia. According to the constant sample, this upward trend continued in 2010.

Taken as a whole, Flemish firms are generally less vulnerable. However, that finding should be qualified in the light of the differences in the economic structure between the regions. For example, the distribution among the financial health classes varies according to size. Thus, the proportion of large firms in the lowest four classes is smaller in Wallonia : in 2009 the figure was 6.0 % in Brussels, 3.7 % in Flanders and 3.4 % in Wallonia. The percentage of large firms in the top two classes is higher in Brussels : in 2009 it was 37.1 % in the capital, compared to 35.1 % in Flanders and 33 % in Wallonia.

Conclusion

The cyclical upswing in 2010 had a favourable impact on the operating account of non-financial corporations. After falling in 2009 for the first time in 15 years, total value added at current prices grew by 6 % in 2010. At the same time, staff costs recorded a further rise, albeit relatively moderate, while the growth of depreciation slowed for the third year running, against the backdrop of a further decline in investment. Overall, operating expenses increased at a significantly slower pace (+1.8 %) than value added.

This combination of cost control and a revival in activity led to a strong surge in the net operating result in 2010 (+29.2 %), following a 28 % decline over 2008 and 2009 taken together. Although the operating result recorded in 2010 (€ 33.1 billion) is still below the pre-recession peak (€ 35.7 billion in 2007), the improving economic climate therefore enabled firms to wipe out most of the recession's impact on their performance. Moreover, the net operating result had more than doubled between 2001 and 2007. In the last three years considered, the manufacturing branches and large firms recorded larger fluctuations in the operating account owing to their greater sensitivity to foreign demand.

Macro-economic developments also had an influence on the financial position of firms. Following a sharp fall in 2008 and 2009, the return on equity recovered in 2010, in terms of both medians and global figures. Whatever the criterion considered, however, the ratio remained well below the pre-recession peaks. Examination of the overall distribution indicates that the economic conditions influenced both the most profitable and the least profitable strata of the population.

Generally speaking, solvency also improved in 2010. The median and global figures for financial independence increased again, in line with the upward trend of the past fifteen years. Nevertheless, it seems that the rise mainly benefited the most solvent population strata, and numerous firms moved in the opposite direction to the majority trend, particularly in the SME group. The degree to which borrowings are covered by cash flow improved in 2010 according to most of the criteria considered, reflecting an increase in the capacity to repay debts. Finally, the average interest charges on financial debts declined for the second consecutive year. The movement in the ratio reflects the lower interest rates charged on bank loans in 2009 and 2010.

According to the results of the financial health model developed by the Bank, firms became less vulnerable in 2010 : after a substantial rise in 2008 and 2009 owing to the recession, the percentage of firms in the lowest financial health classes – i.e. the classes corresponding to a high risk of bankruptcy – declined in 2010. The rise in the number of bankruptcies was much more moderate than in previous years.

The last part of the article places the analysis of the annual accounts in a regional perspective. The regional breakdown is based on data from the National Accounts Institute which give details of employment in firms for each registered office and each operating establishment. Single-region firms, i.e. firms whose registered office and operating establishment(s) are located in one and the same region, are assigned immediately to a region. In the case of multi-region firms, i.e. firms located in more than one region, the items in the annual accounts are broken down in proportion to employment in each region, which amounts to assuming that employment is proportionate to the accounting items.

The sectoral breakdown of value added and the analysis of firm size reveal some specific regional characteristics. In particular, Brussels is notable for a strong focus on services and a higher proportion of small firms. As differences of this type have a direct influence on the findings and the financial position of firms, the statistics should be interpreted with caution.

Overall, in recent years the regional trends in the operating account have been similar. In the three regions, value added increased steadily between 2001 and 2008, before contracting in 2009 then picking up again in 2010. The net operating result recovered strongly in 2010 after two years of marked erosion.

On average, over the past decade as a whole, Flemish firms have been the most profitable, regardless of size or the criterion considered. However, the gap between Wallonian and Flemish firms has narrowed considerably in recent times ; in some cases it has actually been reversed. Analysis of the full distributions also shows that while Brussels has a higher proportion of firms with low profitability, it also has more highly profitable firms. This greater dispersion of Brussels firms is due mainly to their smaller size and their specialisation in the tertiary sector, two factors which tend to accentuate the volatility of the financial ratios.

Financial independence improved in the three regions in recent years, for firms of all sizes regardless of the criterion studied. In global terms, the strongest rise occurred in large Brussels firms, which benefited especially from the strengthening of the equity capital in certain corporate head offices. In terms of medians, financial independence

increased faster in Flanders for all sizes of firms. Moreover, as in the case of the profitability ratios, the Brussels distribution is considerably more dispersed. Finally, in each of the regions, the 1st quartile and the 1st decile of SMEs have deteriorated in the past ten years. A significant fraction of the population in each region has therefore moved counter to the majority upward trend.

Annex 1

COMPOSITION AND REPRESENTATIVENESS OF THE CONSTANT SAMPLE 2009-2010

(sample taken on 12 October 2011)

	Firms in the sample 2009-2010	All non-financial corporations in 2009	Representativeness of the sample, in %
Number of companies	**182 432**	**314 631**	**58.0**
Large firms	14 041	18 476	71.2
SMEs	168 391	296 155	56.8
Manufacturing industry	13 012	21 941	58.8
Non-manufacturing branches	169 420	292 690	57.6
Value added (in € million)[1]	**137 862**	**164 138**	**84.0**
Large firms	112 208	120 379	93.2
SMEs	25 655	43 760	58.6
Manufacturing industry	40 749	43 301	94.1
Non-manufacturing branches	97 113	120 837	80.4
Total assets (€ million)[2]	**1 171 361**	**1 424 392**	**82.2**
Large firms	1 044 397	1 208 724	86.4
SMEs	126 963	215 668	58.9
Manufacturing industry	280 120	283 430	98.8
Non-manufacturing branches	891 239	1 140 962	78.1

Source: NBB.

(1) For firms in the constant sample. the value added taken into account is the 2009 figure.

(2) For firms in the constant sample, the balance sheet total taken into account is the 2009 figure.

Annex 2

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
Chemicals and pharmaceuticals	20-21
Metallurgy and metalworking	24-25
Metal manufactures	26-30
Non-manufacturing branches	**01-09, 35-82, 85.5 and 9** (1)
of which:	
Trade	45-47
Transportation and storage	49-53
Accommodation and food service activities	55-56
Information and communication	58-63
Real estate activities	68
Other service activities	69-82
Energy, water supply and waste	35-39
Construction	41-43

(1) Except 64, 65, 75, 94, 98 and 99.

Annex 3

DEFINITION OF THE RATIOS

	Item numbers allocated	
	in the full format	in the abbreviated format
1. Return on equity		
Numerator (N)	9904	9904
Denominator (D)	10/15	10/15
Ratio = N/D × 100		
Conditions for calculation of the ratio:		
12-month financial year		
10/15 > 0 (1)		
2. Net return on total assets before tax and debt servicing		
Numerator (N)	9904 + 650 + 653 – 9126 + 9134	9904 + 65 – 9126 + 67/77
Denominator (D)	20/58	20/58
Ratio = N/D × 100		
Condition for calculation of the ratio:		
12-month financial year		
3. Degree of financial independence		
Numerator (N)	10/15	10/15
Denominator (D)	10/49	10/49
Ratio = N/D × 100		
4. 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		
5. Average interest expense on financial debt		
Numerator (N)	650	65 – 9125 – 9126
Denominator (D)	170/4 + 42 + 43	170/4 + 42 + 43
Ratio = N/D × 100		
Condition for calculation of the ratio:		
12-month financial year		
6. 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		
Condition for calculation of the ratio:		
12-month financial year		

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

Annex 4

TABLE 1 LARGE FIRMS – COMPONENTS OF THE OPERATING ACCOUNT

(in € million, current prices)

		2006	2007	2008	2009	2010 e
Value added		**117 677**	**122 744**	**126 154**	**120 379**	**128 661**
Staff costs	(–)	66 685	70 119	74 034	73 465	74 852
Depreciation and downward value adjustments[1]	(–)	17 158	18 294	19 610	20 964	21 675
Other operating expenses	(–)	8 977	7 736	8 784	8 297	7 606
Total operating expenses		*92 820*	*96 149*	*102 427*	*102 726*	*104 132*
Net operating result		**24 857**	**26 595**	**23 727**	**17 653**	**24 529**

Source: NBB.

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

TABLE 2 SMES – COMPONENTS OF THE OPERATING ACCOUNT

(in € million, current prices)

		2006	2007	2008	2009	2010 e
Value added		**37 224**	**42 229**	**43 869**	**43 760**	**45 377**
Staff costs	(–)	19 352	22 168	23 384	23 870	24 547
Depreciation and downward value adjustments[1]	(–)	7 856	8 702	9 173	9 576	9 746
Other operating expenses	(–)	1 954	2 259	2 400	2 373	2 546
Total operating expenses		*29 162*	*33 129*	*34 957*	*35 819*	*36 840*
Net operating result		**8 062**	**9 099**	**8 912**	**7 941**	**8 538**

Source: NBB.

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

TABLE 3 MANUFACTURING BRANCHES – COMPONENTS OF THE OPERATING ACCOUNT

(in € million, current prices)

	2006	2007	2008	2009	2010 e
Value added	**48 286**	**47 976**	**46 468**	**43 301**	**46 954**
Staff costs (–)	27 149	28 064	28 620	27 240	27 747
Depreciation and downward value adjustments[1] (–)	8 199	8 041	8 339	8 396	8 386
Other operating expenses (–)	2 465	1 350	1 850	1 770	1 872
Total operating expenses	*37 814*	*37 455*	*38 809*	*37 407*	*38 005*
Net operating result	**10 472**	**10 521**	**7 658**	**5 894**	**8 949**

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

TABLE 4 NON-MANUFACTURING BRANCHES – COMPONENTS OF THE OPERATING ACCOUNT

(in € million, current prices)

	2006	2007	2008	2009	2010 e
Value added	**106 615**	**116 997**	**123 556**	**120 837**	**127 084**
Staff costs (–)	58 887	64 223	68 798	70 095	71 652
Depreciation and downward value adjustments[1] (–)	16 816	18 956	20 443	22 144	23 035
Other operating expenses (–)	8 466	8 645	9 333	8 900	8 280
Total operating expenses	*84 168*	*91 824*	*98 575*	*101 138*	*102 967*
Net operating result	**22 447**	**25 174**	**24 981**	**19 700**	**24 118**

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

Annex 5

VALUE ADDED PER BRANCH

(in € million, current prices)

	2006	2007	2008	2009	2010 e
Manufacturing industry	**48 286**	**47 976**	**46 468**	**43 301**	**46 954**
of which:					
Agri-food industries	6 305	6 316	6 583	7 065	6 947
Textiles, clothing and footwear	1 884	1 891	1 644	1 443	1 513
Wood, paper products and printing	3 380	3 471	3 250	3 082	3 048
Chemicals and pharmaceuticals	11 812	10 672	10 444	10 928	12 403
Metallurgy and metalworking	7 222	8 238	7 569	5 867	6 676
Metal manufactures	9 930	9 393	9 095	8 083	9 176
Non-manufacturing branches	**106 615**	**116 997**	**123 556**	**120 837**	**127 084**
of which:					
Trade	34 834	35 825	35 937	34 060	37 023
Transportation and storage	11 374	14 244	15 528	14 170	14 747
Accommodation and food service activities	2 600	2 946	3 044	3 027	3 180
Information and communication	11 048	11 629	11 987	11 705	11 951
Real estate activities	3 893	4 062	4 617	4 668	4 678
Other service activities	19 701	22 778	25 147	24 813	25 882
Energy, water supply and waste	7 794	8 014	8 609	9 151	9 990
Construction	10 403	11 501	12 226	12 144	12 369
Total	**154 901**	**164 973**	**170 023**	**164 138**	**174 039**

Source: NBB.

Annex 6

OPERATING RESULT PER BRANCH

(in € million, current prices)

	2006	2007	2008	2009	2010 e
Manufacturing industry	**10 472**	**10 521**	**7 658**	**5 894**	**8 949**
of which :					
Agri-food industries	1 317	1 272	1 240	1 686	1 603
Textiles, clothing and footwear	301	312	94	108	204
Wood, paper products and printing	672	732	523	392	463
Chemicals and pharmaceuticals	3 275	2 493	1 649	2 153	3 075
Metallurgy and metalworking	1 366	2 023	1 152	-8	834
Metal manufactures	1 703	1 625	1 288	767	1 495
Non-manufacturing branches	**22 447**	**25 174**	**24 981**	**19 700**	**24 118**
of which :					
Trade	7 976	9 117	7 800	5 529	7 952
Transportation and storage	1 330	1 642	1 913	-41	578
Accommodation and food service activities	157	209	188	63	174
Information and communication	2 967	3 054	3 193	2 880	3 063
Real estate activities	1 471	1 489	1 779	1 627	1 478
Other service activities	3 150	3 753	4 067	3 472	3 947
Energy, water supply and waste	2 231	2 223	2 471	2 768	3 392
Construction	1 774	2 177	2 223	1 990	2 096
Total	**32 919**	**35 694**	**32 639**	**25 594**	**33 067**

Source : NBB.

Annex 7

DISTRIBUTION OF THE POPULATION AMONG THE FINANCIAL HEALTH CLASSES, BY REGION

(in % of the number of firms)

								Sample	
	2003	2004	2005	2006	2007	2008	2009	2009	2010
Brussels									
Class 1	8.87	9.50	9.81	10.40	11.11	11.03	11.07	13.58	14.40
Class 2	15.50	16.06	16.61	16.95	17.26	17.38	17.08	19.48	20.29
Class 3	14.19	14.27	14.54	14.94	14.52	14.74	14.65	15.98	16.06
Class 4	15.08	14.82	15.08	14.40	15.01	14.26	14.04	14.26	14.22
Class 5	24.48	24.30	23.60	23.48	22.03	22.23	22.21	20.07	19.20
Class 6	13.20	12.99	12.65	12.22	12.15	12.09	12.08	9.83	9.78
Class 7	6.03	5.60	5.59	5.50	5.58	5.55	6.04	4.75	4.34
Class 8	1.67	1.59	1.34	1.43	1.47	1.75	1.84	1.37	1.18
Class 9	0.60	0.63	0.54	0.48	0.61	0.66	0.69	0.47	0.36
Class 10	0.38	0.25	0.22	0.18	0.25	0.32	0.30	0.21	0.16
Total	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
Flanders									
Class 1	8.14	8.72	9.32	9.96	10.83	11.20	12.00	13.11	13.86
Class 2	16.88	17.60	18.39	19.19	19.82	19.77	20.12	21.47	22.22
Class 3	15.89	16.39	16.59	16.78	17.10	16.86	16.37	16.93	17.08
Class 4	16.18	15.92	15.95	15.93	15.51	15.31	14.87	14.96	14.97
Class 5	24.61	24.03	23.47	22.64	21.76	21.28	20.85	20.02	19.21
Class 6	11.66	11.04	10.47	10.06	9.74	9.82	9.68	8.64	8.21
Class 7	4.69	4.48	4.12	3.91	3.72	3.98	4.16	3.50	3.22
Class 8	1.22	1.18	1.10	1.00	0.98	1.09	1.18	0.89	0.79
Class 9	0.50	0.44	0.41	0.38	0.37	0.48	0.49	0.33	0.31
Class 10	0.25	0.21	0.16	0.15	0.17	0.22	0.27	0.16	0.14
Total	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
Wallonia									
Class 1	6.61	7.00	7.31	7.90	8.67	8.94	9.51	11.32	12.21
Class 2	14.82	15.59	16.13	16.61	17.31	17.81	18.01	20.12	20.45
Class 3	15.68	15.73	16.16	16.37	16.43	16.00	15.90	17.20	17.34
Class 4	16.23	16.39	16.25	16.21	16.37	16.06	15.70	15.78	15.69
Class 5	26.82	26.37	25.87	25.21	23.92	23.35	22.69	20.89	20.27
Class 6	12.84	12.11	11.89	11.63	11.20	11.10	11.06	9.28	8.84
Class 7	4.98	4.88	4.60	4.38	4.35	4.65	4.83	3.70	3.75
Class 8	1.35	1.34	1.23	1.09	1.15	1.31	1.44	1.15	0.93
Class 9	0.44	0.40	0.41	0.42	0.42	0.54	0.58	0.39	0.36
Class 10	0.24	0.19	0.15	0.17	0.16	0.24	0.27	0.17	0.17
Total	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**

Source : NBB.

The 2010 social balance sheet

P. Heuse
H. Zimmer

Introduction

For firms which file a social balance sheet, the information it contains can be used to analyse trends in the workforce, working time and staff costs, and the effort which those firms devote to training their workers.

This article discusses the results of the social balance sheets filed for 2010, a year in which employment began rising again whereas the Great Recession of 2008 was having a serious impact on the 2009 results.

These findings were obtained from a reduced population [1] of firms comprising 43 166 companies, or 52 % of the firms in the total population in 2009 [2]. The firms included filed a social balance sheet for both 2010 and 2009, enabling valid measurement of the changes in a range of variables. 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 recorded 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 1 535 716 persons employed by firms in the reduced population in 2009 represented 78 % of workers in the total population for that year.

This article is in three parts. The first part describes the trend in employment from 2009 to 2010, first for all firms and then with a breakdown according to their regional location. The second part presents the main training indicators obtained from the social balance sheets, including at regional level. The third part examines the structural characteristics of the health and social work branch, notable for the strong growth of its workforce and the challenges it is facing.

1. Trend in employment

1.1 All firms

Analysis of the social balance sheets published in 2010 clearly revealed the impact of the Great Recession on the labour market in terms of the trend in employment and the volume of labour in 2009. The decline in the number of hours worked had far outstripped the fall in the number of persons employed, key factors being notably the working time reduction measures (such as temporary lay-offs and crisis time-credit) available to employers to cushion the activity shock. It is usual to adjust the volume of labour before adjusting the size of the workforce, which is why employment takes some time to respond to deteriorating economic conditions. As the effects of the crisis spread, the job losses gathered pace in 2009.

In 2010, activity picked up throughout the economy, with GDP growth of 2.3 %, following a 2.7 % contraction in the previous year. This turnaround was reflected in the changes

(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 2010 was not available on 18 October 2011, the date on which the data needed for the analysis were extracted.

(2) 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.

TABLE 1 CHANGE IN EMPLOYMENT BETWEEN 2009 AND 2010

(reduced population)

	Full-time		Part-time		Total	
	Units	%	Units	%	Units	%
Annual average	–9 078	–0.8	16 155	3.5	7 077	0.5
As at 31 December	4 714	0.4	10 043	2.2	14 757	1.0

Source: NBB (social balance sheets).

in employment recorded in the social balance sheets, as the rise in the number of workers gained momentum during the year. In the 43 166 firms in the reduced population, employment increased by an average of 0.5 % or 7 077 persons between 2009 and 2010. At the end of 2010, firms recorded a 1 % increase in their workforce over one year – double the average for the year. This acceleration was due solely to the number of full-time workers, which began increasing at the end of the year, whereas the expansion of the part-time workforce slowed during the year.

At the end of the period, it was SMEs[1] that recorded the strongest employment growth, at around 1.7 %, whereas in large firms – in which over half of all jobs are concentrated – the recovery was a more modest 0.3 %.

The overall employment trend in firms in the reduced population masks significant divergences from one branch of activity to another. It was in the health and social work branch that the workforce recorded by far the strongest growth, at an average of 3.6 % between 2009 and 2010, followed by business services (1.7 %). The latter branch includes a number of firms approved under the service voucher system. According to the NSSO figures, service voucher jobs have recorded exponential growth since the system was introduced. Following record growth of 19 000 additional workers in 2008, the rate of job creation only slowed slightly in 2009 (+18 500 workers), with a further 15 000 persons added in 2010. At the other extreme, industry recorded an annual average decline in its workforce of 1.9 %. There were also job losses in finance and insurance (–1.2 %) and to a lesser extent in information and communication (–0.4 %). The employment situation as at 31 December shows that there has been an improvement during the year in a number of branches of activity, where the expansion of employment gathered pace. Moreover, the decline in the workforce in industry and in finance and insurance slowed significantly.

The underlying staff movements indicate an increase in both recruitment and departures of workers, at 9.5 and 7 % respectively in 2010, giving total net recruitment of 15 381 workers in 2010[2]. The breakdown of net recruitment into full-time and part-time employees respectively suggests that some full-time workers switched to a reduced working time arrangement during the year. The increase in full-time staff recorded between 31 December 2009 and 2010 is in fact considerably smaller than net recruitment, which is decidedly positive, whereas there has been a relatively big rise in the number of part-time workers over the same period, in contrast to net departures of part-time workers recorded on the basis of staff movements.

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, since these documents contain information on the use of agency workers[3] or workers on secondment, which does not appear in the abbreviated-format accounts.

In these firms, the average employment growth expressed in FTEs, which came to 0.2% of the total in 2010, is due essentially to the rise in the number of agency staff, since the number of workers on the staff register declined during the year. There was also a slight increase in staff on secondment, though the numbers were still marginal (0.8 % of the total in 2010), except in certain specific branches of activity, such as warehousing and support activities for transportation, where 13 % of firms use secondment; this system thus accounts for 5 % of FTE employment.

The number of agency workers increased by 18.9 %, so that the share of this type of employment represented 3.3 % of average employment in 2010, compared

(1) Small firms have up to 50 FTEs, medium-sized firms employ over 50 and up to 250 FTEs, and large firms employ over 250 FTEs.

(2) 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.

(3) The agency workers reported in the full-format accounts represent just under half of the agency employment recorded by Federgon, the federation of employment partners.

TABLE 2 STAFF RECRUITMENT AND DEPARTURES
(units, reduced population)

	Recruitment		Departures		Net recruitment	
	2009	2010	2009	2010	2009	2010
Full-time	332 702	362 361	334 364	344 701	–1 662	17 660
Part-time	243 712	268 911	241 135	271 190	2 577	– 2 279
Total	**576 414**	**631 272**	**575 499**	**615 891**	**915**	**15 381**

Source: NBB (social balance sheets).

to 2.8 % the previous year. The finance and insurance branch recorded a notable increase in agency workers of over 70 %, though the initial level had been fairly low. Growth came to almost 30 % in the other services branch and in industry. In the latter, where around four out of five firms use these specific employment contracts, one-third of the increase is due to the recruitment of agency workers for motor vehicle manufacturing.

The annual average decline in the number of workers registered (–0.3 %) in firms filing full-format accounts gave way to a 0.6 % expansion between 31 December 2009 and the end of 2010. Staff on temporary contracts (fixed-term contracts, substitution contracts or contracts concluded for a specific project) increased significantly (+5 %) during the year to represent a total of 4.7 % of registered staff as at 31 December 2010. The rise in the number of employees on permanent contracts was more modest, at 0.4 %.

As in previous years, firms filing full-format accounts made substantial use of non-permanent staff to cater for fluctuations in demand. Between 2008 and 2009, there had been a considerable decline in the use of agency workers, and a large number of temporary contracts were not renewed following the marked contraction in activity. In the case of permanent staff, it is mostly the numbers recruited which showed a sharp fall, resulting in net departures of staff on permanent contracts.

As already stated, the trend was reversed between 2009 and 2010 for agency workers and staff on temporary contracts. On the other hand, though the number of new

TABLE 3 BREAKDOWN OF EMPLOYMENT IN FTES IN FIRMS FILLING FULL-FORMAT ACCOUNTS
(annual averages, unless otherwise stated, reduced population)

	Employment in 2010		Change compared to 2009	
	Units	% of the total	Units	%
Total	**1 176 982**	**100.0**	**2 408**	**0.2**
Agency workers	39 214	3.3	6 235	18.9
Workers seconded to the firm	9 210	0.8	104	1.1
Workers recorded in the staff register	1 128 559	95.9	–3 930	–0.3
p.m. Workers recorded in the staff register as at 31 December	*1 133 046*	*100.0*(1)	*6 437*	*0.6*
Permanent workers	*1 079 596*	*95.3*(1)	*3 894*	*0.4*
Temporary workers(2)	*53 451*	*4.7*(1)	*2 544*	*5.0*

Source: NBB (social balance sheets).
(1) In % of workers recorded in the staff register as at 31 December.
(2) Workers on fixed-term contracts, substitution contracts or contracts concluded for a specific project.

permanent contracts was higher, the rise was not enough to offset the numbers leaving, though they were down slightly in 2010. The expansion of the permanent workforce is therefore attributable primarily to the conversion of temporary contracts into permanent ones, which may indicate that employers are confident that the recovery will continue, but also that new recruits have more bargaining power in a reviving labour market.

The inflow and outflow of temporary workers is generally very high, amounting to almost 60 % of staff turnover, whereas altogether they represent less than 5 % of the workforce. Workers on permanent contracts also change their jobs to some extent, even if their employment is more stable. Altogether, 13.2 % of permanent workers left their employer during 2010, slightly fewer than in the previous year. This turnover rate varies considerably from one firm to another, according to the firm's size – it is lower in large firms, particularly on account of the greater scope for internal mobility – but also and above all according to the type of activity. Thus, the rate of departures is particularly high in the other services branch, owing to the activities relating to the arts and entertainment, where staff changes often. That is also the case in accommodation and food service activities, where the turnover rate of permanent staff is traditionally very high. Conversely, it is relatively low in industry, finance and insurance, and in health and social work.

The rise in the volume of staff leaving firms which submit full-format accounts is due mainly to the increased number of temporary contracts coming to an end (+14 %). Conversely, redundancies were down by around 11 %, while spontaneous departures – which make up the bulk of those leaving for "other reasons" – increased by nearly 6 %. These developments point to an improvement in the business climate: workers are more inclined to leave spontaneously in view of the better chance of finding a job elsewhere. The "other reasons" category represented almost a quarter of staff leaving in 2010, and the share of redundancies came to around 13 %. There was an increase of almost 5 % in staff taking retirement, while the numbers taking early retirement were down slightly. However, these reasons for leaving only concern a small number of workers, and account for only 5 % of all departures.

The increase in the number of staff leaving firms which file full-format accounts originated mainly from the trade and transport branch (+26 %). The rise was due partly to a large retailer making greater use of student workers (on temporary contracts) who, by definition, have a high turnover ratio. Conversely, staff departures were down in industry, mainly because there were fewer redundancies and fewer temporary contracts being terminated.

TABLE 4 STAFF RECRUITMENT AND DEPARTURES RECORDED BY FIRMS FILING FULL-FORMAT ACCOUNTS

(reduced population)

	2009	2010
Recruitment (units)		
Total	339 672	383 777
of which: permanent workers	145 018	153 741
Departures (units)		
Total	346 554	371 718
of which: permanent workers	160 156	159 140
Turnover (in %)		
Total	27.5	29.7
of which: permanent workers	13.3	13.2
Reasons for leaving (in % of the total)		
Retirement	2.7	2.6
Early retirement	2.7	2.5
Redundancy	16.1	13.3
End of temporary contract (1)	53.8	57.2
Other reasons (2)	24.7	24.4

Source: NBB (social balance sheets).

(1) Fixed-term contract, substitution contract or contract concluded for a specific project.

(2) Spontaneous departures, death in service.

1.2 Trend in the Regions

Single-region firms are those whose head office and operating establishment(s) are located in just one of Belgium's Regions. They represented 98 % of firms in the reduced population in 2010, or 42 413 firms. These companies are generally fairly small: on average, they employed 26 workers. The other 753 undertakings – referred to as multi-region firms – have establishments in more than one Region. They employed 570 workers on average.

The workforce of multi-region firms can be apportioned among the three Regions using the formula applied by the NAI to compile the regional employment accounts. 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 establishments. Such a formula is relevant for the regional employment breakdown, but it cannot be applied to all the items in the social balance sheet. That is true of training, for example, which is discussed in the next

section. Continuing vocational training practices may in fact vary considerably depending on the activity, the organisation and the location of the various operating sites, and possibly the range of training activities available.

In total, in 2010, single-region firms in the reduced population accounted for 72 % of workers. This figure varies considerably from one Region to another, ranging from 53 % in Brussels – where more multi-region firms have their head office – to 86 % in Wallonia. Altogether, 64 % of workers were employed in Flanders, compared to 20 % in Wallonia and 15 % in Brussels. In the regional accounts compiled by the NAI, the respective proportions came to 58, 27 and 15 %.

Between 31 December 2009 and the end of 2010, employment expanded by 1.6 % in single-region firms, whereas it dipped by 0.7 % in multi-region firms. The Regions where the latter are most strongly represented therefore recorded the lowest employment growth. In Brussels and Flanders, the workforce expanded by 0.8 and 0.6 % respectively, whereas Wallonia saw a 2.4 % increase in employment. In each of the Regions, single-region firms proved more dynamic than the average, with the number of workers up by 2.6 % in Wallonia, 1.7 % in Brussels and 1.3 % in Flanders.

It is not only in terms of size that single-region firms differ from multi-region firms. The breakdown by branch of activity is also considerably different. In single-region firms, there are also disparities in specialisation, the most notable being between firms located in Brussels, and those in Flanders or Wallonia.

Around 38 % of employment in multi-region firms is concentrated in trade and transport, compared to 22 % of the workforce, on average, in single-region firms in the three Regions. Industry accounts for only 16 % of jobs in multi-region firms, whereas in single-region firms the respective figures for this branch are 29% of jobs in Flanders and 27% in Wallonia, against less than 9 % in Brussels, dominated by the service sector. Almost 17 % of employees in multi-region firms work in finance and insurance ; in contrast, the figure is under 2 % in companies located solely in Flanders or Wallonia, but 9 % in Brussels. Business services represent

TABLE 5 TREND IN EMPLOYMENT BETWEEN 2009 AND 2010 IN THE REGIONS

(data as at 31 December broken down according to an apportionment formula, reduced population)

	Units		Change compared to 2009, in %	In % of the total in 2010
	2009	2010		
Belgium				
Total	**1 532 136**	**1 546 893**	**1.0**	**100.0**
of which :				
Single-region firms	1 101 239	1 119 183	1.6	72.4
Multi-region firms	430 897	427 710	–0.7	27.6
Brussels				
Total	**235 991**	**237 861**	**0.8**	**15.4**
of which :				
Single-region firms	124 474	126 576	1.7	53.2 (1)
Flanders				
Total	**990 989**	**996 443**	**0.6**	**64.4**
of which :				
Single-region firms	713 553	722 569	1.3	72.5 (1)
Wallonia				
Total	**305 156**	**312 589**	**2.4**	**20.2**
of which :				
Single-region firms	263 212	270 038	2.6	86.4 (1)

Source : NBB (social balance sheets).
(1) Share of employment in single-region firms in total employment of the corresponding Region.

TABLE 6 STRUCTURE OF EMPLOYMENT BY REGION

(data as at 31 December 2010, in % of the total, unless otherwise stated, reduced population)

	Single-region firms				Multi-region firms	Total
	Brussels	Flanders	Wallonia	Total		
Number of firms (units)	4 612	28 183	9 618	42 413	753	**43 166**
Number of workers (units)	126 576	722 569	270 038	1 119 183	427 710	**1 546 893**
Average number of workers per firm (units)	27	26	28	26	570	**36**
Breakdown by branch of activity						
Agriculture	0.0	0.3	0.2	0.3	0.0	**0.2**
Industry	8.5	28.8	26.9	26.0	15.8	**23.2**
Construction	2.6	7.4	7.6	6.9	4.8	**6.3**
Trade and transport	20.7	23.1	19.6	22.0	37.9	**26.4**
Information and communication	8.6	2.7	1.7	3.1	5.3	**3.7**
Finance and insurance	9.0	1.9	1.3	2.5	16.5	**6.4**
Real estate	1.5	0.5	0.8	0.7	0.1	**0.5**
Business services	19.7	8.2	6.4	9.1	8.2	**8.8**
Health and social work	23.5	25.2	33.6	27.0	10.5	**22.5**
Other services	6.0	1.9	2.0	2.3	0.9	**1.9**
Breakdown by size[1]						
Small firms	35.3	34.3	33.2	34.2	1.7	**25.2**
Medium-sized firms	30.9	29.3	27.7	29.1	8.4	**23.4**
Large firms	33.8	36.4	39.0	36.7	89.9	**51.4**

Source: NBB (social balance sheets).

(1) Small firms have up to 50 FTEs, medium-sized firms employ over 50 and up to 250 FTEs, and large firms employ over 250 FTEs.

around 8 % of employment in multi-region firms, 20 % in Brussels single-region firms and barely 8 and 6% respectively in the other two Regions. Finally, in the health and social work branch, employment is generally provided by single-region firms. This activity represents almost a quarter of jobs in Brussels and Flanders, and one-third in Wallonia.

Overall, it is the health and social work branch that did most to boost employment. Business services – which also include domestic cleaning firms whose workers are paid via the service voucher system – and construction are also among the branches making a positive contribution in 2010.

In Brussels, it was mainly the information and communication branch and the health sector that bolstered the growth in the number of workers, by 0.5 and 0.4 of a percentage point respectively. They more than made up for the contraction of the workforce recorded in financial and insurance companies and, to a lesser extent, in construction and industry. Flanders and Wallonia are fairly similar in their employment structure, but exhibit different trends in their main branches of activity. In Wallonia, almost all branches supported the employment growth, albeit in varying proportions: health and social work firms contributed 1.2 percentage points to growth, followed by industry with 0.5 of a percentage point. In Flanders, job losses in trade and transport, information and communication and, above all, industry were offset by the expansion in health and social work firms (+0.6 of a percentage point).

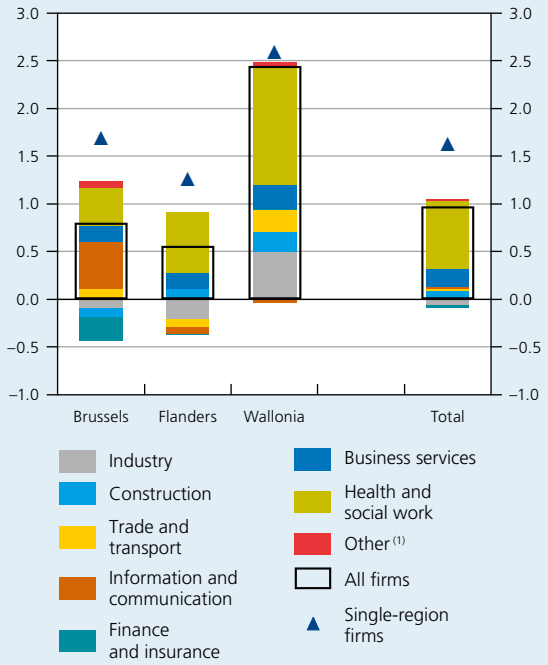
2. Training [1]

Expenditure on training has a definite pro-cyclical profile. As activity slowed in 2009, formal and informal training budgets had been pruned, while the

(1) The training measures mentioned in the social balance sheet cover continuing vocational training of workers (divided into formal and informal or less formal training) and initial vocational training given to persons employed under systems of alternating study and work experience. For more details on the definition of the various types of training and the information requested in the social balance sheets, cf. part 5 of the article "The 2008 social balance sheet" which was published in the December 2009 Economic Review and is available on the website of the National Bank of Belgium (www.nbb.be), and the explanatory note on the information concerning training activities included in the social balance sheets (available in French and in Dutch) at the following address: http://www.nbb.be/DOC/BA/SocialBalance/Notice_Formations_FR_4%20avril%202008.pdf.

CHART 1 CONTRIBUTION OF THE BRANCHES OF ACTIVITY TO THE CHANGE IN EMPLOYMENT IN THE REGIONS BETWEEN 2009 AND 2010

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



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

– marginal – expenditure relating to initial training had increased. The workers' rate of participation in training was maintained, except in the case of informal training. In 2010, firms invested more in formal and informal training for their workers, who also participated in such training activities in greater numbers. Conversely, the indicators relating to initial training were in decline.

2.1 Training firms

In 2010, 22 % of firms in the reduced population recorded one or other training activity in their social balance sheet, compared to 21.8 % the year before. There was a rise in the number of employers reporting formal and informal training activities, while the number completing the items relating to initial training went down.

It should be noted that the proportion of training firms, 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, more of which provide information on training. Almost all companies with over 250 FTEs reported training activities in 2010, as did four in every five medium-sized firms. Conversely, barely 16 % of small companies completed the items in question.

This characteristic has an impact on the share of training firms when companies are classified according to the location of their business. Three-quarters of multi-region firms reported training activities in 2010, compared to one in five single-region firms, which are much smaller on average. Among the latter, the proportion of training firms was just under 20 % in Flanders, whereas it was over 23 % in the other Regions. The difference is particularly

TABLE 7 TRAINING FIRMS IN 2010

(in % of the total, reduced population)

	Total	Multi-region firms	Single-region firms	of which:		
				Brussels	Flanders	Wallonia
Training firms	**22.0**	75.3	21.1	23.3	19.7	24.1
of which firms that organise:						
formal training	**18.7**	70.4	17.8	20.3	17.2	18.4
less formal or informal training	**9.1**	43.1	8.5	8.5	8.3	9.0
initial training	**3.4**	15.5	3.1	3.0	1.9	7.0
Firms combining different types of training (2)	**8.1**	45.1	7.4	7.6	6.9	8.8

Source: NBB (social balance sheets).
(1) A firm is classed as providing training if the net cost of training is not equal to zero: a firm which mentions contributions or payments to collective funds in the appropriate cost item may therefore be considered as a training firm even if its employees did not participate in any training activity during the year.
(2) If a company combines different types of training, it is recorded as a training firm for each of those categories, which means that the percentages of training firms for the various types of training cannot be added together to calculate the overall percentage of training firms.

large for initial training: 7 % of firms located solely in Wallonia mentioned this type of training activity, compared to 3 % in Brussels and 2 % in Flanders. A slightly higher proportion of Wallonian firms also reported informal training schemes. Conversely, companies providing formal training were most numerous in Brussels: one in five firms reported such activities in the capital compared to 18.4 % in Wallonia and 17.2 % in Flanders.

Differences in policy measures at local level probably affect the training behaviour of firms. Though some schemes such as paid training leave and industrial apprenticeship are currently still the responsibility of the federal authorities, it is the federated entities that are in charge of education and of most vocational training.

2.2 Private sector training targets

For many years, there have been quantitative targets for the training efforts of private sector. Regarding participation, the aim was that one in two workers should take part in training from 2010 onwards. In terms of cost, training expenditure should account for 1.9 % of the wage bill.

Every year in November, the Central Economic Council (CEC) assesses the performance of the private sector as a whole, and publishes its findings in its Technical Report[1]. The social balance sheets cannot be used to calculate the overall participation rate since the same worker participating in various types of training is recorded in each of the tables concerned, and this double counting cannot be corrected. To assess the financial effort of firms in favour of training, the CEC considers all the social balance sheets filed for a given year. These data are available fifteen months after the end of the financial year, so that for the most recent year the results are estimated on the basis of the previous year's results and the change recorded between those two periods in the reduced population which forms the basis for this article. The latter population is the result of a special selection process based on a range of criteria (including the length of the financial year and the date of the year-end closure, and the filing of a social balance sheet for two consecutive years) which reduces the size of the sample. Despite its smaller size, this reduced population is sufficiently representative so that the movements observed in it can be taken as good indicators of likely developments for the whole group of firms filing a social balance sheet.

Since the financial effort devoted to training fell short of the target in 2008 and – on the basis of provisional data – in 2009 according to the conclusions of the CEC Technical Report published in November 2010, sectors which had not concluded a collective labour agreement explicitly providing for an increase in the expenditure devoted to training, or in the training participation rate of their workers, had to pay a fine for the first time in 2011, in the form of a supplementary contribution intended to fund the paid training leave scheme.

2.2.1 Participation in training

Over 40 % of workers employed in firms in the reduced population took part in formal training activities in 2010, and 23.3 % of them received less formal or informal training. These proportions increased by 1.3 and 2.1 percentage points respectively between 2009 and 2010. Conversely, the – decidedly marginal – proportion of apprentices and trainees attending schemes which alternate school course with work experience was down slightly at 0.9 % of employment.

In multi-region firms, 60 % of workers took part in one or more formal training activities; one-third of employees also received informal training. On the other hand, apprentices and trainees represented barely 0.5 % of their workforce, half the figure for single-region companies.

In this latter group of firms, 34.4 % of workers attended formal training in 2010 and 19.3 % received informal training. The differences between the Regions are less marked in the case of formal training (there is less than a 5 percentage points difference between the participation rate recorded in Wallonia, namely 32.7 %, and the rate in Brussels, at 37.1 %) than for informal training (there is a gap of almost 10 percentage points between Wallonia and Flanders, where the respective rates are 13 and 22.3 %).

The proportion of persons who combine school course and work experience is above average in single-region firms (1.1 %), but there are marked differences between the three Regions. The social balance sheets data show that these "sandwich courses" are proportionately more popular in the French Community than in the Flemish Community. It should be noted that there are two main ways of organising apprenticeship in Belgium: via educational institutions which thus offer an alternative to full-time education, and via training institutes for the Middle Classes. The statistical yearbooks recording the school population actually show that the French Community has a greater number of pupils in part-time education than the Flemish Community[2].

(1) CEC (2011), *Rapport technique du secrétariat sur les marges maximales disponibles pour l'évolution du coût salarial*. Also available in Dutch.

(2) For the 2008-2009 academic year (the latest year for which data are available for both Communities) there were over 9 000 pupils registered in the CEFA (*Centres d'éducation et de formation en alternance*, or centres of alternating education and training), which comprise institutions offering this type of education in the French Community, compared to just under 7 000 registered in the corresponding system in the Flemish Community (*deeltijds secundair onderwijs*, or part-time secondary education).

TABLE 8 PARTICIPATION IN TRAINING ACTIVITIES IN 2010: BREAKDOWN ACCORDING TO FIRMS' LOCATION

(number of participants in training activities, in % of average employment, unless otherwise stated, reduced population)

	Formal training		Informal training		Initial training	
	2010	Change between 2009 and 2010, in percentage points	2010	Change between 2009 and 2010, in percentage points	2010	Change between 2009 and 2010, in percentage points
Single-region firms	34.4	1.3	19.3	2.1	1.1	–0.2
of which:						
Brussels	37.1	3.5	16.0	1.0	1.2	–0.7
Flanders	34.5	1.1	22.3	2.9	0.9	–0.1
Wallonia	32.7	0.6	13.0	0.4	1.5	–0.2
Multi-region firms	60.0	1.9	33.7	2.3	0.5	0.0
Total	**41.5**	**1.3**	**23.3**	**2.1**	**0.9**	**–0.1**

Source: NBB (social balance sheets).

In Wallonian single-region firms, apprentices and trainees represented 1.5 % of the workforce. They were employed mainly in industry, the trade and transport branch and construction. In Brussels, this type of training concerned 1.2 % of employees, more than one-third of the participants working in the health and social work branch. In Flanders, less than 1 % of workers attended "sandwich courses", mainly in industry and health and social work.

2.2.2 Training costs

In total, taking all activities together, the expenditure on training reported by firms in the analysis population represented 1.71 % of staff costs in 2010, 3.4 % more than in the previous year. Gross expenditure on formal training activities amounted to 1.21 % of staff costs, of which around 7 % was reimbursed via subsidies or other financial benefits. The net costs (after deduction of any subsidies) of informal and initial training amounted respectively to 0.48 and 0.06 % of staff costs.

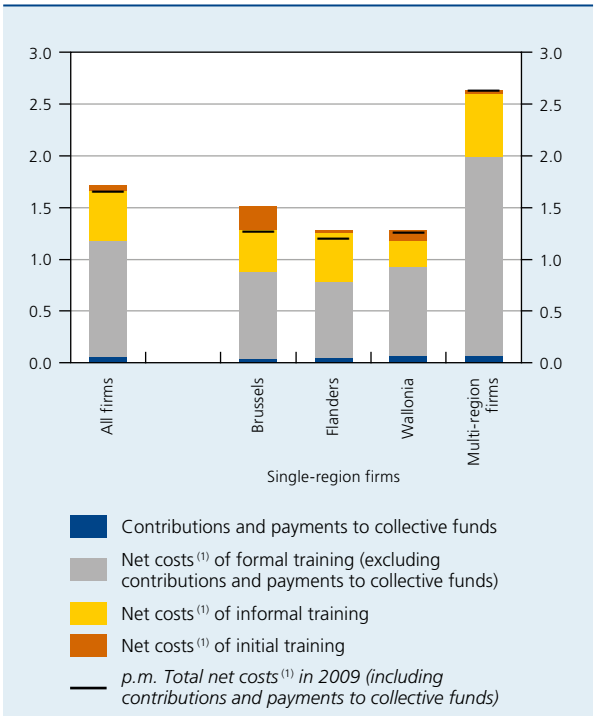
Contributions and payments to collective funds recorded in the social balance sheets and paid in accordance with the firms' statutory or collective bargaining obligations, represented on average 0.06 % of staff costs. According to the CEC's calculations, this item should have been equivalent to 0.184 % of the wage bill in 2009, or three times the total declared in the social balance sheets. It is evident that a large number of employers do not enter any figure under the appropriate item. Moreover, there are wide variations in the contribution rates indicated by those who do complete the item. There are proportionately more small firms than large ones failing to meet their reporting obligations in this respect.

In multi-region firms, three-quarters of the total training costs are spent on formal training, 23 % on informal training and just 1 % on initial training. In total, these costs represented 2.63 % of staff costs in 2010, which was twice the figure for single-region firms.

The gap between the two groups of companies is particularly marked in the case of formal training. The gross costs associated with these activities are less than 1 % of staff costs in Flemish, Brussels, and Wallonian single-region firms, compared to 2.06 % in multi-region firms. In contrast, subsidies and other financial benefits represented a slightly larger share of the gross training costs in single-region firms (7.8 %) than in multi-region companies (6.5 %). The measures for subsidising formal training activities are in fact aimed primarily at small firms. In Wallonia, firms employing fewer than 250 workers can finance training for their employees with training vouchers which cover half the costs. In Flanders, continuing vocational training is encouraged via an individual worker's right to training by means of the training voucher scheme, supplemented by a subsidy for training activities supported by SMEs (the "*KMO-portefeuille*") in which the training section amounts to € 2 500 per firm per year, and halves the cost of training. In the Brussels Region, on the other hand, the subsidies are intended to finance training (in languages or ICT) for job applicants before or after they are recruited. Despite the arrangements specific to each Region, the amount of

CHART 2 TRAINING COSTS IN 2010: BREAKDOWN ACCORDING TO FIRMS' LOCATION

(in % of staff costs, reduced population)



Source: NBB (social balance sheets).

(1) Net training costs are calculated as the gross costs less subsidies and other financial benefits.

the subsidies expressed as a percentage of gross training costs hardly varies: 6.7 % in Wallonia, 7.2 % in Brussels and 8.4 % in Flanders.

Although Flemish and Wallonian single-region firms devote a similar sized budget to training activities overall, at just under 1.3 % of staff costs, there are considerable differences in the breakdown by the various training activities. Expenditure by Flemish firms on informal training takes up 37 % of their budget, or 17 percentage points more than the figure for the Wallonian single-region companies. Initial training is still the poor relation in the Flemish Region, getting barely 2 % of the training budget there compared to 7 % in Wallonia and 15 % in Brussels. Nevertheless, this type of training could expand in the three Belgian Regions in the coming years as, from the beginning of 2010, the federal government has introduced a cut in social contributions for employers who allocate some of their staff to training or mentoring persons being given on-the-job training. This measure aims to encourage employers to increase the number of apprenticeship and traineeship opportunities and to promote the transmission of skills via mentoring.

2.3 Other training indicators

There are differences between training initiatives in terms of cost and duration.

In contrast to the reduction in 2009, firms put greater effort into formal training in 2010. The 2.4% rise in the net costs was slightly below the increase in the number of participants, so that the cost per worker – which include the wages of the training staff and those of the trainees – was down slightly at € 1 314. The average duration of training per participant also declined from 28.4 to 26.4 hours.

Both the number of participants and the budget and time allocated to informal training increased by over 10 % between 2009 and 2010. The rise, which is remarkable in itself, may be due in part to better recording of these

TABLE 9 COST AND DURATION OF TRAINING IN TRAINING FIRMS

(reduced population)

	Formal	Informal	Initial
Net cost (1) per participant (in €, unless otherwise stated)			
2009	1 331	957	2 801
2010	1 314	988	2 918
Change, in %	–1.3	3.2	4.2
Net cost (1) per hour of training (in €, unless otherwise stated)			
2009	49.4	36.9	12.9
2010	52.3	37.7	12.7
Change, in %	5.9	2.0	–1.0
Duration of training per participant (in hours, unless otherwise stated)			
2009	28.4	25.9	217.6
2010	26.4	26.2	228.9
Change, in %	–6.8	1.2	5.2

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 also include contributions and payments to collective funds.

training activities. Moreover, with an economic recession in many sectors, the total volume of hours worked had fallen significantly in 2009, and the time devoted to on-the-job training probably also declined in that year. In 2010, the average duration of informal training activities was 26.2 hours per participant, thus equalling the duration of formal training. Nonetheless, the cost per participant is still much lower, at € 988 per person, or 75 % of average expenditure on formal training. The same applies to the hourly cost of this training, at € 37.7 and € 52.3 respectively. The costs devoted to formal training in fact include registration fees and in some cases the cost of travel, meals and accommodation for the participants, whereas informal training is mostly conducted in the workplace.

The movements in the variables relating to initial training contrast with the picture for continuing vocational training: the number of trainees and apprentices declined by almost 13 %, while hours and costs went down by just under 10 %. The hourly cost of training declined, while expenditure per participant and the average duration of training increased. The level of the indicators relating to this type of training differs considerably from those calculated for formal and informal training. Thus, the average duration of training was around 230 hours per participant in 2010, most of the time spent in the firm by these apprentices and trainees being devoted to training. Given the low pay of these people, the hourly cost of this type of activity – at just under € 13 – is well below the figure for continuing vocational training.

(1) VDAB (2011), *Werkzoekende schoolverlaters in Vlaanderen*, 25th study, 2008-2009.

3. Health and social work

3.1 Recent developments

This year, a detailed analysis was conducted on the health and social work branch. The data in terms of level are drawn from the total population in 2009, whereas the changes between 2009 and 2010 are based on the reduced population. This branch accounted for around 20 % of employment in firms in the total population in 2009, and was the second most important service activity, after trade and transport. Heavily subsidised by the government, it differs from other branches in that the number of employees has been rising rapidly for quite some time, with growth of around 3 % for the past ten years on the basis of the national accounts, and it came through the Great Recession without any loss of momentum. Firms active in the health and social work field which filed a social balance sheet recorded the strongest rise in average employment in 2010, at 3.6 %, compared to 0.5 % for all branches of activity taken together.

The branch also deserves special attention because of the challenges ahead, particularly in terms of human resources and funding, in view of population ageing and technological development. The critical functions analysis conducted each year by the regional employment services in Belgium reports a structural labour shortage in various medical and social fields, as is also evident from the brief periods of time on the unemployment register for young graduates who have studied medicine-related subjects[1]. In 2010, the public employment services received almost 17 000 vacancies concerning critical functions in the medical, social and personal care sector, 14 000 of which were in Flanders, the majority being

TABLE 10 EMPLOYMENT TREND IN HEALTH AND SOCIAL WORK BETWEEN 2009 AND 2010

(annual averages, reduced population)

	Full-time		Part-time		Total	
	Units	%	Units	%	Units	%
Health and social work	2 848	2.0	8 999	4.8	**11 847**	**3.6**
of which:						
Human health activities	1 354	1.8	3 097	3.7	**4 451**	**2.8**
Residential care activities	598	2.0	2 809	5.4	**3 407**	**4.1**
Social work activities without accommodation	896	2.2	3 093	6.1	**3 990**	**4.3**

Source: NBB (social balance sheets).

for nurses and care assistants. In addition, in 2009, only 0.5 % of persons holding a professional bachelor in nursing were still registered as unemployed in Flanders a year after completing their studies (VDAB, 2011). The shortage of nursing staff is due mainly to a lack of candidates (shortfall in the number of qualified nurses), possibly exacerbated by working conditions which are often considered unfavourable (hours, arduous nature of the work, etc.). Yet, wider care provision, technological progress and stricter quality standards are tending to create a need for more nurses with a higher standard of qualifications.

Since 2006, a greater number of firms in the health and social work branch have completed a social balance sheet, owing to the stricter obligations on non-profit-making associations and large foundations[1]; that makes the data more representative. Thus, employees of these firms represented 88.5 % of the corresponding employment in the national accounts in 2009.

In the NACE-BEL 2008 classification, health and social work are divided into three sub-branches[2]: human health activities – essentially hospitals –, residential care activities – such as retirement homes and care homes for the elderly and residential care for the disabled – and social work activities without accommodation – which include, in particular, day centres and nurseries. Almost half of health and social work employees work in the human health field, the rest being divided between the other two sub-branches.

In 2010, the relative expansion of the workforce was greatest in social work activities without accommodation and residential care activities, at over 4 %. The rise in employment in the human health professions came to 2.8 %. This picture is nothing new; according to the national accounts, the numbers employed in social work are rising strongly, outpacing the expansion in the human health sector for some years now.

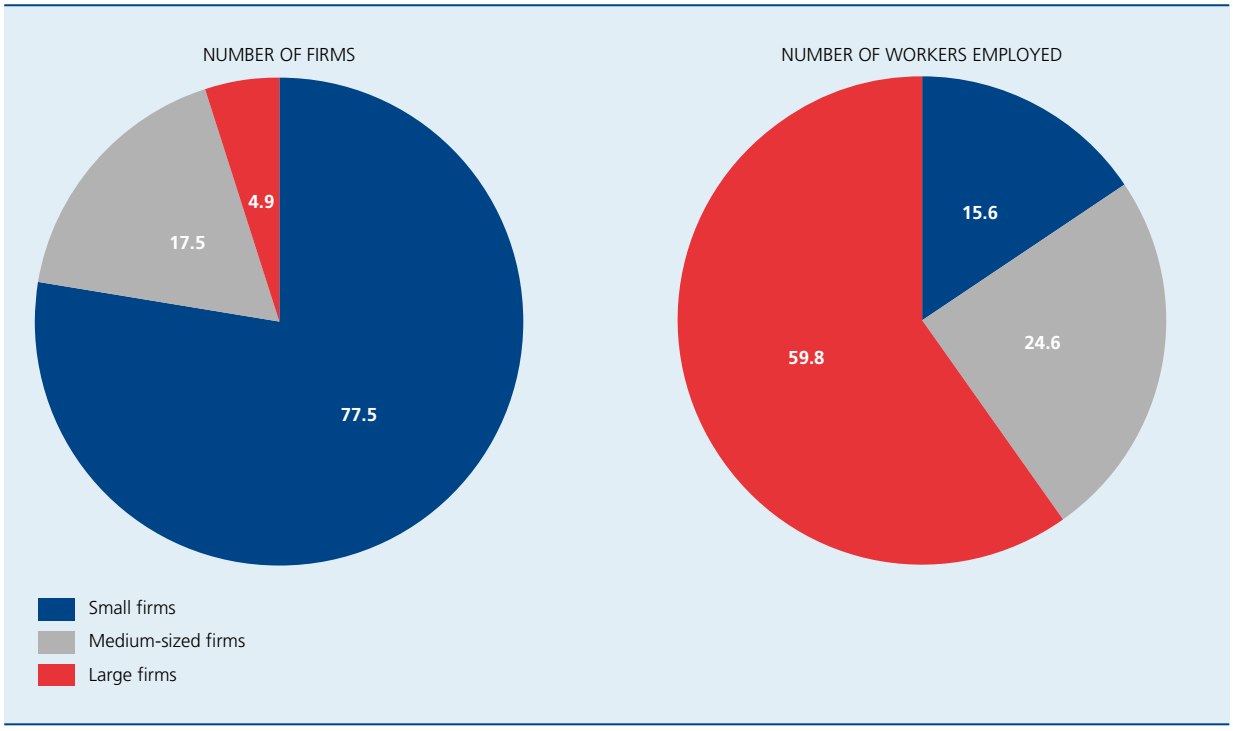
In each sub-branch, the increase in the number of workers has been more noticeable for part-timers – who dominate in these types of activity –, namely 4.8 % on average, than for full-time workers, at 2 %.

(1) The social balance sheet has to be completed by all non-profit-making associations and private foundations employing, as an annual average, 20 or more workers expressed in full-time equivalents (FTEs). In the case of large and very large associations and foundations, the social balance sheet is an integral part of the standardised annual accounts – applicable since 2006 – which have to be filed with the National Bank of Belgium. Owing to this change in the regulations, these entities have been better represented in the social balance sheets since 2006, so that it is difficult to make historical comparisons within the branch.

(2) NACE codes 86, 87 and 88 in the NACE-BEL 2008 nomenclature.

CHART 3 STRUCTURE OF FIRMS AND EMPLOYMENT IN HEALTH AND SOCIAL WORK[1]

(data as at 31 December 2009, % of the total, total population)



Source : NBB (social balance sheets).

(1) Small firms employ up to 50 FTEs, medium-sized firms employ over 50 and up to 250 FTEs and large firms employ over 250 FTEs.

3.2 Branch characteristics

3.2.1 Structure of firms and employment

In 2009, firms active in health and social work numbered 4 155 and employed a total of 385 557 workers. Over half of them were non-profit-making associations, representing 79 % of total employment in the branch, one of the factors being that several large hospitals were set up in this legal form.

Jobs are heavily concentrated in a few very large undertakings. Employers with a workforce of more than 250 FTEs, which represented less than 5 % of total firms in 2009, alone accounted for 60 % of employment in this branch. Conversely, 78 % of firms employed 50 or fewer FTEs, i.e. barely 16 % of the workers employed.

The breakdown based on the size of the firms and their workforce varies according to the activity pursued. In human health, three-quarters of the jobs are in a few large hospitals employing over 500 FTEs. An establishment of that size employs an average of 1 900 persons. Very small establishments with a maximum of 10 FTEs are the most numerous but account for only 2 % of employment. In residential care activities, there is a large number of establishments employing more than 10 to 50 FTEs, but it is the medium-sized employers that account for half of the employees. Finally, in social work activities without accommodation, one in every two jobs is found in the relatively few firms with over 250 FTEs. Small firms, representing 76 % of employers, account for 21 % of jobs.

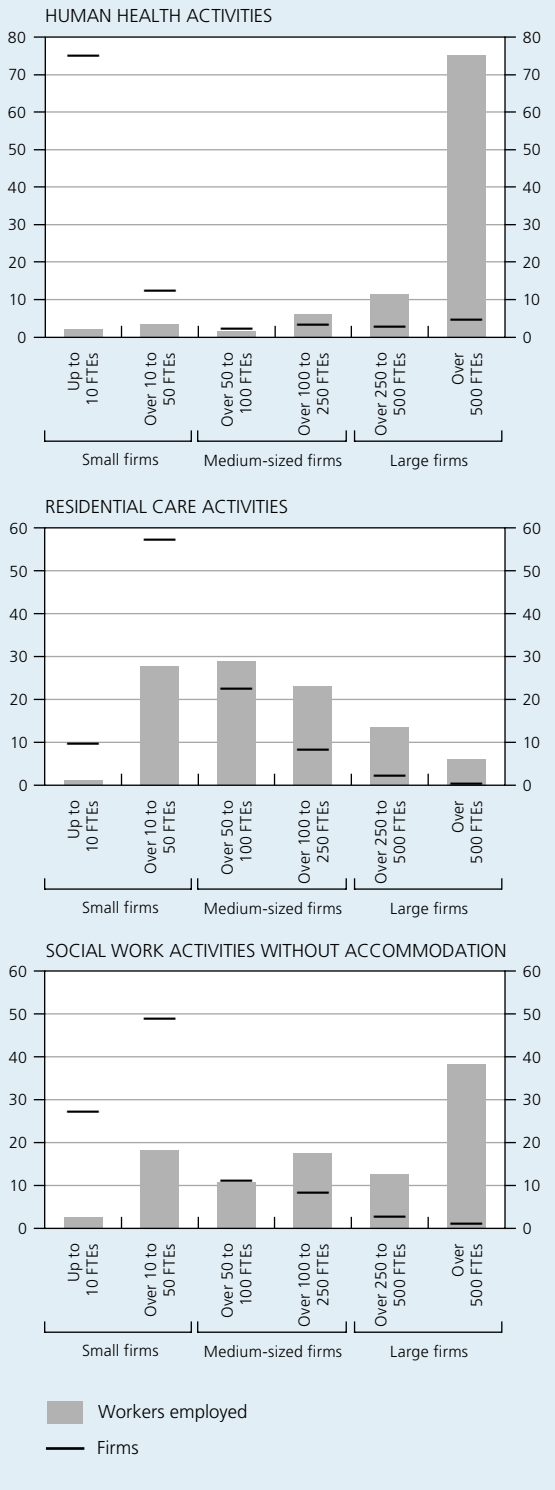
3.2.2 Gender and working arrangements

A special feature of the health and social work branch is the predominance of female employees: they represented almost 80 % of the total workforce in 2009. For comparison, the average proportion of female employees taking all branches of activity together was 43 %. Women make up over half of the workforce in other branches of the tertiary sector, such as business services, finance and insurance, and other services. Conversely, far fewer women are employed in construction and industry.

These findings are often matched by the choice of subjects at school and university, which is still fairly gender-specific. Thus, in higher education, women are over-represented in health and human sciences, albeit with wide variations between disciplines (for example, psychology and education are particularly popular with women). Conversely,

CHART 4 STRUCTURE OF FIRMS AND EMPLOYMENT IN THE HEALTH AND SOCIAL WORK SUB-BRANCHES (1)

(data as at 31 December 2009, in % of the total, total population)

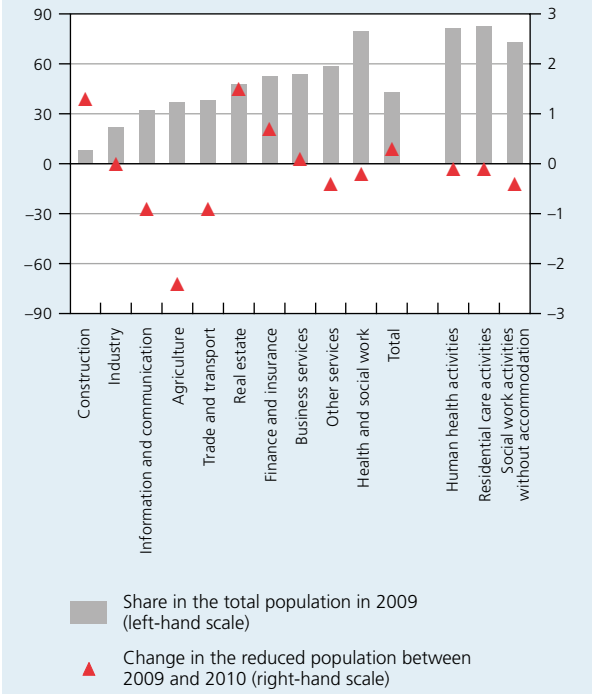


Source: NBB (social balance sheets).

(1) Small firms employ up to 50 FTEs, medium-sized firms employ over 50 and up to 250 FTEs and large firms employ over 250 FTEs.

CHART 5 SHARE OF FEMALE EMPLOYMENT BY BRANCH OF ACTIVITY

(data as at 31 December, in %)



Source : NBB (social balance sheets).

women are clearly under-represented in science subjects (such as engineering)[1].

Overall, the share of part-time work came to 30.4 % in 2009. More than half of female employees had a part-time job, compared to 12.8 % of men. These percentages have been rising steadily in the past ten years, especially in the case of part-time working by men, which has doubled from its – lower – original level.

It is evident from the data concerning the reduced population of firms for the years 2009 and 2010 that the rate of part-time working has increased slightly again.

The use of this working arrangement is not uniform across the various branches of activity ; its relative importance depends notably on the proportion of female staff. The health and social work branch is thus different from other branches in having a well-above-average proportion of part-time workers, at almost 56 %, practically all attributable to women's working hours. The business services and other services branches, where women are likewise over-represented, employ 40 % of their staff on a part-time basis. At a more detailed level, there is greater recourse to reduced working hours in residential care activities, where almost two-thirds of the staff do not work full-time

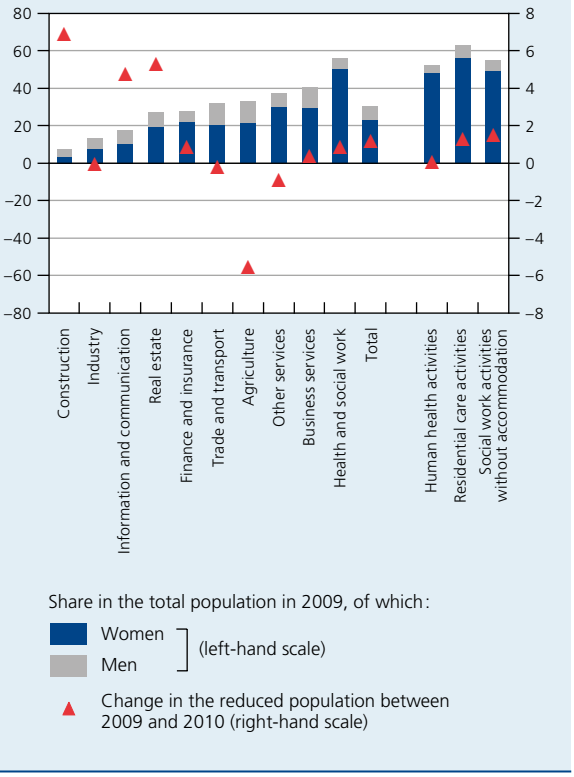
The rise in the rate of part-time working was very modest in human health in 2010, whereas it came to 1.3 and 1.5 % respectively in residential care activities and social work activities without accommodation. However, these growth rates are relatively low compared to those in construction, information and communication, and real estate, branches with a below-average rate of part-time working.

While part-time working is for some people a way of balancing work and family life, for others it is primarily a choice imposed on them because they cannot find a full-time job. According to the 2010 results of the harmonised labour force surveys, the proportion of involuntary part-time workers came to 10.7 % for women and

(1) This distinction is based on the terminology used by the Rectors' Council of the French-speaking universities in Belgium, which divides the subjects into three main areas : human sciences, science and health science.

CHART 6 SHARE OF PART-TIME WORK IN EMPLOYMENT BY BRANCH OF ACTIVITY

(data as at 31 December, in %)



Source : NBB (social balance sheets).

15.8 % for men in Belgium. According to some surveys[1], part-time working could be a response by workers to difficult working conditions and increased labour intensity. That is specifically the case in health and social work, where non-standard hours are common (e.g. before 07.00 or after 18.00, or weekend work). Moreover, in some cases, employers prefer to take on part-timers if the day's schedule entails busy periods in the mornings and evenings with a quieter time in the afternoon – which is typical of hospitals.

3.2.3 Employment contracts

With regard to employment contracts, the health and social work branch can be ranked alongside agriculture and other services with a below-average percentage of permanent employment contracts in the total, at around 89 % at the end of 2009. The share of temporary contracts even exceeds 15 % in residential care activities. At the other extreme, the proportion of temporary contracts is below 4 % in finance and insurance, information and communication, industry and construction.

On average, 82 % of temporary contracts are fixed-term contracts. However, there are variations from one branch to another, and within certain activities. Thus, in health and social work, two-thirds of temporary contracts are fixed-term contracts and one-third are substitution contracts, a form which is rather uncommon elsewhere. In residential care activities, two out of five temporary contracts are actually substitution contracts. There are specific factors which explain the relatively significant use of substitution contracts in the medical sector. For one thing, some jobs have to be filled while pregnant workers are on prophylactic leave. Also, a collective labour agreement specific to the health care sector[2] aims to cut the working time of nursing staff and care assistants from the age of 45 years: it provides for an annual quota of hours for releasing staff from duty according to age and working arrangements. However, to cope with the shortage of nursing staff, there is an alternative: maintain basic working time in return for a pay increase in the form of a wage supplement. For other categories of staff, release from duty is granted in the form of extra days' leave.

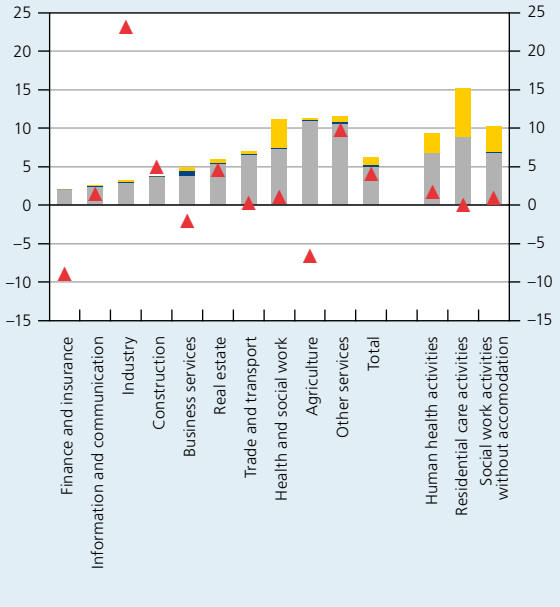
On average, the proportion of temporary contracts increased by 4.1 % between 2009 and 2010; the growth rate varies greatly from one branch to another, partly on account of the different initial levels. In health and social work, the proportion of temporary contracts was up by 1.1 %, a modest rise if compared, for example, with the rate recorded in other services (almost 10 %), where the initial level was nevertheless similar to that in health.

Firms which submit a social balance sheet in the more detailed full format supply information on the allocation of agency staff and persons on secondment to the firm. It is interesting that the use of agency staff is less widespread in the health branch: 0.4 % of the workers employed in the branch in 2009 had an agency contract, compared to an average of 2.8 % taking all branches together. Conversely, the proportion of workers on secondment is above average, at 1.4 %, compared to 0.9 %. Only the trade and transport branch used more of this type of labour in 2009 (1.7 %).

Yet at first sight, one way of solving the shortage of medical staff – and especially nurses – would be to use agency workers. Nevertheless, there are certain factors

CHART 7 SHARE OF TEMPORARY CONTRACTS IN EMPLOYMENT BY BRANCH OF ACTIVITY

(data as at 31 December, in %)



Source: NBB (social balance sheets).

(1) FOREM (2006), *Les attitudes et les pratiques à l'égard de la gestion des ressources humaines dans l'écosystème du non-marchand en Région wallonne, Série 1 : Hôpitaux et maisons de repos* and VDAB (2010), *Analyse vacatures 2009 : knelpuntberoepen.*

(2) Cf. Royal Decree of 1 October 2008 rendering compulsory the collective labour agreement of 26 October 2005 concluded by the Joint Committee for Health Services, concerning the release of staff from duty in the context of end-of-career problems and the grant of additional leave for certain categories of staff.

which may explain the reluctance to do so in the medico-social sphere. Care institutions mention an organisational cost due to the fact that it entails working with someone who does not know either the patients or the way the service operates, and who do not have the time to settle in or become sufficiently involved. Quality also suffers, because it is impossible to develop medium- and long-term projects[1].

3.2.4 Staff costs

The staff costs recorded in the social balance sheets comprise the expenses relating to the employment of the workers on the staff register[2]. This item covers wages and direct social benefits, employers' social security contributions and non-statutory insurance premiums paid by the employer, plus other staff expenses (e.g. meal vouchers, eco-vouchers and insurance premiums for accidents at work and occupational illnesses).

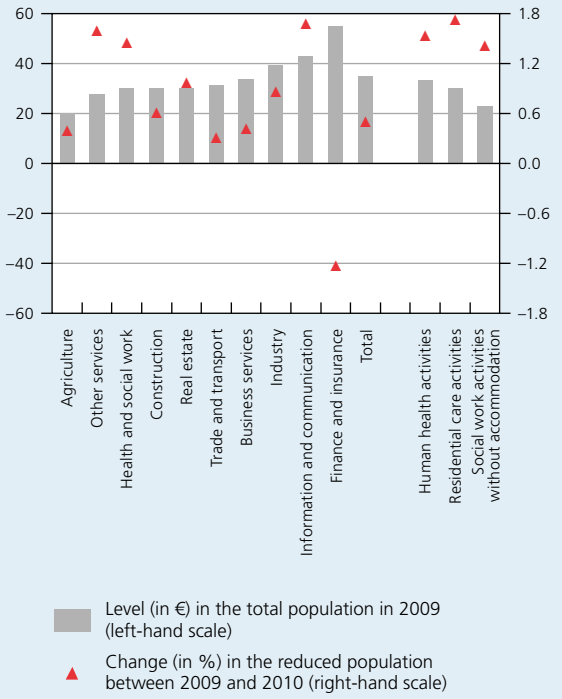
The starting level for staff costs per hour worked varies according to the branch of activity. It averaged € 34.7 in 2009. In health and social work, staff costs were almost € 5 lower than this, and around € 25 below the level for the activity at the top of the ranking, namely finance and insurance. As was the case for the other social balance sheet items, there are differences between health and social work activities. Thus, staff costs per hour worked are particularly low in social work activities without accommodation (€ 22.7), but are close to the general average in human health activities (€ 33.5). These levels are attributable notably to the workers' characteristics, which vary from one sub-branch to another, such as the standard of education. Human health has more highly-skilled staff, which drives up the staff costs.

The total rise in hourly costs came to just 0.5 % in 2010. It was 1.5 % or more in other services, information and communication and health and social work. Within this last branch, it was residential care activities that recorded the strongest rise, at 1.7 %. The general average is depressed by the movement in hourly costs in finance and insurance, down by 1.2 % in 2010. Staff costs there fell by 1.5 %, similar to the decline in the number of workers. Conversely, the volume of labour was only slightly down, since the average working time increased in the branch.

(1) Hospitals.be (2007), "L'intérim infirmier, une tendance irrémédiable ?", revue trimestrielle, Vol. 5, n° 3, juillet-août-septembre.

(2) They therefore differ from the labour cost concept used in the national accounts, since they do not include either payments to retired staff – who no longer appear on the staff register – nor certain costs relating to any restructuring – which firms can record as exceptional expenses in their balance sheet.

CHART 8 AVERAGE HOURLY COSTS BY BRANCH OF ACTIVITY



Source : NBB (social balance sheets).

3.2.5 Training

The private sector's training performance is measured by the participation rate and expenditure on training by firms taken as a whole. Nevertheless, there are very significant differences between branches of activity, as training needs vary considerably according to the technologies applied, the investment made, the initial education of the workers and the frequency with which skills are updated, and according to the labour shortages confronting certain activities.

Although the target for the private sector as a whole was that one in every two workers should attend training in 2010, only one branch of activity, namely finance and insurance, had exceeded that figure for formal training in 2009. The health and social work branch was in second place, with a participation rate of 46 %, equalling that in the information and communication branch. Health is also among the leaders in informal training, as 26 % of employees were given this type of training in 2009. Conversely, the proportion of trainees and apprentices in the workforce of that branch is below average.

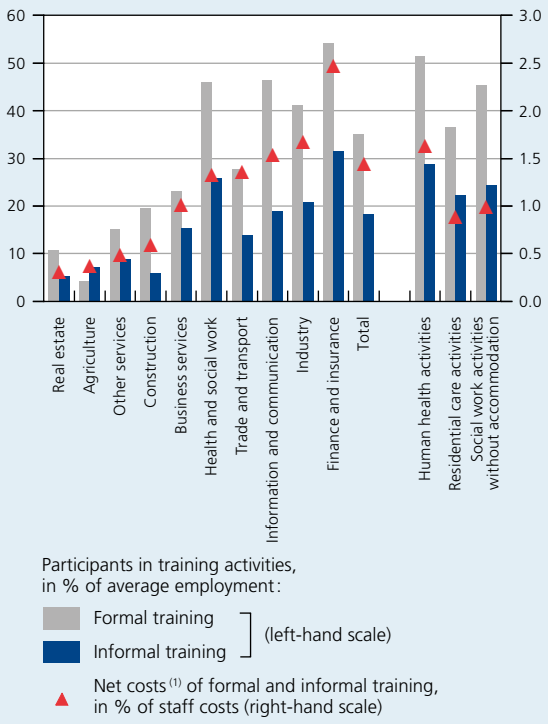
The training available to health and social work staff is less expensive and of shorter duration than in the other branches of activity. The cost of continuing vocational training (taking formal and informal training together) came to € 633 per participant in 2009, or half the average of € 1 243. The duration of this training averaged 21.8 hours, compared to the average of 27.4.

Since staff costs are also below average in health and social work, the relative performance of the branch in regard to the ratio between continuing vocational training costs and staff costs is only slightly below the average at 1.33 %, compared to 1.44 %. In this respect, there are wide variations in performance between the different branches, as continuing vocational training expenditure in real estate and agriculture represents less than 0.5 % of staff costs, whereas in finance and insurance the figure is five times higher.

The differences are also marked within the health and social work branch itself. Firms operating in the human health sphere report a training budget corresponding to 1.63 % of their staff costs, which is higher than the general average. Conversely, in the other two sub-branches, these proportions are just below 1 %. In social work activities without accommodation, the training is less expensive on average, but available to a larger section of the workforce than in the sub-branch comprising residential care activities. In human health, over half of the workers had access to formal training in 2009, and almost 30 % received informal training, proportions which are almost as high as in finance and insurance.

CHART 9 PARTICIPATION AND COSTS OF FORMAL AND INFORMAL TRAINING

(2009, in %, total population)



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 also include contributions and payments to collective funds.

Conclusions

The turnaround in the business cycle in 2010 brought an increase of 7 077 workers, as an annual average, or 0.5 % of the workforce in the 43 166 firms in the reduced population. Reflecting the time lag between the revival of activity and the actual recruitment of new staff, the number of additional jobs doubled at the end of the year. However, the recovery was not seen in all branches of activity. Industry and activities relating to finance and insurance recorded a further contraction in their labour force, whereas health and social work and business services experienced strong growth, at 3.6 and 1.7 % respectively. The national accounts indicate that the rate of job creation in health and social work has been above the national average for some years now ; similarly, this branch emerged from the Great Recession without any job losses.

In firms filing full-format accounts, the recovery of employment was supported by the substantial growth of agency work (+19 % as an annual average) with the share in FTE employment rising from 2.8 to 3.3 %, though that is still slightly below the pre-crisis level. At the end of the year, there was also a rise in the number of registered employees, due to an increase in temporary contracts (+5 %) and, to a lesser extent, permanent contracts (+0.4 %).

This year, the employment picture was analysed at regional level. The workforce of single-region firms, which represented 72 % of workers in 2009, increased by 1.6 % in 2010, whereas it was down by 0.7 % in multi-region firms. The Regions where the latter are most prevalent were therefore the ones with the most modest employment growth. In Brussels and Flanders, the total workforce grew by 0.8 and 0.6 % respectively, while in Wallonia it increased by 2.4%.

In Brussels, it was mainly the information and communication and the health branches that supported the employment growth, at 0.5 and 0.4 of a percentage point respectively. In Wallonia, almost all branches of activity contributed to the job creation : health and social work

firms provided growth of 1.2 percentage points, followed by industry with 0.5 of a percentage point. In Flanders, the contraction of employment in trade and transport, information and communication, and especially industry was counterbalanced by the expansion in the health and social work branch (0.6 of a percentage point).

While the amount spent on training had fallen in 2009 against the backdrop of the slowdown in activity, firms invested more in formal and informal training in 2010. The number of participants also increased, to reach 41.5 and 23.3 % of workers respectively. On the other hand, in the case of initial training (alternating study and work experience) – which remains marginal – both expenditure and the number of participants were in decline. Taking all initiatives together, training costs represented 1.71 % of staff costs in 2010, an increase of 3 % against the previous year.

The training policy varies quite considerably from one Region to another. Thus, three-quarters of multi-region firms mentioned training activities in their social balance sheet in 2010, whereas the figures were respectively 23 and 24 % for Brussels and Wallonian single-region firms, and 19 % for firms based exclusively in Flanders. While formal training accounts for the major part of the resources in all groups of firms, it represents the highest proportion in multi-region companies. Flemish single-region firms devoted almost 40 % of their training budget to informal schemes in 2010; the figure was 27 % in Brussels and 19 % in Wallonia. More than one in five workers took part in these activities in Flanders, compared to 16 and 13 % of employees respectively in Brussels and Wallonia. In these last two Regions, there is a larger proportion of alternating study and work experience: it accounted for 15% of total training expenditure in Brussels and 7 % in Wallonia, against only 2 % in Flanders. Trainees and apprentices represented respectively 1.2 and 1.5 % of workers in those Regions, compared to 0.9 % in Flemish single-region companies and 0.5 % in multi-region firms.

One section of this article focused on a detailed analysis of the health and social work branch, on the basis of data relating to the total population for 2009. Half of the workers in this branch are involved in human health activities. The jobs in the latter are concentrated in a few very large firms. In residential care activities, small firms predominate, but medium-sized undertakings account for half of the workers. In social work activities without accommodation, one job out of two is carried out in firms with over 250 FTEs, which are relatively uncommon compared to small firms.

Almost 80 % of health and social work employees are women, or nearly twice the general average. This is accompanied by an above-average rate of part-time working, at 56 %. The proportion working reduced hours is actually as high as two-thirds in residential care activities. The non-standard hours and working conditions in medical and social activities may lead workers – and employers – to opt for this type of arrangement.

The health and social work branch also has an above-average proportion of temporary contracts, at over 11 %, as do agriculture and the other services branch. Its main distinguishing feature is the more frequent use of substitution contracts: they represent one-third of temporary contracts, and as many as two out of five in residential care activities. Conversely, the use of agency staff is less widespread than in other branches of activity.

The level of staff costs varies considerably within the branch. One hour's work cost € 33.5 in human health activities in 2009, but barely € 22.7 in social work without accommodation, where it was slightly higher than in agriculture. Health and social work thus record overall hourly costs below the average, which reached € 34.7.

With regard to staff participation in formal and informal training, health and social work topped the branch ranking in 2009 with rates of 46 and 26% respectively. Conversely, the proportion of trainees and apprentices in the workforce is below average. The training available to workers in this branch is less expensive and of shorter duration than in the other activities.

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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 eliminated, 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 2009 comprised 83 373 firms and 1 961 460 employees.

Moreover, the analysis of the social balance sheets filed for 2010 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 movements recorded in a stable population between 2009 and 2010, and may therefore differ from those observed following the final closure for all firms filing a social balance sheet[7].

The constant reduced population comprises 43 166 companies which together employed 1 535 716 workers in 2009, corresponding to 78 % of the workforce in the total population, even though the number of firms included in the reduced population represents only 52 % of the total population. The number of workers employed in the firms in the reduced population comes to 59 % of the private sector employees 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. That applies particularly in agriculture and in accommodation and food service activities.

Furthermore, certain categories of firms or jobs do not appear in the analysis population. That 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

(1) Private sector employment is defined as employment recorded in the total economy (S.1), less employment in the public sector (S.13) and in the household sector (S.14). This concept also excludes firms in NACE-BEL divisions 84 (public administration and defence; compulsory social security) and 85 (education). NACE-BEL division 78 (employment activities), which includes activities of employment placement agencies, is 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 modifications.

(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 2010 was not available on 18 october 2011 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, the results based on this reduced population lead to some distortion in favour of large firms.

TABLE 1 REPRESENTATIVENESS OF THE REDUCED POPULATION IN 2009

	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	**2 619 447**	**1 961 460**	**1 535 716**	**58.6**	**78.3**
Agriculture, forestry and fishing	11 542	5 728	3 113	27.0	54.3
Manufacturing, mining and quarrying and other industry	575 552	450 605	366 601	63.7	81.4
Mining and quarrying	2 952	2 625	2 140	72.5	81.5
Manufacturing	527 600	406 884	332 993	63.1	81.8
Electricity, gas, steam and air conditioning supply	20 077	19 864	12 402	61.8	62.4
Water supply; sewerage, waste management and remediation activities	24 923	21 232	19 065	76.5	89.8
Construction	203 335	150 189	97 015	47.7	64.6
Wholesale and retail trade, transport and storage, accommodation and food service activities	764 782	544 762	408 370	53.4	75.0
Wholesale and retail trade; repair of motor vehicles and motorcycles	474 334	312 361	232 842	49.1	74.5
Transport and storage	197 712	171 932	146 241	74.0	85.1
Accommodation and food service activities	92 736	60 469	29 286	31.6	48.4
Information and communication	91 444	72 046	58 292	63.7	80.9
Financial and insurance activities	128 877	114 340	100 367	77.9	87.8
Real estate activities	16 250	11 504	7 688	47.3	66.8
Professional, scientific, technical, administration and support service activities	298 695	181 787	131 854	44.1	72.5
Professional, scientific and technical activities	134 193	86 341	61 842	46.1	71.6
Administrative and support service activities[3]	164 502	95 446	70 012	42.6	73.4
Human health and social work activities	435 494	385 557	332 117	76.3	86.1
Other services	93 476	44 942	30 300	32.4	67.4
Arts, entertainment and recreation	28 879	15 220	10 400	36.0	68.3
Other service activities	64 597	29 722	19 900	30.8	67.0
According to the criterion concerning the number of firms	**n.**	**83 373**	**43 166**	**n.**	**51.8**

Sources: NAI, NBB (social balance sheets).

(1) Private sector salaried employment, i.e. salaried employment recorded in the total economy (S.1), less salaried employment in the public sector (S.13) and in the household sector (S.14). 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.

social balance sheet only applies to companies. Consequently, the representativeness of the reduced population expressed as a percentage of the 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. Overall, workers in the branch of wholesale and retail trade, transportation and

storage, accommodation and food service activities represent 27 % of the staff in the reduced population, and those in manufacturing, mining and quarrying and other industry 24 %. Human health and social work activities employ 22 % of workers. The other branches are relatively less important, at 9 % for professional, scientific, technical, administration and support service activities, 6 % for financial and insurance activities 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 2009. Small firms with no more than 50 FTEs, or 91 % of companies in the reduced population, employ 25 % of the workforce in that population, well below the figure of 34 % recorded for the total population. Medium-sized companies employing over 50 and up to 250 FTEs account for 23 % of the workforce in the reduced population, or two percentage points more than the figure for the total population. Conversely, large firms with a workforce of over 250 FTEs employ over half the workers in the reduced population, against 44 % 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 2009

(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. Units	*83 373*	*1 961 460*	*43 166*	*1 535 716*
Breakdown by branch of activity				
Agriculture, forestry and fishing	0.9	0.3	0.7	0.2
Manufacturing, mining and quarrying and other industry	12.2	23.0	13.4	23.9
Construction	15.5	7.7	13.4	6.3
Wholesale and retail trade, transport and storage, accommodation and food service activities	40.0	27.8	39.0	26.6
Information and communication	2.7	3.7	2.9	3.8
Financial and insurance activities	4.6	5.8	4.7	6.5
Real estate activities	1.8	0.6	1.7	0.5
Professional, scientific, technical, administration and support service activities[2]	13.3	9.3	13.7	8.6
Human health and social work activities	5.0	19.7	6.4	21.6
Other services	4.0	2.3	4.0	2.0
Breakdown by size of firm[3]				
Small firms (up to 50 FTEs)	94.4	34.2	91.0	25.0
Medium-sized firms (over 50 to 250 FTEs)	4.5	21.4	7.3	23.3
Large firms (over 250 FTEs)	1.0	44.4	1.7	51.7

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 2009.

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 2009 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 2010 is not yet available, the one for 2009 was used to regionalise the reduced population for both 2009 and 2010.

Single-region firms are those which have their head office and operating establishment(s) in one and the same Region. Table 6 in this article shows that, as at 31 December 2010, the reduced population comprised 42 413 single-region firms, or 98 % of total firms. These are generally fairly small companies : on average, they had 26 employees. The other 753 companies – referred to as multi-region firms – operated in more than one Region. They employed an average of 570 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 as at 31 December. 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. That applies, for example, to employment broken down by gender, standard of education or employment contract, as the conduct of the various operating sites belonging to the same 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, other than 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 branch of wholesale and retail trade, transport and storage, accommodation and food service activities and in the one of financial and insurance activities, while the branches of manufacturing, mining and quarrying and other industry and of professional, scientific, technical, administration and support service activities 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 2009 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 2010. Firms not listed in the 2009 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 2009 AND 2010 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	24	0.9	0.0	18	0.9	–16	–1.6	2	0.1	–1.0
Manufacturing, mining and quarrying and other industry	–7 242	–2.1	–0.2	–7 604	–2.4	587	1.3	–7 017	–1.9	–0.2
Mining and quarrying	–36	–1.7	–0.4	–63	–3.1	31	24.4	–32	–1.5	–0.3
Manufacturing	–7 879	–2.5	–0.5	–7 927	–2.7	267	0.6	–7 661	–2.3	–0.4
Electricity, gas, steam and air conditioning supply	488	4.0	3.3	349	3.1	81	7.5	430	3.5	3.1
Water supply; sewerage, waste management and remediation activities	185	1.0	1.2	37	0.2	208	9.8	245	1.3	1.5
Construction	604	0.6	1.4	172	0.2	571	8.7	743	0.8	1.5
Wholesale and retail trade, transport and storage, accommodation and food service activities	–159	0.0	0.1	–2 036	–0.7	2 437	2.0	401	0.1	0.0
Wholesale and retail trade; repair of motor vehicles and motorcycles	152	0.1	1.4	–944	–0.6	1 850	2.5	906	0.4	0.1
Transport and storage	–550	–0.4	0.1	–1 058	–0.9	423	1.3	–635	–0.4	0.1
Accommodation and food service activities	239	1.1	0.0	–34	–0.2	165	1.1	131	0.4	–0.8
Information and communication	–742	–1.3	–0.2	–1 047	–2.2	827	8.1	–220	–0.4	0.6
Financial and insurance activities	–1 318	–1.4	–0.5	–1 750	–2.4	527	1.9	–1 223	–1.2	–0.6
Real estate activities	89	1.3	0.3	13	0.2	50	2.4	62	0.8	1.8
Professional, scientific, technical, administration and support service activities	1 584	1.4	2.6	204	0.2	2 080	4.5	2 283	1.7	2.2
Professional, scientific and technical activities	583	1.0	2.7	349	0.7	277	2.0	625	1.0	2.4
Administrative and support service activities[1]	1 001	1.7	2.4	–145	–0.4	1 803	5.5	1 658	2.4	2.0
Human health and social work activities	8 473	3.2	3.2	2 848	2.0	8 999	4.8	11 847	3.6	3.3
Other services	230	0.9	0.9	106	0.6	93	0.8	198	0.7	0.4
Arts, entertainment and recreation	138	1.6	2.9	79	1.2	19	0.5	98	0.9	1.6
Other service activities	93	0.6	–0.1	27	0.2	74	1.0	100	0.5	–0.2
Total	**1 544**	**0.1**	**0.9**	**–9 078**	**–0.8**	**16 155**	**3.5**	**7 077**	**0.5**	**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

	Units, per year (total population)									*Percentage change between 2009 and 2010 (reduced population)*		
	2003	2004	2005	2006	2007	2008	2009					
	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	1 582	1 601	1 562	1 612	1 603	1 627	1 614	1 613	898	*0.6*	*0.7*	*2.8*
Manufacturing, mining and quarrying and other industry	1 508	1 532	1 516	1 520	1 523	1 514	1 447	1 445	1 001	*3.2*	*3.3*	*2.0*
Mining and quarrying	1 499	1 491	1 464	1 479	1 500	1 510	1 447	1 445	990	*0.3*	*0.6*	*–1.0*
Manufacturing	1 509	1 537	1 518	1 522	1 524	1 513	1 441	1 439	997	*3.5*	*3.6*	*1.9*
Electricity, gas, steam and air conditioning supply	1 332	1 349	1 368	1 400	1 446	1 465	1 467	1 464	1 106	*0.9*	*1.3*	*5.4*
Water supply; sewerage, waste management and remediation activities	1 628	1 617	1 628	1 598	1 572	1 560	1 547	1 547	1 039	*–0.2*	*–0.3*	*0.9*
Construction	1 437	1 471	1 448	1 449	1 451	1 466	1 433	1 428	982	*–1.1*	*–1.2*	*1.2*
Wholesale and retail trade, transport and storage, accommodation and food service activities	1 620	1 607	1 581	1 579	1 576	1 576	1 555	1 561	896	*0.1*	*0.1*	*0.7*
Wholesale and retail trade; repair of motor vehicles and motorcycles	1 600	1 608	1 598	1 589	1 589	1 591	1 575	1 583	952	*0.3*	*0.2*	*0.5*
Transport and storage	1 664	1 615	1 559	1 565	1 560	1 554	1 528	1 537	969	*–0.3*	*–0.2*	*0.8*
Accommodation and food service activities	1 567	1 562	1 562	1 564	1 558	1 556	1 530	1 502	662	*0.6*	*1.3*	*1.9*
Information and communication	1 631	1 634	1 613	1 609	1 605	1 606	1 600	1 608	1 054	*0.2*	*0.3*	*–3.6*
Financial and insurance activities	1 427	1 444	1 428	1 424	1 441	1 442	1 430	1 452	929	*1.1*	*1.2*	*1.5*
Real estate activities	1 605	1 610	1 603	1 591	1 592	1 599	1 572	1 568	920	*–0.2*	*–0.2*	*3.8*
Professional, scientific, technical, administration and support service activities	1 611	1 608	1 591	1 588	1 596	1 598	1 564	1 576	944	*0.0*	*0.0*	*0.4*
Professional, scientific and technical activities	1 650	1 663	1 640	1 637	1 641	1 647	1 623	1 624	1 054	*0.1*	*–0.1*	*1.4*
Administrative and support service activities[(1)]	1 574	1 555	1 543	1 540	1 549	1 544	1 503	1 509	897	*0.0*	*0.1*	*0.1*
Human health and social work activities	1 530	1 524	1 496	1 482	1 489	1 488	1 461	1 440	918	*0.1*	*0.4*	*–0.2*
Other services	1 572	1 561	1 573	1 562	1 573	1 573	1 561	1 555	862	*0.3*	*0.4*	*1.2*
Arts, entertainment and recreation	1 626	1 592	1 618	1 602	1 616	1 606	1 604	1 588	765	*–0.6*	*–0.6*	*1.9*
Other service activities	1 548	1 548	1 552	1 543	1 550	1 556	1 541	1 536	906	*0.8*	*1.0*	*0.8*
Total	**1 545**	**1 552**	**1 532**	**1 530**	**1 532**	**1 531**	**1 497**	**1 496**	**926**	***0.9***	***1.0***	***0.4***

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 the total workers recorded in the staff register as at 31 December)

	2003	2004	2005	2006	2007	2008	2009	*2009*	*2010*
	(total population)							*(reduced population)*	
By employment contract									
Permanent contract	93.9	93.9	93.8	93.4	93.5	93.4	93.8	*94.3*	*94.1*
Fixed-term contract	4.9	5.0	5.1	5.4	5.4	5.4	5.1	*4.5*	*4.7*
Agriculture, forestry and fishing	5.6	5.7	6.7	6.3	12.7	11.2	10.9	*5.4*	*4.9*
Manufacturing, mining and quarrying and other industry	3.5	3.8	3.9	4.4	4.7	4.4	2.9	*2.6*	*3.3*
Mining and quarrying	6.0	6.0	6.2	8.2	6.9	6.1	4.5	*3.9*	*4.7*
Manufacturing	3.4	3.7	3.7	4.3	4.6	4.4	2.8	*2.6*	*3.3*
Electricity, gas, steam and air conditioning supply	7.5	6.7	7.2	7.3	6.6	6.0	5.3	*5.5*	*5.3*
Water supply; sewerage, waste management and remediation activities	3.5	3.4	3.0	3.8	3.0	2.9	2.1	*1.8*	*2.2*
Construction	2.7	2.7	2.9	3.2	3.3	3.5	3.7	*2.3*	*2.4*
Wholesale and retail trade, transport and storage, accommodation and food service activities	5.8	5.6	6.3	6.1	6.0	6.5	6.6	*5.5*	*5.5*
Wholesale and retail trade; repair of motor vehicles and motorcycles	6.1	5.7	6.2	5.8	5.9	6.6	6.6	*6.0*	*6.9*
Transport and storage	3.7	3.3	3.4	3.2	3.3	3.3	3.3	*3.2*	*2.1*
Accommodation and food service activities	11.4	12.6	15.0	15.6	14.9	15.8	15.9	*12.7*	*12.2*
Information and communication	3.8	3.7	3.6	3.8	3.1	3.0	2.4	*2.3*	*2.2*
Financial and insurance activities	3.1	2.9	2.8	2.8	2.5	2.0	2.0	*1.9*	*1.7*
Real estate activities	3.7	4.5	4.1	4.2	5.0	5.1	5.4	*1.9*	*1.7*
Professional, scientific, technical, administration and support service activities	4.6	5.0	5.4	5.6	5.6	3.8	3.9	*3.1*	*3.0*
Professional, scientific and technical activities	4.1	3.8	3.3	3.8	3.3	3.3	3.4	*3.0*	*3.0*
Administrative and support service activities[1]	5.0	5.9	7.0	7.2	7.7	4.4	4.2	*3.2*	*2.9*
Human health and social work activities	7.4	7.7	7.4	7.6	7.5	7.7	7.3	*7.2*	*7.3*
Other services	7.3	6.5	7.4	7.6	8.2	9.0	10.5	*8.9*	*9.8*
Arts, entertainment and recreation	9.1	7.9	10.4	9.7	9.2	11.3	13.0	*12.1*	*13.2*
Other service activities	6.5	5.9	6.1	6.5	7.6	7.8	9.3	*7.3*	*8.1*
Substitution contract	1.0	1.0	0.9	1.1	0.9	1.0	1.0	*1.0*	*1.0*
Contract concluded for a specific project	0.2	0.1	0.1	0.2	0.2	0.2	0.1	*0.1*	*0.1*
By gender									
Men	60.7	60.7	60.9	59.3	58.8	58.0	57.0	*56.5*	*56.3*
Women	39.3	39.3	39.1	40.7	41.2	42.0	43.0	*43.5*	*43.7*

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)

	2003	2004	2005	2006	2007	2008	2009	*2009*	*2010*
	(total population)							*(reduced population)*	
Workers recorded in the staff register	**96.4**	**95.8**	**95.6**	**93.7**	**93.5**	**93.8**	**96.3**	***96.4***	***95.9***
Agency workers	**2.7**	**3.1**	**3.3**	**3.7**	**4.0**	**3.7**	**2.8**	***2.8***	***3.3***
Agriculture, forestry and fishing	5.8	7.2	5.2	8.0	7.8	8.3	8.6	*8.2*	*4.6*
Manufacturing, mining and quarrying and other industry	4.5	5.2	5.2	6.1	6.3	5.8	4.1	*4.3*	*5.6*
Mining and quarrying	3.1	2.3	2.5	2.8	3.2	3.4	2.2	*1.5*	*2.8*
Manufacturing	4.6	5.4	5.4	6.3	6.5	6.0	4.2	*4.4*	*5.8*
Electricity, gas, steam and air conditioning supply	1.2	1.2	2.5	1.5	1.7	1.4	1.6	*1.4*	*1.4*
Water supply; sewerage, waste management and remediation activities	5.5	5.6	5.5	6.4	6.7	6.3	5.5	*5.5*	*6.1*
Construction	1.2	1.2	1.6	2.0	2.1	2.1	1.8	*1.8*	*1.8*
Wholesale and retail trade, transport and storage, accommodation and food service activities	3.0	3.5	3.8	4.2	4.5	4.7	3.9	*3.8*	*4.2*
Wholesale and retail trade; repair of motor vehicles and motorcycles	3.5	3.8	3.9	4.4	4.5	4.4	3.8	*3.7*	*4.1*
Transport and storage	2.4	3.1	3.7	4.0	4.4	4.8	3.8	*3.7*	*4.0*
Accommodation and food service activities	4.0	3.9	4.2	6.1	7.7	7.1	5.5	*5.3*	*7.1*
Information and communication	1.8	2.1	2.4	2.7	3.1	3.1	2.5	*2.4*	*2.3*
Financial and insurance activities	0.8	0.7	0.8	0.9	1.0	0.9	0.6	*0.5*	*0.9*
Real estate activities	1.2	1.4	1.5	1.6	2.0	2.2	1.7	*1.6*	*1.3*
Professional, scientific, technical, administration and support service activities	2.5	3.0	3.1	3.7	4.2	3.8	2.9	*2.9*	*3.2*
Professional, scientific and technical activities	2.5	3.4	3.2	3.8	4.0	4.1	3.2	*3.4*	*3.9*
Administrative and support service activities[1]	2.5	2.7	3.0	3.7	4.3	3.4	2.6	*2.5*	*2.7*
Human health and social work activities	0.5	0.5	0.5	0.5	0.6	0.4	0.4	*0.4*	*0.4*
Other services	3.2	3.1	3.6	3.8	4.2	4.2	3.9	*4.0*	*5.1*
Arts, entertainment and recreation	3.3	3.6	4.2	4.1	3.7	3.9	3.4	*3.8*	*3.9*
Other service activities	3.1	2.8	3.3	3.7	4.4	4.4	4.2	*4.0*	*5.5*
Workers seconded to the firm[2]	**0.9**	**1.1**	**1.1**	**2.6**	**2.6**	**2.5**	**0.9**	***0.8***	***0.8***

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)							*Percentage change between 2009 and 2010 (reduced population)*
	2003	2004	2005	2006	2007	2008	2009	
Agriculture, forestry and fishing	31 105	32 055	31 375	31 020	30 748	31 748	32 604	*1.0*
Manufacturing, mining and quarrying and other industry	49 253	51 123	52 185	54 003	55 881	57 821	57 177	*4.1*
Mining and quarrying	45 836	46 199	46 711	48 001	50 644	52 557	52 776	*0.4*
Manufacturing	48 334	49 966	51 018	52 843	54 672	56 452	55 664	*4.1*
Electricity, gas, steam and air conditioning supply	83 553	85 459	86 430	89 656	91 875	97 968	92 604	*3.7*
Water supply; sewerage, waste management and remediation activities	44 932	46 635	48 305	48 195	49 256	51 426	52 917	*1.5*
Construction	36 766	37 955	38 154	39 338	40 417	42 457	43 022	*–0.5*
Wholesale and retail trade, transport and storage, accommodation and food service activities	40 438	41 531	42 815	44 084	45 340	47 296	48 703	*0.5*
Wholesale and retail trade; repair of motor vehicles and motorcycles	41 502	42 413	43 553	44 837	46 337	48 195	49 697	*0.7*
Transport and storage	41 404	42 986	44 736	46 127	47 154	49 551	50 806	*–0.0*
Accommodation and food service activities	27 485	28 228	28 701	29 525	30 040	31 726	33 443	*2.3*
Information and communication	57 969	59 675	60 085	62 105	63 688	66 331	68 218	*1.9*
Financial and insurance activities	65 471	67 713	69 337	71 243	73 315	77 353	78 229	*–0.1*
Real estate activities	40 175	41 817	41 957	43 360	44 012	46 087	47 262	*0.8*
Professional, scientific, technical, administration and support service activities	47 507	47 071	47 857	49 118	49 552	52 699	52 895	*0.5*
Professional, scientific and technical activities	57 649	56 766	57 318	58 797	59 958	63 507	64 205	*1.1*
Administrative and support service activities[2]	37 946	37 743	38 741	39 569	38 776	41 032	41 176	*–0.2*
Human health and social work activities	38 606	39 324	39 884	40 080	42 110	43 062	43 728	*1.6*
Other services	34 298	34 436	35 297	37 513	38 536	41 616	43 602	*2.0*
Arts, entertainment and recreation	37 734	36 887	37 859	40 224	41 538	43 671	47 018	*0.2*
Other service activities	32 802	33 401	34 157	36 241	36 995	40 598	41 910	*2.9*
Total	**45 298**	**46 488**	**47 509**	**48 542**	**49 961**	**51 889**	**52 229**	***1.4***

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)							*Percentage change between 2009 and 2010 (reduced population)*
	2003	2004	2005	2006	2007	2008	2009	
Agriculture, forestry and fishing	19.7	20.0	20.1	19.2	19.2	19.5	20.2	*0.4*
Manufacturing, mining and quarrying and other industry	32.7	33.4	34.4	35.5	36.7	38.2	39.5	*0.9*
Mining and quarrying	30.6	31.0	31.9	32.5	33.8	34.8	36.5	*0.1*
Manufacturing	32.0	32.5	33.6	34.7	35.9	37.3	38.6	*0.6*
Electricity, gas, steam and air conditioning supply	62.7	63.3	63.2	64.1	63.5	66.9	63.1	*2.8*
Water supply; sewerage, waste management and remediation activities	27.6	28.8	29.7	30.2	31.3	33.0	34.2	*1.7*
Construction	25.6	25.8	26.4	27.2	27.9	29.0	30.0	*0.6*
Wholesale and retail trade, transport and storage, accommodation and food service activities	25.0	25.8	27.1	27.9	28.8	30.0	31.3	*0.3*
Wholesale and retail trade; repair of motor vehicles and motorcycles	25.9	26.4	27.3	28.2	29.2	30.3	31.6	*0.4*
Transport and storage	24.9	26.6	28.7	29.5	30.2	31.9	33.2	*0.2*
Accommodation and food service activities	17.5	18.1	18.4	18.9	19.3	20.4	21.9	*1.7*
Information and communication	35.5	36.5	37.2	38.6	39.7	41.3	42.6	*1.7*
Financial and insurance activities	45.9	46.9	48.5	50.0	50.9	53.7	54.7	*–1.2*
Real estate activities	25.0	26.0	26.2	27.2	27.6	28.8	30.1	*1.0*
Professional, scientific, technical, administration and support service activities	29.5	29.3	30.1	30.9	31.0	33.0	33.8	*0.4*
Professional, scientific and technical activities	34.9	34.1	34.9	35.9	36.5	38.5	39.5	*1.0*
Administrative and support service activities [2]	24.1	24.3	25.1	25.7	25.0	26.6	27.4	*–0.2*
Human health and social work activities	25.2	25.8	26.7	27.1	28.3	28.9	29.9	*1.5*
Other services	21.8	22.1	22.4	24.0	24.5	26.5	27.9	*1.6*
Arts, entertainment and recreation	23.2	23.2	23.4	25.1	25.7	27.2	29.3	*0.8*
Other service activities	21.2	21.6	22.0	23.5	23.9	26.1	27.2	*2.1*
Total	**29.3**	**29.9**	**31.0**	**31.7**	**32.6**	**33.9**	**34.9**	***0.5***

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 2010 IN FIRMS FROM THE REDUCED POPULATION

	Number of 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	12.9	9.6	0.4	0.2	0.3	0.0	0.5	0.22	0.39	0.04	0.65
Manufacturing, mining and quarrying and other industry	46.7	26.5	1.3	0.8	0.7	0.1	1.7	1.24	0.70	0.05	1.99
Mining and quarrying	42.8	23.0	0.4	0.6	1.1	0.1	1.8	0.82	1.24	0.04	2.10
Manufacturing	44.7	26.9	1.2	0.8	0.8	0.1	1.7	1.07	0.73	0.05	1.85
Electricity, gas, steam and air conditioning supply	82.7	30.8	3.9	2.4	0.7	0.0	3.2	4.22	0.49	0.06	4.77
Water supply; sewerage, waste management and remediation activities	57.3	16.8	0.6	0.7	0.3	0.0	1.0	1.12	0.25	0.02	1.39
Construction	26.1	10.0	1.9	0.4	0.2	0.4	1.1	0.53	0.25	0.09	0.87
Wholesale and retail trade, transport and storage, accommodation and food service activities	34.8	18.5	0.8	0.8	0.3	0.2	1.2	1.21	0.31	0.03	1.55
Wholesale and retail trade; repair of motor vehicles and motorcycles	30.3	15.3	1.0	0.4	0.4	0.2	1.0	0.64	0.38	0.05	1.07
Transport and storage	45.0	26.6	0.4	1.4	0.2	0.0	1.7	2.16	0.22	0.01	2.38
Accommodation and food service activities	20.3	3.5	1.3	0.3	0.1	0.2	0.6	0.33	0.14	0.05	0.52
Information and communication	51.4	16.2	0.7	1.0	0.2	0.1	1.3	1.52	0.27	0.02	1.81
Financial and insurance activities	59.8	41.3	0.2	1.3	0.9	0.0	2.2	2.12	0.78	0.01	2.90
Real estate activities	15.5	8.7	2.0	0.2	0.1	0.1	0.5	0.24	0.15	0.05	0.44
Professional, scientific, technical, administration and support service activities	30.2	17.1	0.6	0.6	0.3	0.1	1.0	0.82	0.32	0.02	1.15
Professional, scientific and technical activities	31.9	16.7	0.9	0.7	0.2	0.1	1.0	0.87	0.26	0.03	1.15
Administrative and support service activities[6]	28.6	17.5	0.3	0.6	0.3	0.0	1.0	0.74	0.41	0.01	1.16
Human health and social work activities	48.6	29.4	0.7	1.0	0.4	0.2	1.6	0.92	0.43	0.15	1.51
Other services	18.3	10.5	1.0	0.4	0.2	0.2	0.8	0.45	0.16	0.05	0.65
Arts, entertainment and recreation	13.6	9.3	1.0	0.3	0.2	0.1	0.5	0.24	0.15	0.02	0.41
Other service activities	20.8	11.1	1.0	0.5	0.2	0.3	1.0	0.55	0.16	0.06	0.78
Total	**41.5**	**23.3**	**0.9**	**0.8**	**0.5**	**0.2**	**1.4**	**1.18**	**0.48**	**0.06**	**1.71**

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 2010 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	24	40	187	23.5	33.1	16.8
Manufacturing, mining and quarrying and other industry	26	40	121	60.7	38.5	17.7
Mining and quarrying	19	70	380	54.1	41.5	16.1
Manufacturing	25	41	135	55.2	38.4	16.7
Electricity, gas, steam and air conditioning supply	43	32	17	106.3	44.4	77.3
Water supply; sewerage, waste management and remediation activities	18	24	44	57.4	33.5	30.9
Construction	22	32	334	40.9	34.6	6.5
Wholesale and retail trade, transport and storage, accommodation and food service activities	31	23	251	51.2	33.2	6.9
Wholesale and retail trade; repair of motor vehicles and motorcycles	18	34	307	52.6	32.8	6.8
Transport and storage	45	11	90	51.5	35.2	10.2
Accommodation and food service activities	17	43	174	26.2	25.7	5.8
Information and communication	28	23	174	68.4	47.6	8.0
Financial and insurance activities	28	29	107	92.3	47.8	20.5
Real estate activities	22	22	88	32.2	34.6	13.4
Professional, scientific, technical, administration and support service activities	29	23	143	44.4	37.9	11.4
Professional, scientific and technical activities	31	22	123	53.0	41.6	13.6
Administrative and support service activities[5]	26	23	194	34.5	34.9	7.6
Human health and social work activities	23	16	371	28.6	32.8	20.6
Other services	29	23	317	34.1	27.2	5.7
Arts, entertainment and recreation	26	26	118	27.1	24.4	7.2
Other service activities	30	21	421	36.1	28.8	5.5
Total	**26**	**26**	**229**	**52.3**	**37.7**	**12.7**

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

	2003	2004	2005	2006	2007	2008	2009	*Percentage change between 2009 and 2010*
	(total population)							*(reduced population)*
Part-time work (in % of employment as at 31 December)								
Single-region firms	24.3	25.0	25.1	26.7	27.0	27.8	29.7	*1.1*
Brussels	22.0	22.7	22.7	23.3	24.8	25.5	28.0	*1.0*
Flanders	24.5	25.4	25.6	27.4	27.2	28.1	29.6	*1.3*
Wallonia	24.7	24.9	25.1	26.6	27.3	28.2	30.8	*0.7*
Multi-region firms	25.6	26.6	28.5	29.4	30.1	30.5	32.9	*1.5*
Total	**24.7**	**25.4**	**26.0**	**27.4**	**27.8**	**28.5**	**30.4**	***1.2***
Temporary work [1] (in % of employment as at 31 December)								
Single-region firms	6.1	6.1	6.3	6.9	6.8	7.0	6.6	*5.6*
Brussels	5.8	6.2	5.8	6.1	6.9	6.6	6.6	*1.8*
Flanders	5.0	5.0	5.3	5.9	5.6	5.5	5.0	*7.1*
Wallonia	9.1	9.0	9.0	9.6	9.7	10.6	10.5	*4.3*
Multi-region firms	6.1	6.0	6.0	5.8	5.8	5.4	4.9	*–1.3*
Total	**6.1**	**6.1**	**6.2**	**6.6**	**6.5**	**6.6**	**6.2**	***4.1***
Agency work in firms filing full-format accounts (in % of average FTE employment)								
Single-region firms	3.1	3.6	3.8	4.4	4.7	4.2	3.2	*18.2*
Brussels	2.3	2.5	2.7	2.7	3.3	2.5	2.6	*18.7*
Flanders	3.2	3.8	4.1	4.8	4.9	4.5	3.3	*19.5*
Wallonia	3.3	3.6	3.8	4.4	4.5	4.3	3.3	*14.3*
Multi-region firms	2.0	2.2	2.3	2.4	2.7	2.7	2.0	*19.2*
Total	**2.7**	**3.1**	**3.3**	**3.7**	**4.0**	**3.7**	**2.8**	***18.7***

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

	2003	2004	2005	2006	2007	2008	2009	*Percentage change between 2009 and 2010*
	(total population)							*(reduced population)*
Hours worked per FTE (units, per year)								
Single-region firms	1 552	1 566	1 549	1 547	1 548	1 546	1 509	*1.0*
Brussels	1 587	1 597	1 577	1 574	1 590	1 588	1 563	*0.4*
Flanders	1 554	1 573	1 554	1 553	1 552	1 547	1 508	*1.3*
Wallonia	1 530	1 534	1 525	1 520	1 522	1 525	1 487	*0.4*
Multi-region firms	1 528	1 514	1 486	1 482	1 488	1 488	1 456	*0.5*
Total	**1 545**	**1 552**	**1 532**	**1 530**	**1 532**	**1 531**	**1 497**	***0.9***
Staff costs per FTE (in €, per year)								
Single-region firms	42 763	44 058	45 054	45 819	47 450	49 138	49 778	*1.7*
Brussels	51 031	52 710	53 685	53 857	56 080	58 824	59 169	*1.5*
Flanders	42 777	43 961	45 053	45 939	47 684	49 301	49 945	*1.7*
Wallonia	38 691	40 205	41 167	42 110	43 252	44 714	44 901	*1.7*
Multi-region firms	51 721	53 458	54 324	56 051	57 046	59 723	60 263	*1.0*
Total	**45 298**	**46 488**	**47 509**	**48 542**	**49 961**	**51 889**	**52 229**	***1.4***
Staff costs per hour worked (in €)								
Single-region firms	27.6	28.1	29.1	29.6	30.6	31.8	33.0	*0.7*
Brussels	32.2	33.0	34.0	34.2	35.3	37.0	37.9	*1.1*
Flanders	27.5	28.0	29.0	29.6	30.7	31.9	33.1	*0.4*
Wallonia	25.3	26.2	27.0	27.7	28.4	29.3	30.2	*1.2*
Multi-region firms	33.8	35.3	36.6	37.8	38.3	40.1	41.4	*0.5*
Total	**29.3**	**29.9**	**31.0**	**31.7**	**32.6**	**33.9**	**34.9**	***0.5***

Source: NBB (social balance sheets).

Annex 13

FORMAL TRAINING BY REGION[1]

	2003	2004	2005	2006	2007	2008	2009	*Percentage change between 2009 and 2010*
	(total population)							*(reduced population)*
Participants in training activities (in % of average employment)								
Single-region firms	26.6	27.1	27.5	27.1	27.5	26.6	28.5	*3.8*
Brussels	27.8	28.9	27.7	27.3	28.1	25.8	28.9	*10.4*
Flanders	29.0	29.2	29.6	28.7	29.4	27.7	29.6	*3.4*
Wallonia	19.7	21.0	22.1	22.8	22.6	24.2	25.4	*1.8*
Multi-region firms	56.6	61.4	60.8	61.9	61.7	54.7	57.3	*3.3*
Total	**35.0**	**35.9**	**36.3**	**36.2**	**36.4**	**33.8**	**35.2**	***3.3***
Hours devoted to training activities (in % of hours worked)								
Single-region firms	0.56	0.53	0.54	0.54	0.56	0.50	0.54	*1.7*
Brussels	0.59	0.49	0.55	0.56	0.52	0.50	0.56	*2.7*
Flanders	0.62	0.59	0.58	0.57	0.58	0.53	0.57	*0.7*
Wallonia	0.38	0.39	0.44	0.44	0.50	0.42	0.45	*4.2*
Multi-region firms	1.31	1.31	1.29	1.43	1.58	1.43	1.46	*–10.1*
Total	**0.77**	**0.73**	**0.73**	**0.77**	**0.82**	**0.73**	**0.75**	***–4.2***
Net training costs[2] (in % of staff costs)								
Single-region firms	0.75	0.73	0.73	0.71	0.72	0.71	0.69	*6.9*
Brussels	0.73	0.63	0.70	0.70	0.70	0.67	0.69	*11.5*
Flanders	0.85	0.82	0.77	0.74	0.74	0.73	0.69	*4.5*
Wallonia	0.48	0.56	0.60	0.61	0.67	0.66	0.68	*10.5*
Multi-region firms	2.08	2.07	2.06	2.28	2.41	2.18	2.09	*–3.0*
Total	**1.18**	**1.13**	**1.13**	**1.19**	**1.23**	**1.15**	**1.06**	***0.9***
Training firms (in % of all firms)								
Single-region firms	6.3	6.3	6.1	6.3	6.4	12.8	14.1	*3.3*
Brussels	6.6	6.9	6.6	7.0	7.0	12.5	14.1	*7.6*
Flanders	7.1	6.9	6.8	6.9	7.0	12.7	13.9	*1.7*
Wallonia	4.4	4.4	4.3	4.6	4.8	13.1	14.5	*5.4*
Multi-region firms	42.8	43.5	44.8	43.6	41.9	50.9	61.2	*4.8*
Total	**7.0**	**6.7**	**6.6**	**6.8**	**6.9**	**13.3**	**14.6**	***3.3***

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.

Summaries of articles

Economic projections for Belgium – Autumn 2011

The economic and financial environment has become much gloomier in recent months, with the slowdown in activity and international trade, the dramatic worsening of the sovereign debt crisis in the euro area and its impact on financial institutions, and the plummeting confidence of business leaders and consumers.

The prospects for the euro area have therefore been sharply downgraded since all the main categories of demand are likely to contribute to the weakness of activity, including public expenditure on consumption and investment in the countries implementing fiscal consolidation measures.

In Belgium, during the summer of 2011, the deterioration in the external environment, the rising financial tensions and the accompanying heightened uncertainty halted the recovery apparent since mid-2009. According to the NAI's flash estimates, GDP stagnated in the third quarter and growth is expected to remain close to zero at the end of the year and in early 2012. Activity is expected to pick up thereafter, but the revival is likely to be modest. GDP growth is estimated at 2 % in 2011 and 0.5 % in 2012. These figures have been revised downwards by 0.6 and 1.8 percentage points respectively since the projections published in June.

The slowdown in activity has brought a marked reduction in job creation, even though the figures are still supported by the expansion in the number of persons employed under the service voucher system and in the health sector and other non-market services. In net terms, the increase in the number of persons employed is expected to fall from around 56 000 units in the course of 2011 to 5 000 in 2012. The declining trend in unemployment, down from 8.5 % in the spring of 2010 to 6.6 % in October 2011, will be reversed in 2012. On average, the harmonised unemployment rate is put at 7 % for that year.

While the recovery of GDP gradually spread to all factors of demand up to the second quarter of 2011, the resurgence of financial tensions and the widespread deterioration in the business climate and the outlook will probably affect both exports and demand for household consumption and private investment.

The rise in energy prices has propelled overall inflation to more than 3 % since the beginning of 2011. Taking account of the assumption of a slight dip in oil prices compared to the previous year, inflation should gradually subside during 2012. As an annual average, inflation is forecast at 3.5 % in 2011 and 2.4 % in 2012, which will fuel the rise in labour costs.

The projections for public finances presented in this article do not go beyond 2011, since the budgetary agreement concluded on 26 November 2011 in connection with the formation of the

federal government came after the cut-off date for the projections. Public finances are expected to record a deficit of 4.2 % of GDP at the end of 2011. The government debt ratio has increased as a result of the loans contracted by the Belgian State to finance the purchase of Dexia Bank Belgium and by the loans granted to Greece, Ireland and Portugal. It is set to rise from 96.2 % of GDP in 2010 to 97.7 % in 2011.

JEL codes: E17, E25, E37, E66

Key words: Belgium, macroeconomic projections, Eurosystem

Public sector wages

Remuneration paid by public administrations in Belgium amounted to one-quarter of their primary expenditure in 2010. Because current conditions call for fiscal consolidation, it is important to examine whether this component of spending could be a source of budget savings, including by adjusting wages.

The article focuses principally on wage gaps between the public sector and the private sector. The authors are especially interested in the situation in Belgium as compared with those of nine other euro area countries (Germany, Austria, Spain, France, Greece, Italy, Ireland, Portugal and Slovenia), a study of which using microeconomic data was recently completed.

In most of the countries analysed, wages are higher in the public sector than in the private sector, regardless of whether macroeconomic or microeconomic data are used. With the former, it is not possible to consider differences in the characteristics of the populations working in each of the two sectors. Indeed, the public sector – notably in Belgium – is more composed of women, older workers, and those with a higher level of education, but public sector employees work fewer hours and are less likely to occupy a managerial position. To take these factors – gender, seniority or age, education level, and managerial duties – into consideration when comparing wages between the two sectors, microeconomic data from the EU-SILC survey were used. The observations the authors were able to make based on the microeconomic and macroeconomic data overwhelmingly corroborate each other.

The analysis shows that the countries where the average wage gap is the biggest in favour of the public sector are also the countries experiencing the toughest budget woes.

In most of the countries studied, the salary advantage enjoyed by public sector workers holds for every sub-set of workers, although to differing extents. For example, wage gaps are the widest for women, for lower levels of income, for those who do not have supervisory functions, and in the branches of administration and education. The impact of education level on wage gaps varies from one country to the next.

The wage gap between sectors in Belgium is one of the narrowest of any country studied, regardless of what data are used. According to macroeconomic data, it slightly favours the private sector. According to microeconomic data, in which wages are adjusted to control for individual characteristics, for many groups of workers the gaps are so limited that they are not statistically significant.

JEL codes: H59, J31, J45

Key words: public expenditure, wages

The distributive trade sector and its impact on euro area prices

At a time of a consolidation and an increasing internationalisation of the distributive trade sector, three major phenomena have been simultaneously altering the structure of euro area trade for several years now : the success of hard discounters, the emergence of private-label products, and the growth in online shopping. All three tend to exert downward pressure on price levels. Whereas the first two factors are particularly pronounced in Belgium, online shopping is less of a factor.

There have been no significant competition anomalies uncovered in the sector in Belgium. Retailers are not particularly concentrated at either the local or national level. And yet, despite improvements in recent years, Belgian regulation of the sector remains very invasive and could discourage the opening of new points of sale.

Given the impact of the distributive trade sector's structural characteristics on price-setting behaviour, and the differences in price levels within each country and between euro area countries, structural reforms are needed to enhance competition and take better advantage of the common market. However, even though harmonising regulations and eliminating implicit barriers should help lessen differences within the euro area, some differences are unavoidable due to consumer preferences and cultural differences from one country to the next, and even regionally.

JEL codes : L81, K23, L11, D40

Key words : retail, regulation, competition, market structure, pricing

International trade in services

Service activities hold an ambiguous position in the economy. Although they represent a dominant share of activity and employment, they have only a minor position in international trade. Generally speaking, trade in services has therefore attracted less interest than trade in goods in the context of competitiveness policy, and economic research has paid less attention to it.

Yet despite the low gross volume of international trade in services, the services balance has grown in Belgium over the past fifteen years. Compensating in part for the deteriorating balance of trade in goods, net exports of services have gradually become the primary driver of the current account balance.

Belgium's central position in the European economic fabric is one of the main contributory factors in the good performance of Belgium's trade in services. This has led to the development of trade and logistics services, particularly thanks to the importance of the port of Antwerp in maritime traffic. Given its central position combined with the quality of its human capital, Belgium is also the location for the headquarters of the European institutions and several multinational bodies, and that is another decisive factor in the growth of service exports.

However, Belgium's good general performance in trade in services is not seen in all service categories. In particular, services connected with information and communication technologies have not grown particularly strongly. Yet these services constitute a growth catalyst that could benefit the whole economy, and the human capital needed for such a development is available in Belgium.

JEL codes : F14, D22

Key words : services, competitiveness, market share, transport, services for public authorities, business services

Financial structure and results of firms in 2010

The article looks at the financial situation of non-financial corporations in Belgium over the period from 1 January to 31 December 2010. After briefly describing the methodology and the population studied, it presents an extrapolation of the main operating result items for 2010. It then assesses the financial situation of companies as regards profitability and solvency. Since last year, the scope of this assessment has been widened to cover the entire population, examining not only the medians but also the first and third quartiles and the tenth and ninetieth percentiles. Moreover, the results of the financial health model developed by the Bank are also reported. Finally, section 4 presents a regional analysis of the data.

JEL codes: D39, G30, G33, L60, L80

Key words: firms' results, financial structure, bankruptcy risk, sectoral analysis, distribution analysis

The 2010 social balance sheet

The economic recovery which followed the Great Recession of 2008 was reflected in a 0.5 % average increase in the workforce according to the social balance sheets used for the analysis of the year 2010. That expansion gathered pace during the year to 1 %, pointing to the usual time lag between the revival of activity and the actual recruitment of new staff. The growth in the number of temporary workers was particularly strong, as was the rise in the number of agency staff. SMEs proved considerably more dynamic than large firms in terms of job creation. At regional level, the expansion of employment was stronger in Wallonia than in Brussels and Flanders. In Wallonia, almost all branches of activity contributed to the job creation, but the health and social work branch accounted for the largest share. In Brussels, it was mainly the information and communication branch and the health sector that supported the employment growth. In Flanders, the contraction of employment in trade and transport, information and communication, and especially industry was counterbalanced by the expansion in the health sector.

In 2010, firms invested more in formal and informal training for their workers, who also participated in such training in greater numbers. Conversely, both the amount spent and the number of participants were in decline in the case of initial training (alternating study and work experience) – which remains marginal. Firms operating in more than one Region are considerably larger than the average and proportionately more numerous to report training activities in their social balance sheet. Moreover, there are evident differences in training policy between firms located exclusively in Brussels, Flanders or Wallonia.

The health and social work branch, which has been growing steadily for a number of years, was analysed separately. Over half of the workers in this sector, of whom 80 % are female, work part-time. The percentage of temporary contracts is above the average, and substitution contracts account for a third of them. Conversely, agency work is less common. The level of staff costs varies considerably within this branch, while remaining below the average. Finally, workers in the health and social work branch have broad access to training, but the training provided is less expensive and of shorter duration than in other branches of activity.

JEL codes: J20, J24, J30, M51, M53, M55

Key words: employment, health and social work, social balance sheet, staff costs, training, employment contract, full-time, part-time, temporary worker

Abstracts from the Working Papers series

216. Verti-zontal differentiation in monopolistic competition, by F. Di Comite, J-F. Thisse, H. Vandenbussche, October 2011

The recent availability of trade data at a firm-product-country level calls for a new generation of models able to exploit the large variability detected across observations. By developing a model of monopolistic competition in which varieties enter preferences non-symmetrically, the authors show how consumer taste heterogeneity interacts with quality and cost heterogeneity to generate a new set of predictions. Applying their model to a unique micro-level dataset on Belgian exporters with product and destination-market information, they find that heterogeneity in consumer tastes is the missing ingredient of existing monopolistic competition models necessary to account for observed data patterns.

217. The evolution of Alexandre Lamfalussy's thought on the international and European monetary system (1961-1993), by I. Maes, November 2011

The establishment of the European Monetary Institute, the predecessor of the European Central Bank, on 1 January 1994, was a milestone in the process of European monetary integration. The author looks at the work on the international and European monetary system of Alexandre Lamfalussy, its first President. Lamfalussy pursued a threefold career: as a private banker, a central banker and an academic. Partly under the influence of Robert Triffin, Lamfalussy soon became interested in international monetary issues. The author analyses his views on the international monetary system and on European monetary integration, including his contributions to the Delors Report, which provided the framework for European Monetary Union. He draws extensively on archival research in the Lamfalussy papers at the Bank for International Settlements and the minutes of the European Economic Community Committee of Governors' meetings. The paper provides not only an analysis of Lamfalussy's thought on European monetary integration, but also offers crucial insight into the *Weltanschauung* and way of thinking of European central bankers in this period.

Conventional signs

_	the datum does not exist or is meaningless
e.g.	for example
i.e.	*id est*
p.m.	pro memoria

List of abbreviations

Countries or regions

BE	Belgium
DE	Germany
EE	Estonia
IE	Ireland
EL	Greece
ES	Spain
FR	France
IT	Italy
CY	Cyprus
LU	Luxembourg
MT	Malta
NL	Netherlands
AT	Austria
PT	Portugal
SI	Slovenia
SK	Slovakia
FI	Finland
EA	Euro area
BG	Bulgaria
CZ	Czech Republic
DK	Denmark
LV	Latvia
LT	Lithuania
HU	Hungary
PL	Poland
RO	Romania
SE	Sweden
UK	United Kingdom
EU-15	European Union, excluding the countries which joined after 2003
EU-25	European Union, excluding the countries which joined in 2007
CH	Switzerland

NO	Norway
US	United States

Others

BEA	Bureau of Economic Analysis (US Department of Commerce)
CBS	Centraal bureau voor de Statistiek (Netherlands)
CEC	Central Economic Council
CEFA	Centres of alternating education and training
CEIC	CEIC Macroeconomic Databases For Emerging and Developed Markets
CPB	Centraal Planbureau (Netherlands)
CPI	Consumer Price Index
CR	Concentration ratio
CSEND	Comité socio-économique pour la distribution (Social and Economic Committee for the Distribution Sector)
DESTATIS	Statistisches Bundesamt Deutschland (Federal Statistical Office of Germany)
DGSEI	Directorate General for Statistics and Economic Information (Belgium)
ECB	European Central Bank
EC	European Commission
EDP	Excessive Deficit Procedure
EPL	Employment protection legislation
ESA	European System of Accounts
EU	European Union
EU-SILC	European Union - Statistics on Income and Living Conditions
FDI	Foreign direct investment
Federgon	Federation of HR Partners
FISIM	Financial intermediation services indirectly measured
Forem	Walloon Job-finding and Vocational Training Service
FPB	Federal Planning Bureau
FPS	Federal Public Service
FTE	Full-time equivalents
GATS	General Agreement on Trade in Services
GDP	Gross domestic product
HHI	Herfindahl-Hirschman index
HICP	Harmonised index of consumer prices
IMF	International Monetary Fund
INSEE	National Institute of Statistics and Economic Studies (France)
IPN	Inflation Persistence Network
LFS	Labour Force Survey
Libor	London Interbank Offered Rate
LOOP	Law of one price
NACE	Nomenclature of economic activities in the European Community
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
NSSO	National Social Security Office
OECD	Organisation for Economic Cooperation and Development
OIS	Overnight Index Swap
PMR	Product market regulation
PPP	Purchasing power parity
SBS	Structural business statistics
SIR	Structural Issues Report
SME	Small and medium-sized enterprise
S.13	General government sector in accordance with ESA 95
UKCC	United Kingdom Competition Commission
UNCTAD	United Nations Conference on Trade and Development
VAR	Vector Auto Regression
VAT	Value added tax
VDAB	Vlaamse dienst voor arbeidsbemiddeling en beroepsopleiding (Flemish Job-finding and Vocational Training Service)
WTO	World Trade Organization

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