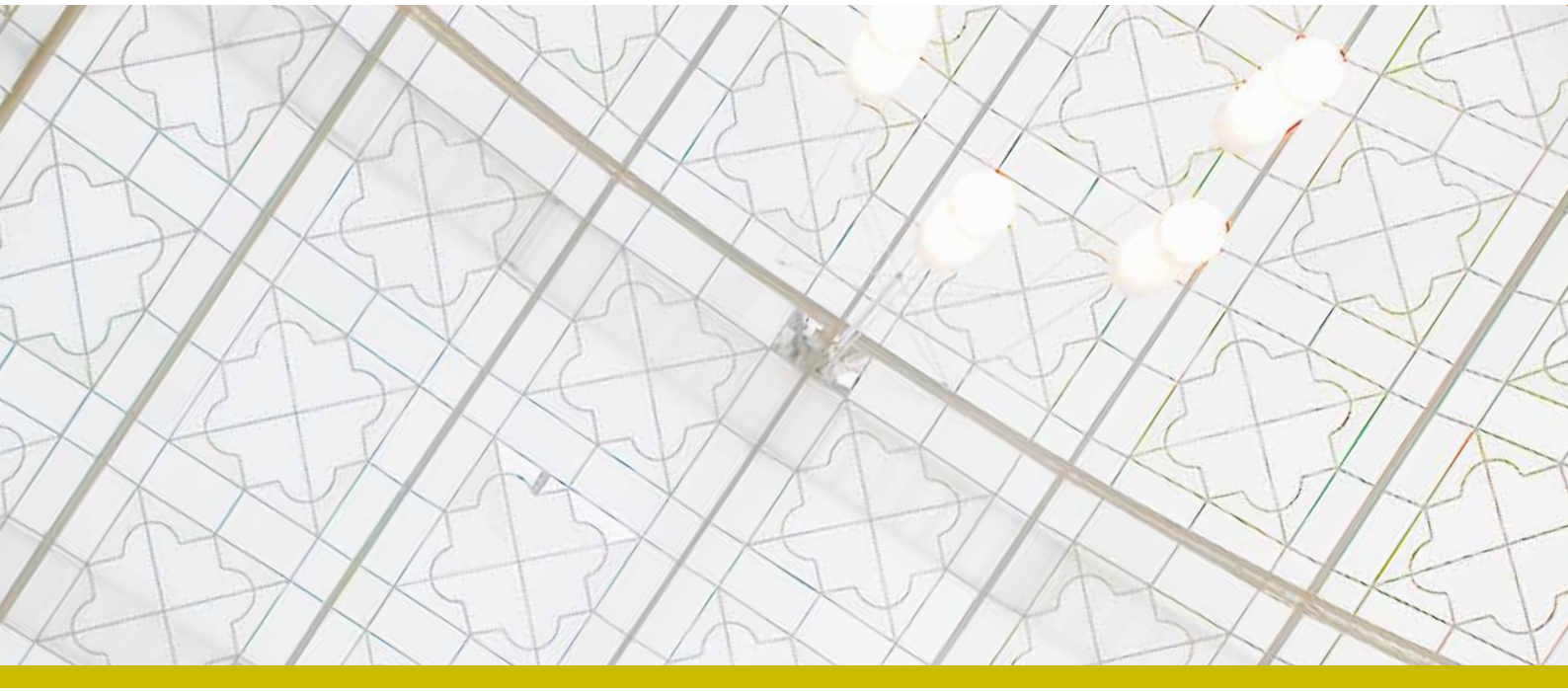
Economic Review

December 2010



National Bank OF BELGIUM
Eurosystem

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Economic projections for Belgium – Autumn 2010

Introduction

In the autumn of 2010, the economic recovery which began just over a year ago is now at a crossroads. It is true that the global strengthening of world economic activity was maintained during the first part of the year, thanks to accommodating economic policies and some easing of the financial tensions. The emerging economies of Asia and Latin America were particularly dynamic, making a major contribution to the strong revival of international trade. However, after the initial rebound, the real challenge now is to ensure that the recovery maintains its vitality endogenously without the support of new fiscal stimuli.

In some economies, the imbalances which had accompanied and exacerbated the financial crisis and the economic recession of 2008-2009 have not yet been rectified. For instance, the process of debt reduction which numerous players across the world have to undertake simultaneously has not yet been completed. That applies, for example, to the private sector in the countries where a property bubble burst, principally the United States and certain European countries. The reorganisation of the financial sector must also continue, since the situation of certain banking institutions remains fragile. In addition, the government measures to stem the financial crisis and the slump in activity led to a severe deterioration in public finances, requiring substantial consolidation measures. Finally, the economic crisis has revealed specific competitiveness problems in some euro area countries, giving rise to wide variations in performance within the euro area.

Against that backdrop, while monetary policies remain accommodating, it is generally expected that activity will continue to expand in the advanced economies, though reverting to a weaker growth rate than at the beginning of the year. In particular, in the Eurosystem's six-monthly projections, of which the results for the euro area were published in the December 2010 ECB Bulletin, GDP growth for this year was revised upwards in relation to the spring in view of favourable figures for the first two quarters. However, a slight slowdown is expected in 2011.

In Belgium, too, the recent figures for activity and especially employment have been better than had been forecast in the previous projections, including the one presented in June 2010. In the absence of major structural imbalances, the Belgian economy was able to take advantage of the recovery in global demand, while the waning uncertainty over job prospects and the financial situation bolstered consumption via a reduction in households' precautionary savings. Thus, GDP growth again outpaced that in the euro area, although the outlook for 2011 still depends very much on the international environment.

The results presented briefly in this article are based on the information available as at 19 November 2010. They were drawn up on the basis of the common assumptions for the Eurosystem, the main ones being described in the box in the first section. As is usual in the case of public finances, these projections only take account of measures which have been formally approved by the authorities and specified in sufficient detail.

1. International environment and assumptions

Encouraged by fiscal and monetary policies which remained accommodating, the global revival in activity and trade which had begun in mid-2009 continued and became more widespread during the first half of 2010. However,

the revival varied in strength. In particular, having come out of the crisis without excessive debts, the emerging countries of Asia and Latin America were the driving force behind that consolidation. By early in 2010, their international trade in goods exceeded the level achieved in 2008 before the great recession. The advanced economies also started to recover, although at a slower pace. After a very strong initial rebound, attributable partly to the replenishment of inventories which had been reduced to very low levels, and to the impetus provided by measures to support demand during the crisis, there have recently been signs of some loss of momentum.

These developments were also reflected in the indicators which measure the worldwide business climate. Those indicators had plummeted, but during 2009 and early 2010 there was a very marked recovery, in a context of ebbing financial tensions and an improvement in the demand outlook for firms. That restored the indicators to values close to their long-term average. Their level implies that activity will continue to expand in the short term, even if the pace slows.

At the same time, the more sustained demand originating mainly from the emerging economies fuelled a commodity price rise. The price per barrel of Brent expressed in US dollars doubled between the end of 2008 and the beginning of 2010, before stabilising at around $ 80. Prices of agricultural commodities on the international markets increased by around 40 % compared to the low levels reached at the height of the crisis, and metal prices were up by 120 %.

In the euro area, the commodity price rise was reinforced in the first half of 2010 by the euro's depreciation against the US dollar. At that time, the recovery was weaker in Europe than in the United States, and the severe problems facing some countries on the government bond markets added to the anxiety. However, the second quarter brought better results in some euro area countries, in the wake of Germany's performance. At the same time, attention switched to the difficulties which the American economy was experiencing in maintaining its recovery without new fiscal stimuli, as those applied in the preceding two years had placed a serious burden on public finances. In the absence of any improvement on the jobs and property markets, the US recovery is still not soundly based. Moreover, that situation prompted the Federal Reserve to decide on substantial new injections of liquidity. In that context, the dollar depreciated against most other currencies, including the euro.

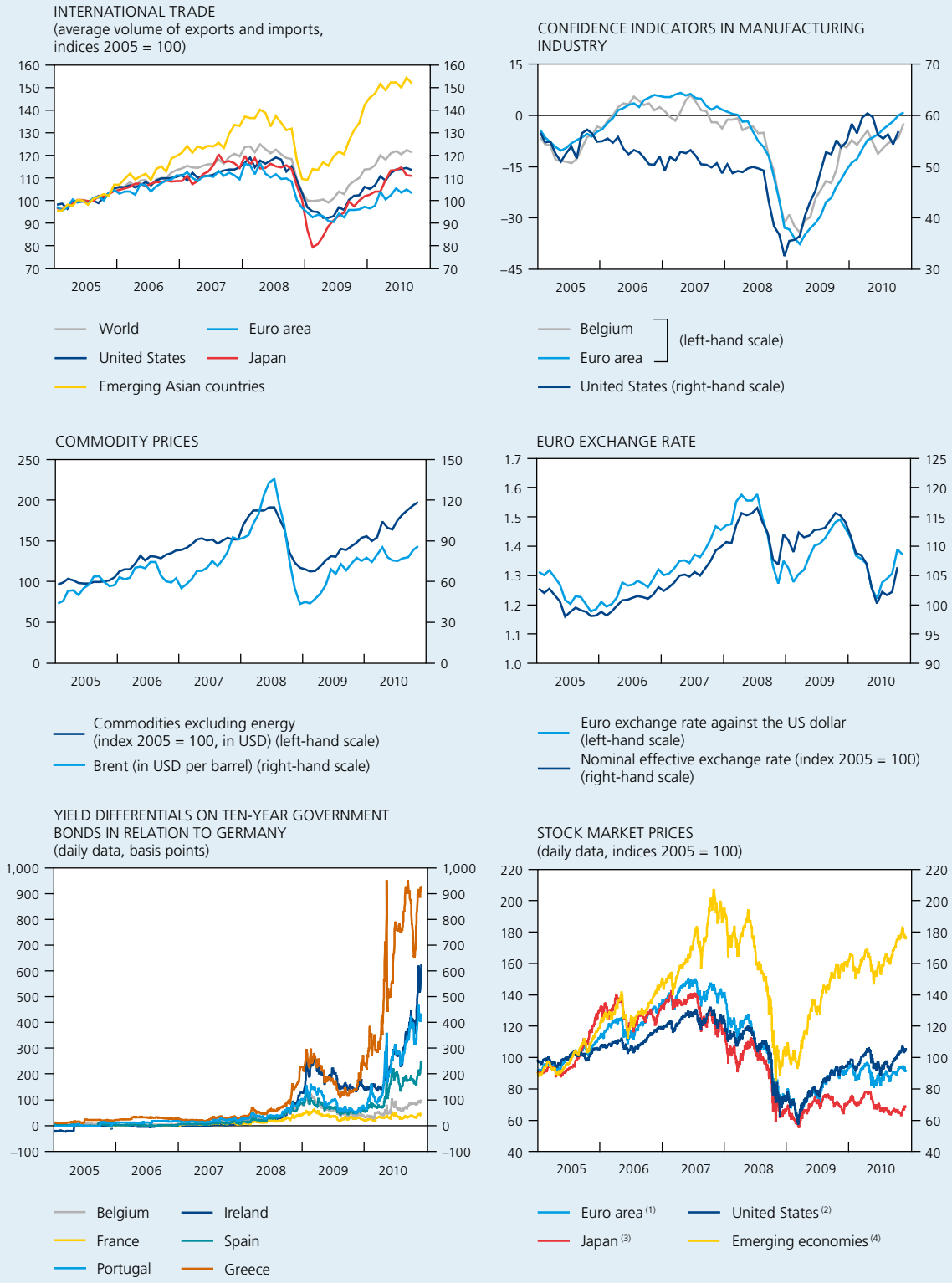
The stronger growth recorded in the euro area in the second quarter of 2010 is due partly to a revival in construction activity, which had been held back by bad weather during the winter. Apart from that temporary effect, growth was stimulated mainly by Germany's export performance and increasingly by its domestic demand. German GDP was 2.3 % up in the second quarter, encouraging activity in neighbouring countries. Conversely, the structural imbalances afflicting some countries on the periphery of the euro area were highlighted and worsened by the financial crisis and the economic recession. Depending on the case, this concerned the general competitiveness of the economy, excessive private sector debt levels – particularly following the bursting of a property bubble – or, more specifically, a banking sector in a seriously compromised debt position. This situation was a threat to the sustainability of the fiscal and financial position of the public sector, reflected in a dramatic increase in the spreads on government bonds issued by those countries. Following the Greek crisis in April and May 2010, mechanisms were set up by the European Union, the ECB and the IMF to offer emergency assistance. Nonetheless, the adjustments which are absolutely essential in order to ensure a fundamental improvement in these situations are depressing demand and activity in the economies concerned, and will continue to do so in the medium term, leading to wider divergences in performance between the euro area partners.

The resurgence of financial tensions in Europe and, more generally, the difficult transition from a cyclical upturn underpinned by temporary stimuli to a self-perpetuating recovery, particularly in the United States, curbed the rise of stock market prices in the advanced economies. However, between March 2009 and April 2010, almost 40 % of the losses recorded during the financial crisis were made good in the euro area, and almost 2/3 in the United States.

Against that background, forecasters generally expect activity to continue expanding in the advanced economies during the coming quarters, but at a slower pace than during the initial phase of the recovery. The emerging Asian economies are predicted to maintain vigorous growth. In all, according to the latest EC forecasts, global GDP is expected to grow by 4.5 % in 2010 and 3.9 % in 2011, after a 0.7 % contraction in 2009. In the United States, the rate of expansion is forecast at only 2.7 % in 2010 and 2.1 % in 2011, with 1.8 % and 1.7 % in the European Union, while growth is projected at around 10 % in China and 8.5 % in India.

CHART 1 FINANCIAL MARKET DEVELOPMENTS, BUSINESS CONFIDENCE AND INTERNATIONAL TRADE

(monthly averages, unless otherwise stated)



Sources: BIS, CPB, HWWI, Thomson Reuters Datastream.
(1) Dow Jones Euro Stoxx Broad index
(2) Wilshire 5000 index.
(3) Topix index.
(4) MSCI Emerging Markets index

TABLE 1 PROJECTIONS FOR THE MAIN ECONOMIC REGIONS

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

	2009	2010	2011
	Actual figures	Projections	
GDP in volume			
World	–0.7	4.5	3.9
of which:			
United States	–2.7	2.7	2.1
Japan	–5.2	3.5	1.3
European Union	–4.2	1.8	1.7
China	8.7	10.5	9.2
India	7.4	8.5	8.3
Russia	–7.9	3.5	3.8
Brazil	–0.2	7.4	4.8
p.m. World imports	*–13.1*	*12.1*	*7.1*
Inflation (1)			
United States	–0.4	1.6	1.1
Japan	–1.4	–0.9	–0.7
European Union	1.0	2.0	2.1
Unemployment (2)			
United States	9.3	9.6	9.4
Japan	5.1	5.1	4.9
European Union	8.9	9.6	9.5

Source: EC (autumn forecasts, November 2010).
(1) Consumer price index.
(2) Percentages of the labour force.

Activity in the euro area is likely to continue to be supported by foreign demand – particularly demand from the emerging economies – and the effect of the accommodating monetary policy. Conversely, the fiscal stimuli are set to disappear and give way to consolidation efforts. Thus, after a 1 % increase in the second quarter of 2010, GDP growth is expected to slow down at the end of the year and in early 2011, while remaining positive. According to the new Eurosystem projections, GDP growth is forecast at between 1.6 and 1.8 % in 2010 and between 0.7 and 2.1 % in 2011, following a 4.1 % fall in 2009. As is generally the case after a financial crisis, the strength of the recovery will be modest compared to the scale of the recession. However, as activity continues to gain ground, it should receive greater support from domestic demand.

Inflation is projected at between 1.5 and 1.7 % in 2010 and between 1.3 and 2.3 % in 2011. It rose sharply during 2010, from an annual average of 0.3 % last year to 1.9 % in October, driven by energy prices. That effect is likely to diminish in 2011, while domestic pressures will gradually increase in parallel with the improvement in the economic situation. However, they will remain moderate as production capacity is not yet being fully used.

TABLE 2 EUROSYSTEM PROJECTIONS

(percentage changes compared to the previous year)

	Euro area			*p.m. Belgium*		
	2009	2010	2011	*2009*	*2010*	*2011*
Inflation (HICP)	0.3	1.5 / 1.7	1.3 / 2.3	*0.0*	*2.3*	*2.1*
GDP in volume	–4.1	1.6 / 1.8	0.7 / 2.1	*–2.7*	*2.1*	*1.8*
of which:						
Private consumption	–1.1	0.6 / 0.8	0.4 / 1.4	*–0.2*	*1.4*	*1.4*
Public consumption	2.4	0.5 / 1.3	–0.8 / 0.6	*0.4*	*1.6*	*1.4*
Investment	–11.3	–1.4 / –0.6	–0.5 / 3.1	*–4.9*	*–2.0*	*2.1*
Exports	–13.1	9.9 / 11.7	3.7 / 8.7	*–11.4*	*10.3*	*4.8*
Imports	–11.8	8.2 / 9.8	2.6 / 7.6	*–10.9*	*9.0*	*4.2*

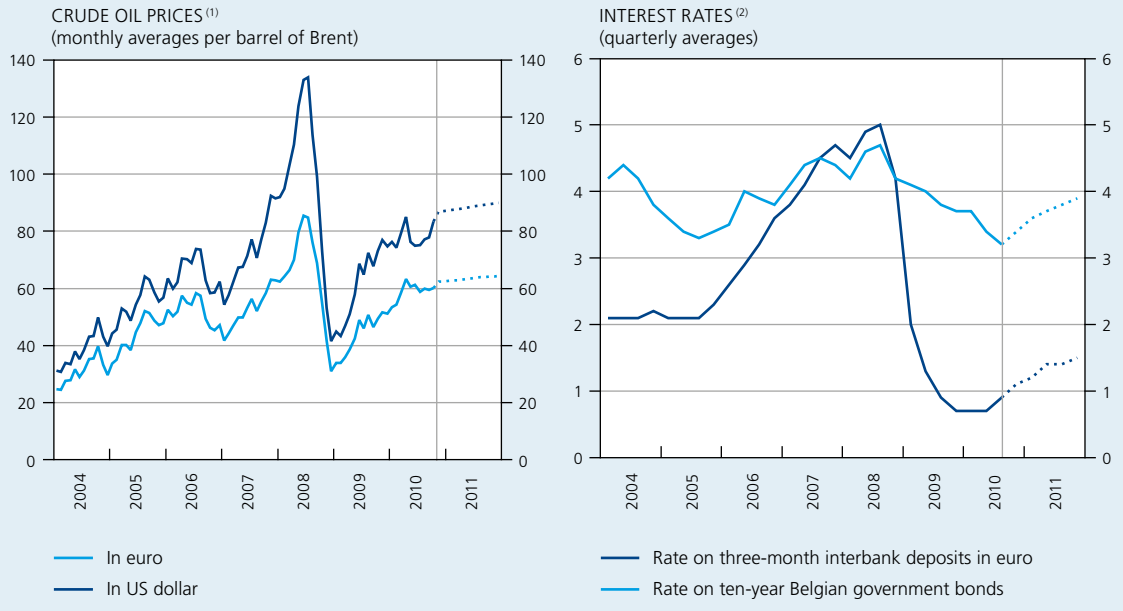
Sources: ECB, NBB.

Box – Assumptions adopted for the projections

Produced as part of a joint exercise, the economic projections for the euro area and the Bank's projections for Belgium are based on the following technical assumptions:

- The interest rate assumptions are based on market expectations. As an annual average, rates on three-month interbank deposits are projected to fall further from 1.2 % in 2009 to 0.8 % in 2010, before rising again to 1.4 % in 2011. The increase forecast for 2011 is due partly to a narrowing of the negative gap between overnight market rates and the key interest rates accompanying the expected return to normal liquidity provision, and the likely increase in the key interest rates. Interest rates on ten-year Belgian government bonds are forecast at 3.4 % in 2010 and 3.8 % in 2011.
- Bilateral euro exchange rates are held constant at their mid-November 2010 level, namely 1.39 US dollar to the euro. Thus, following a temporary depreciation of around 15 % against the US currency during the first half of the year, the bilateral euro exchange rate reverted to the average level which had prevailed in 2009.
- 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 average $ 79.5 in 2010 and $ 88.6 in 2011, against $ 61.9 in 2009.
- Following the slump at the end of 2008 and in early 2009, world trade began growing strongly again last year and in early 2010. That expansion is set to continue for the rest of the year and in 2011, albeit at a slower pace. As an annual average, demand from Belgium's export markets, calculated on the basis of the movement in the imports of the trading partners, declined by 11 % in 2009. It is expected to record a volume increase of 10.4 % in 2010 and 6.3 % in 2011.

ASSUMPTIONS CONCERNING THE MOVEMENT IN OIL PRICES AND INTEREST RATES



Source: ECB.
(1) Actual figures up to October 2010, assumptions from November 2010.
(2) Actual figures up to the third quarter of 2010, assumptions from the fourth quarter of 2010.

Regarding public finances, the projections are based – in accordance with the Eurosystem conventions – on the macroeconomic environment and fiscal policy measures that have already been announced and specified in sufficient detail by the governments, and which have been or are in the process of being approved by the parliaments.

EUROSYSTEM PROJECTION ASSUMPTIONS

	2009	2010	2011
		(annual averages)	
Interest rate on three-month interbank deposits in euro	1.2	0.8	1.4
Yield on ten-year Belgian government bonds	3.9	3.4	3.8
EUR/USD exchange rate	1.39	1.33	1.39
Oil price (US dollars per barrel)	61.9	79.5	88.6
		(percentage changes)	
Export markets relevant to Belgium	–11.0	10.4	6.3
Competitors' export prices	–3.8	5.5	1.5

Source: ECB.

2. Activity, employment and demand

In Belgium as in the euro area, the revival in activity which had made a hesitant start in the second quarter of 2009 has since strengthened steadily. During the first three quarters of 2010, GDP has grown by an average of 0.5 % per quarter, slightly exceeding the spring forecast. Thus, according to the NAI's flash estimate, year-on-year growth came to 2.6 % in the third quarter.

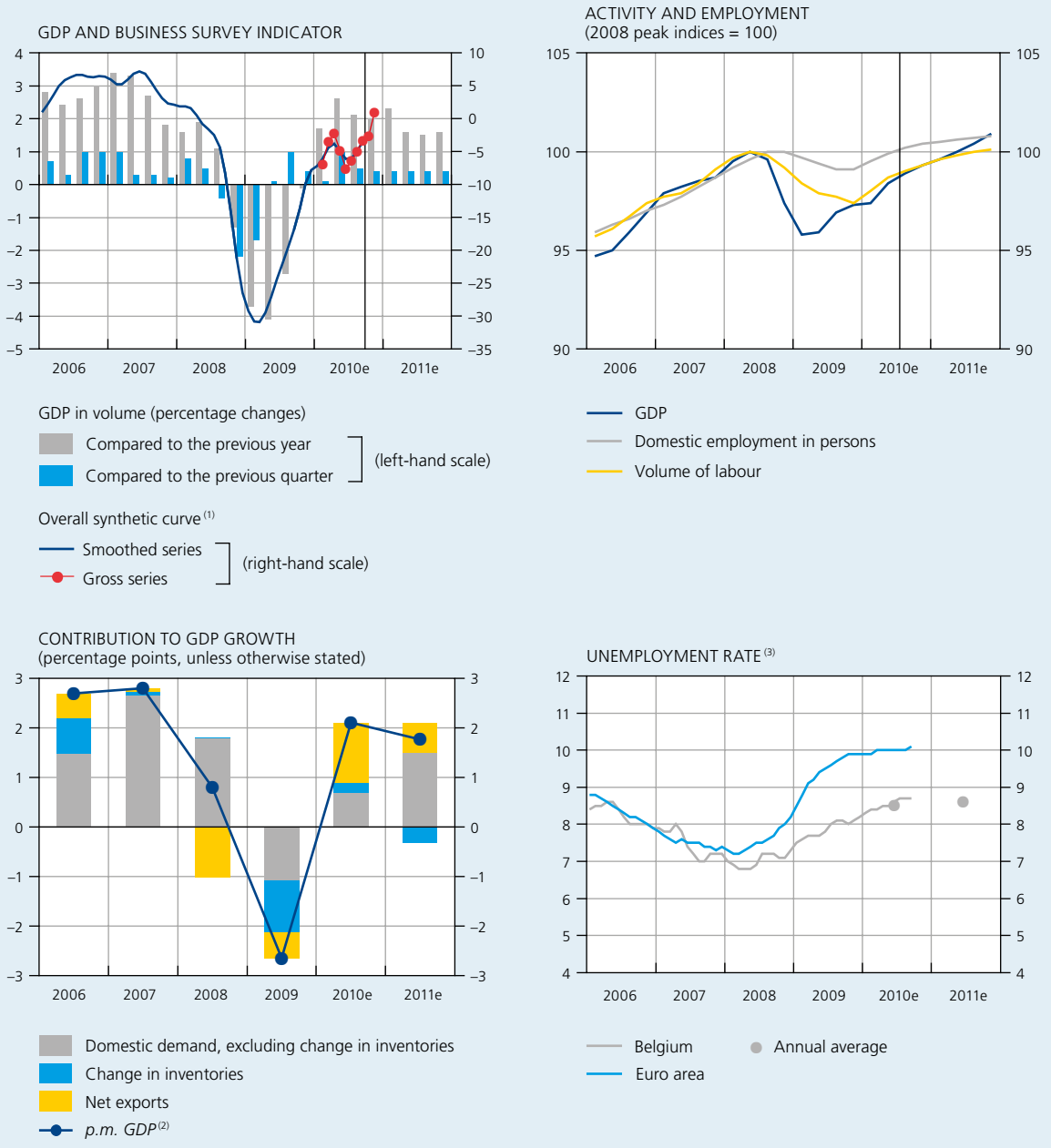
Unlike some euro area countries which had to undertake fundamental structural adjustments as a result of imbalances on the external accounts, private sector debt or the property market, the Belgian economy benefited from the improvement in the economic environment brought about by the strengthening of foreign demand, the easing of the financial tensions, and – hence – the restoration of business and consumer confidence. In that context, activity should continue to expand at the end of 2010 and in 2011 at a rate almost comparable to that at the start of the year, though it will be increasingly reliant on the gradual strengthening of domestic demand. According to the Bank's projections, following a decline of 2.7 % in 2009, average annual GDP growth should come to 2.1 % in 2010 and 1.8 % in 2011, slightly exceeding the growth figures expected for the euro area.

Contrary to what economists predicted and what households feared at the height of the 2008-2009 recession, employment has proved remarkably resilient of late. In view of the size of the shock to activity – at its nadir, GDP was down by 4.2 % and it could take twelve quarters to regain its pre-crisis level – the decline in employment was both modest and short-lived: altogether, employment was down by 38,400 units between the end of 2008 and the end of 2009. According to the national accounts data, these losses were already more or less offset by job creations during the first two quarters of 2010, whereas the general expectation was that the downward adjustment of the labour market would persist throughout that year. In fact, employment stabilised in industry while recruitment picked up in the temporary employment sector and remained steady in the health care sector. According to the new projections, net job creations should total 56,600 units during 2010 with a further additional 15,000 units in 2011.

Two factors prevented employment from fully reflecting the decline in activity. First, by cutting overtime working

CHART 2 ACTIVITY, LABOUR MARKET AND DEMAND

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



Sources: EC, NAI, NBB.

(1) Seasonally adjusted data.

(2) Percentage annual average changes.

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

and using temporary lay-offs and other systems in favour of flexible reductions in working time, firms were able to make bigger reductions in the volume of labour used than in the number of jobs. Thus, while the number of persons in work in the economy as a whole was down by 0.4 % in 2009, the volume of labour fell by 1.8 %, reflecting a 1.5 % reduction in the implicit average working time per person. Also, apparent hourly labour productivity declined by 0.8 %, as the adjustment in the volume of labour only partly mirrored the fluctuations in activity, as generally happens in the case of marked cyclical swings.

TABLE 3 GDP, EMPLOYMENT AND MAIN EXPENDITURE CATEGORIES

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

	2008	2009	2010 e	2011 e
GDP[1]	0.8	–2.7	2.1	1.8
Total volume of labour[2]	1.4	–1.8	0.9	1.1
Total domestic employment in persons	1.7	–0.4	0.7	0.7
Real disposable income of individuals	2.1	1.6	–0.5	1.2
Expenditure components[1]				
Private consumption expenditure	1.4	–0.2	1.4	1.4
Consumption expenditure of general government	2.5	0.4	1.6	1.4
Gross fixed capital formation	2.4	–4.9	–2.0	2.1
Housing	–0.6	–3.0	–3.9	–0.4
General government	5.5	10.3	–1.2	8.0
Enterprises	3.4	–7.5	–1.3	2.4
p.m. Domestic expenditure excluding change in inventories[3]	*1.8*	*–1.1*	*0.7*	*1.5*
Change in inventories[3]	0.0	–1.0	0.2	–0.3
Net exports of goods and services[3]	–1.0	–0.5	1.2	0.6
Exports of goods and services	1.4	–11.4	10.3	4.8
Imports of goods and services	2.8	–10.9	9.0	4.2

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

These two parameters – working time per person employed and productivity – were expected to normalise quickly once activity began to pick up, but there has been little sign of that so far. According to the projections, that process will become more marked in 2011, which is why the rate of net job creations is expected to slow.

Taking account of the increase in the labour market population, job creations have not prevented the rise in unemployment from persisting in 2010. However, the increase has been modest, with average unemployment up from 7 % in 2008 – the lowest level in the past six years – to 7.9 % in 2009 and 8.5 % in 2010. It looks set to stabilise around that level in 2011.

Bolstered by the labour market's resilience, the consolidation of the recovery expected for 2010 and 2011 is manifested mainly in more broadly based activity growth. At the height of the economic recession and the financial crisis, in late 2008 and early 2009, all expenditure categories had depressed activity, with the sole exception of final government expenditure. The recovery was triggered during 2009 by the cessation of the tendency towards de-stocking and by the export revival resulting from the marked strengthening of international trade. This meant that the change in inventories and net exports made a significant contribution to GDP growth in 2010. Domestic demand excluding the change in stocks is also expected to gather momentum, driven primarily by private consumption, reinforced by investment in housing and business investment in 2011. In the wake of this stronger demand, imports are projected to increase more sharply, reducing the contribution of net exports to GDP growth.

Exports of goods and services returned to very vigorous growth from mid-2009, benefiting from the renewed dynamism of foreign demand, especially that from the emerging economies and their main suppliers, Germany being one. As explained in the section on the international environment, however, the foreign market expansion is expected to continue at a less sustained rate during the coming quarters, with growth subsiding from 10.4 % in 2010 to 6.3 % in 2011, following the 11 % contraction in 2009. Overall, the volume of Belgian exports is expected to present a similar pattern, with forecast

growth dropping from 10.3 % to 4.8 % during the two years covered by the projections.

Private consumption had fallen sharply at the beginning of 2009, as serious uncertainty over the outlook for employment and significant losses on their financial assets prompted households to boost their savings ratio substantially. The stock market rally in 2009 and the resilience of the labour market nevertheless encouraged them to relax the restraint on their consumption expenditure. In all, following a 0.2 % decline in real terms in 2009, private consumption will have grown by 1.4 % in 2010. That increase is likely to be due solely to the 1.5 percentage point cut in the savings ratio, restoring it to a level close to that prevailing in 2008. Household disposable incomes are expected to fall by 0.5 % in real terms in 2010, mainly as a result of wage moderation and subdued interest income, plus the decision by the Flemish government to limit the tax cuts which had been granted in the previous year. In 2011, private consumption is projected to grow by 1.4 %, in line with the increase in disposable income.

Conversely, individuals are estimated to have made a further 3.9 % reduction in their investment in the construction of new housing or improvements to existing housing in 2010. According to the projections, this decline which has persisted for two years should come to an end in 2011, although the annual average change will still be negative owing to the low starting point at the beginning of the year. Apart from the improvement in the outlook for employment and household income, this still fragile recovery will be underpinned by the continuing low interest rate on mortgage loans and the relative stability of the property market. In Belgium, average house prices have again been edging upwards since mid-2009, following a minor correction in the three preceding quarters, in contrast to the sharp falls recorded in Spain and Ireland, in particular.

The volume of business investment, which had recorded a very steep 7.5 % decline in 2009, is expected to fall more slowly, by 1.3 %, in 2010, before growing by 2.4 % in 2011. This gradual improvement will occur against the backdrop of a significant increase in the capacity utilisation rate of firms – from a record low of 70.1 % in April 2009 to 79.9 % in October 2010, a figure close to the average for the past two decades according to the survey of firms in manufacturing industry – in parallel with the strengthening of final demand. After a 6.5 % fall in 2009, the gross operating surplus of firms is set to increase again in 2010 and 2011, by 7.9 and 2.3 % respectively, enabling firms to make more use of internal funding once again.

Finally, growth in the consumption expenditure of general government is forecast at 1.6 % in 2010 and 1.4 % in 2011. General government investment, which had recorded a strong 10.3 % rise in 2009, is expected to dip slightly in 2010. Fluctuating in line with the electoral timetable, it should expand strongly again by 8 % in 2011, in the run-up to the 2012 local elections.

3. Prices and costs

In line with a trend which had begun in the middle of the previous year, when the inflation rate had been negative for a time, inflation measured by the HICP began rising rapidly during 2010 to reach 3.1 p.c. in October. However, it is forecast to dip slightly during the coming year, so that – as an annual average – it will increase from the rate of 0 p.c. recorded in 2009 to 2.3 p.c. in 2010 before subsiding to 2.1 p.c. in 2011.

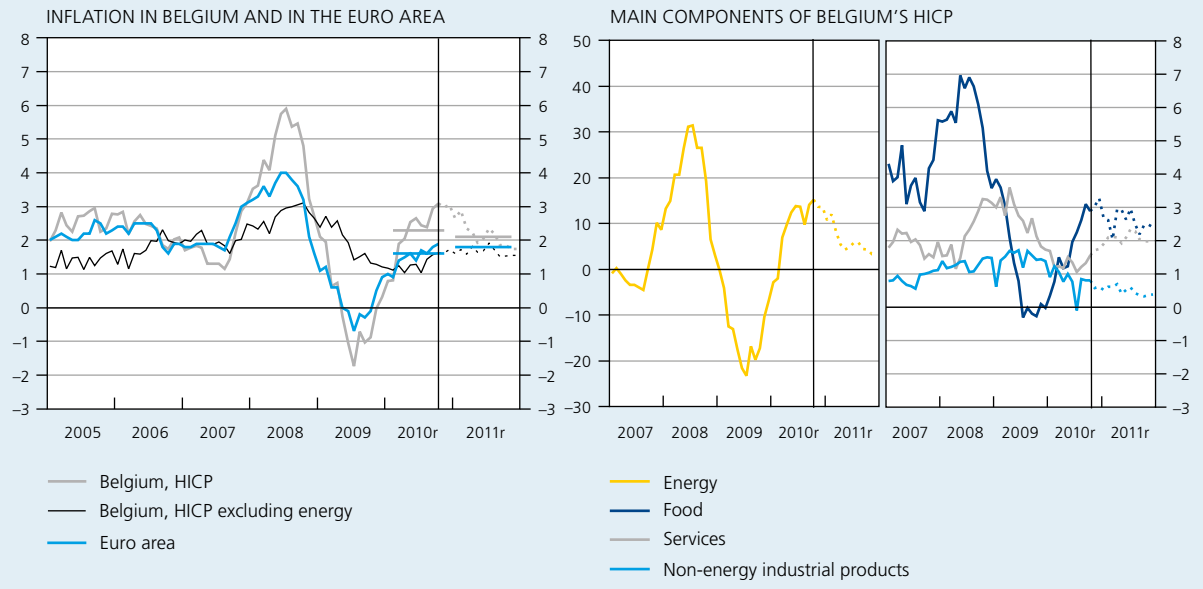
The energy component is largely responsible for these fluctuations. In the wake of the collapse in oil prices at the height of the global economic crisis, consumer prices of energy had fallen by 14 % last year, and that had been a major factor in the generally low level of inflation during that period. However, oil prices rapidly bounced back to reach almost $ 80 dollars per barrel of Brent from the beginning of 2010 – double the lowest figure recorded a year earlier – and hovered around that level for the rest of the year. The effect of this increase on consumer prices in Belgium was reinforced during the first half year by the temporary depreciation of the euro against the dollar; it was therefore the main source of the higher inflation at that time. The recent fluctuations in the energy component of the HICP also account for much of the inflation gap between Belgium and the average for the euro area and for the three neighbouring countries.

As explained in more detail in another article in this Review[1], inflation in Belgium is more sensitive to movements in international oil prices. That is due to the greater weight of energy in the households' consumption bundle, a lower level of excise duty on energy products, and the swifter, more marked adjustment of consumer prices of gas and electricity. In 2009 these factors had been favourable, but in 2010 their effect was adverse. Moreover, inflation excluding energy was also slightly higher in Belgium during the recent period, owing to a stronger response to the trend in food commodity prices and, more generally, a more sustained rise in labour costs.

(1) See the article "The inflation gap between Belgium and the three main neighbouring countries and likely repercussions on competitiveness".

CHART 3 INFLATION

(HICP, percentage changes compared to the corresponding period of the previous year)



Sources: EC, NBB.

In line with a trend which had begun before the economic recession, early in 2009, inflation excluding energy continued to ease, dropping to 1 % in July 2010. The significantly slower pace of food price rises contributed to this fall in 2009, but the main factor was the movement in prices of services and non-energy industrial goods, owing to the weight of these two components in the HICP. The initial reasons for the slower pace concerned pressure on import prices and profit margins in a context of widespread weakness of demand and surplus production capacity. In 2010, the decline in unit labour costs also contributed to the moderation of inflation.

However, the trend was reversed from the summer of 2010, when inflation excluding energy began rising again, although at a relatively modest pace. Food prices increased more sharply during the spring and summer, partly because of the bad weather and the higher prices of food commodities, while the improvement in economic activity led to higher inflation in services. That rise is expected to be modest but steady in 2011, with the consolidation of the economic recovery. As an annual average, inflation excluding energy is forecast to increase from 1.3 % in 2010 to 1.7 % in 2011. The rise in the health index of consumer prices, used as the benchmark for wage indexation, is set to gather pace from 0.6 % in 2009 to 1.7 % in 2010 and 2.1 % in 2011.

The 0.2 % fall in unit labour costs in the private sector in 2010, following an increase of 4.7 % in 2009, is due partly to the cyclical pattern of labour productivity. While firms had not cut the volume of labour by the full amount of the decline in output in 2009 – causing a noticeable 0.8 % reduction in hourly productivity –- they took advantage of the revival in activity to make more efficient use of the factor labour. Thus, hourly labour productivity is projected to increase by 0.7 % in 2010 and 0.4 % in 2011, though that is below the average rise of 1.2 % recorded from 2004 to 2008.

The movement in hourly labour costs in the private sector is also expected to contribute to the strong deceleration in unit labour costs between 2009 and 2010, as the increase should slow from 3.9 to 0.5 %. That essentially corresponds to the predicted effect of automatic wage indexation, influenced after a time lag by the higher inflation measured on the basis of the health index in 2008, then by the slowdown recorded in the following year. Apart from the impact of indexation, the rise in labour costs in real terms should be limited, since the central agreement only makes provision for the possibility of granting one-off bonuses of € 125 in 2009 and € 250 in 2010. The contribution to increased labour costs made by redundancy payments, including those relating to the corporate restructuring undertaken during the recession,

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

	2008	2009	2010 e	2011 e
Total HICP	4.5	0.0	2.3	2.1
Energy	19.8	–14.0	9.7	5.9
Total excluding energy	2.7	1.9	1.3	1.7
GDP deflator	1.9	1.1	1.7	1.7
Labour costs in the private sector:				
Unit labour costs	3.8	4.7	–0.2	2.0
Hourly costs	3.6	3.9	0.5	2.4

Sources: EC, NAI, NBB.

was relatively modest, and the temporary unemployment benefit supplements paid in certain sectors declined in 2010, reflecting the reduced use of this system, thus curbing the growth of hourly costs.

The assumption adopted for 2011 of a 2.4 % increase in hourly labour costs in the private sector corresponds largely to the expected effect of indexation. This is a technical assumption which in no way anticipates the outcome of the forthcoming pay negotiations for the period 2011-2012.

4. Public finances

According to the latest data, Belgium's public finances will end the year 2010 with a deficit of 4.8 p.c. of GDP, which is a 1.2 percentage point improvement on 2009. In the absence of a budget for the federal government and social security, the forecasts for 2011 are highly uncertain. If there is no change of policy in those two sectors, and in the macroeconomic context described above, the deficit is forecast to fall slightly as a percentage of GDP.

Expressed as a percentage of GDP, government revenue is forecast to rise by 0.5 percentage point in both 2010 and 2011, to reach 49.1 %. This increase is due partly to the growth of fiscal and parafiscal revenues, resulting mainly from the combination of three factors. First, certain measures – such as the limiting of the flat-rate tax cut granted by the Flemish Region and the increase in excise duty on diesel – will boost revenues compared to 2009. Second, the disappearance of the negative effect, amounting to around 0.4 % in 2009, caused by the acceleration of

TABLE 5 GENERAL GOVERNMENT ACCOUNTS (1)
(percentages of GDP)

	2008	2009	2010 e	2011 e
Revenue	48.8	48.1	48.6	49.1
Fiscal and parafiscal revenue	43.7	42.9	43.1	43.4
Other	5.1	5.3	5.5	5.8
Primary expenditure	46.4	50.5	49.9	50.3
Primary balance	2.4	–2.4	–1.3	–1.2
Interest charges	3.8	3.6	3.5	3.5
Financing requirement (–) or capacity	–1.3	–6.0	–4.8	–4.7
Consolidated gross debt	89.6	96.2	97.6	99.8

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

personal income tax assessments, will also boost revenues. However, as wages are taxed more heavily, on average, than other incomes, the decline in their share of GDP, which is usual in an economic recovery phase, did partly offset those effects. Also, the rise in other revenues is due to the substantial increase in dividends and other revenues following government intervention in financial institutions, in the form of capital injections, loans or State guarantees.

Primary expenditure, which totalled 50.5 % of GDP in 2009, is likely to fall to 49.9 % of GDP in 2010, mainly as a result of three factors. First, two court rulings against the Belgian State concerning taxes wrongly levied in the past on certain companies receiving dividends from foreign subsidiaries, on the one hand, and also on married unemployed persons had depressed expenditure by 0.4 percentage point of GDP in 2009, but will cease to have an impact in 2010. Next, the upturn in economic activity will have curbed the increase in social security expenditure. Finally, wages and social benefits were not indexed until the end of the year, so that inflation will have less impact on these expenditure categories than on GDP. In 2011, primary expenditure is projected to rise by 0.4 percentage point of GDP, mainly as a result of strong investment by local authorities – a consequence of the electoral cycle – and the trend rise in expenditure on health care as a percentage of GDP.

Interest charges are forecast to edge downwards in 2010, as the growth of the public debt is more than offset by the fall in the implicit interest rate on the debt. They are expected to stabilise in 2011.

The rise in the general government debt ratio is projected to continue in 2010 and 2011, but at a much more modest pace than in the previous two years. In 2010, the debt ratio is estimated at 97.6 % of GDP. It will probably rise further in 2011, though remaining just below 100 % of GDP.

5. Risk factor assessment

In Belgium, the general picture of a gradual consolidation of the economic situation presented in the two previous projection exercises is still the most likely scenario at the moment. However, the revival in activity was more vigorous for a time than had been predicted at the end of 2009 and during the first two quarters of 2010, which explains the upgrading of the GDP growth forecast for 2010, from 1.3 % in the June 2010 exercise to 2.1 % in the new forecast. Since they take account of the latest data, the Bank's projections are higher than those presented earlier by the NAI and the IMF. They are close to those published recently by the OECD and the EC. The picture regarding the number of persons in employment has also been much better than expected, since job losses were limited in 2009, and did not persist in 2010. For inflation, the projected increases were also revised upwards owing to the higher commodity prices and a faster than expected increase in service prices. Regarding the general government budget balance, the Bank predicts a deficit of 4.8 % of GDP in 2010 and 4.7 % in 2011, which is similar to most other forecasts. The improvement on the June figures is due mainly to the more favourable economic climate since, in the absence of a fully operational federal government, there have been few changes in budgetary and fiscal policy.

Various risk factors persist.

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
	2010	2011	2010	2011	2010	2011	
NBB – Autumn 2010	2.1	1.8	2.3	2.1	–4.8	–4.7	December 2010
p.m. Spring 2010	*1.3*	*1.7*	*2.0*	*1.9*	*–5.0*	*–5.3*	*June 2010*
NAI	1.8	1.7	2.1	2.0	n.	n.	September 2010
IMF	1.6	1.7	1.9	1.9	–4.8	–5.1	October 2010
OECD	2.1	1.8	2.1	1.6	–4.9	–4.5	November 2010
EC	2.0	1.8	2.3	1.9	–4.8	–4.6	November 2010
p.m. Actual figures for 2009	*–2.7*		*0.0*		*–6.0*		

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

In regard to the international environment, those risks depend on the extent to which the recovery is consolidated in the various economic regions. Experience has shown that it is harder to emerge from a recession which was accompanied by a financial or property crisis. That is the type of scenario adopted for the projections, but it is difficult to determine the scale of the effects of the reduction in the household and general government debt ratio resulting from measures which are likely to be taken simultaneously in a number of economies.

Moreover, the reorganisation of the financial sector is still ongoing. It will also have to take account of the new rules currently being laid down at international level to limit the likelihood and scale of a new financial crisis.

On the domestic front, the economy's relative resilience during the crisis and its ability to take advantage of the improvement in the general economic climate have so far made it less urgent than in other countries to consolidate the situation of the government accounts. However, apart from the improvement due to temporary factors in 2010, structural measures will be needed to ensure that those accounts revert to a path which is sustainable in the long term, as defined in the stability programme. Those measures must be taken before too long, in view of the challenges presented by population ageing and by the need to strengthen the economy's growth potential.

Strengthening the productivity of the economy, mobilising a bigger proportion of the population in employment, and enhancing competitiveness are also vital factors for meeting the challenges of population ageing and globalisation. That implies, in particular, control over labour costs. In the present projections, the rise in hourly labour costs in the private sector in 2011 is assumed to be similar to the effect of automatic indexation. That assumption in turn influences the forecasts for inflation and employment.

Annex

PROJECTIONS FOR THE BELGIAN ECONOMY: SUMMARY OF THE MAIN RESULTS

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

	2007	2008	2009	2010 e	2011 e
Growth (calendar adjusted data)					
GDP in volume	2.8	0.8	–2.7	2.1	1.8
Contributions to growth:					
Domestic expenditure, excluding change in inventories	2.7	1.8	–1.1	0.7	1.5
Net exports of goods and services	0.1	–1.0	–0.5	1.2	0.6
Change in inventories	0.1	0.0	–1.0	0.2	–0.3
Prices and costs					
Harmonised index of consumer prices	1.8	4.5	0.0	2.3	2.1
Health index	1.8	4.2	0.6	1.7	2.1
GDP deflator	2.3	1.9	1.1	1.7	1.7
Terms of trade	0.2	–2.4	3.5	–1.1	–0.4
Unit labour costs in the private sector	1.9	3.8	4.7	–0.2	2.0
Hourly labour costs in the private sector	3.1	3.6	3.9	0.5	2.4
Hourly productivity in the private sector	1.1	–0.2	–0.8	0.7	0.4
Labour market					
Domestic employment (average annual change in thousands of persons)	69.6	75.9	–15.9	28.9	29.5
p.m. Change during the year, in thousands of persons (1)	*77.8*	*57.4*	*–38.4*	*56.6*	*15.3*
Total volume of labour (2)	1.9	1.4	–1.8	0.9	1.1
Harmonised unemployment rate (3) (percentages of the labour force)	7.5	7.0	7.9	8.5	8.6
Incomes					
Real disposable income of individuals	2.2	2.1	1.6	–0.5	1.2
Savings ratio of individuals (percentages of disposable income)	16.4	17.0	18.3	16.8	16.8
Public finances (4)					
Overall balance (percentages of GDP)	–0.3	–1.3	–6.0	–4.8	–4.7
Primary balance (percentages of GDP)	3.5	2.4	–2.4	–1.3	–1.2
Public debt (percentages of GDP)	84.2	89.6	96.2	97.6	99.8
Current account (according to the balance of payments, percentages of GDP)	**1.6**	**–1.9**	**0.8**	**1.2**	**1.3**

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) Percentages of the labour force, non calendar adjusted data.

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

The inflation gap between Belgium and the three main neighbouring countries and likely repercussions on competitiveness

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N. Cordemans
D. Cornille
M. Dossche

Introduction

This article focuses on the inflation differential between Belgium and the three main neighbouring countries and the implications of this gap for competitiveness. In a monetary union, differences in inflation rates between participating countries actually have direct repercussions on their competitiveness in terms of prices and costs. Relative price and cost developments are of course only one factor among many different elements that determine the competitive position of an economy. This is nevertheless an important aspect, as the Belgian experience from the end of the 1970s and beginning of the 1980s showed only too well. Furthermore, political circles have recently been taking a keener interest in this competitivity factor, after the recession had shown the extent to which competitive handicaps and the external imbalances that some countries in the monetary union have built up can ultimately harm their economic development. Given these circumstances, it was deemed appropriate to set up a new framework for monitoring Europe's macroeconomic policy, covering not only fiscal policy, but also macroeconomic imbalances and divergences in competitiveness in the euro area. This new framework was endorsed by the European Council at its meeting on 28 and 29 October 2010.

This article is structured as follows. The first part looks at the implications of inflation differentials within a monetary union – and more specifically within the euro area – and attempts to prove that participation in monetary union can only succeed if the Member States pay sufficient attention to changes in their competitive position. The second part discusses the institutional framework for monitoring competitiveness in Belgium and raises the question of whether it is still advisable to focus particularly on the three neighbouring countries (i.e. Germany, France and the Netherlands), as is currently the case, rather than on the euro area as a whole. Since the answer to this question is in the affirmative, the third section analyses the inflation differential with the three neighbouring countries and examines the resultant implications for the Belgian economy's competitive position. A series of conclusions wrap up the article.

1. Inflation differentials in a monetary union

Since, in a monetary union, there is no longer any nominal exchange rate between the countries in it – because they all use the same currency –, differences in inflation automatically imply a change in the real exchange rate of these member countries. So, a positive inflation differential of one member vis-à-vis the whole of the monetary union results in a real appreciation, while a negative inflation differential induces a real depreciation. As a general rule,

a real currency appreciation (higher inflation) is associated with a loss of competitiveness and a real depreciation (lower inflation) with a gain in competitiveness. However, this is not always the case, since the repercussions of fluctuations in real exchange rates on competitiveness vary according to their origin. It is nevertheless quite clear that, in a monetary union, a loss of competitiveness can no longer be corrected by an exchange rate adjustment. Effectively, this monetary policy instrument is no longer available to steer competitive relations between Member States. Therefore, maintaining – and with stronger reason re-establishing – a competitive edge depends largely on the ability to keep movements in domestic prices and costs under control.

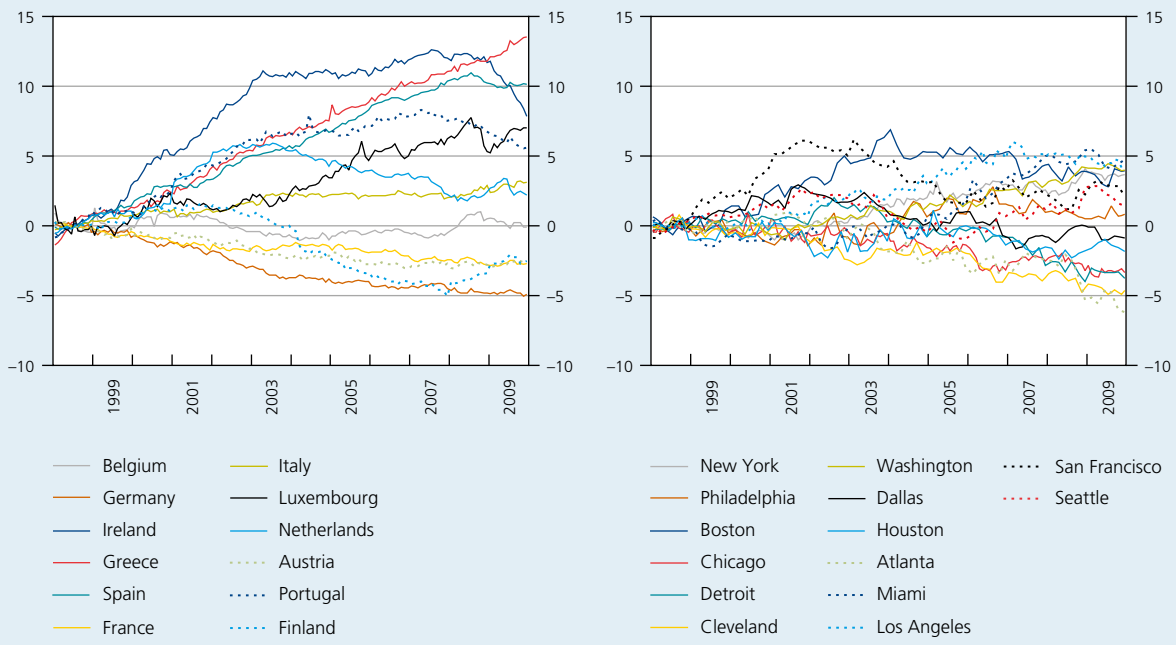
As mentioned above, the relationship between inflation differentials and competitiveness is relatively complex. Indeed, in some cases, the inflation differential has no implications for competitiveness. Thus, a divergent aggregate trend in prices between two countries may be attributable to differences in consumption habits and/or production structures. In a given country, proportionally higher consumption of goods and services whose prices are rising rapidly effectively leads to a more pronounced increase in consumer prices. While this situation does actually have implications for purchasing power in the country in question, in principle the same does not hold true for competitiveness. Moreover, changes in indirect taxation have a direct impact on inflation, but they are generally less significant for competitiveness. And, finally, it is quite normal for the member countries of a monetary union starting out from a lower level of economic development to have higher inflation during their catching-up process, owing to the "Balassa-Samuelson" (1) effect.

However, in many other cases (different stages of the business cycle, national economic institutions operating differently – for example, differences in wage formation –, varying speed of implementation of structural reforms in the members of a monetary union, etc.), the associated divergences in inflation do have implications for competitiveness. In some cases, the very existence of such divergences is an integral part of a normal adjustment process. Thus, a positive inflation differential and some loss of competitiveness may cause an overheating

(1) Generally speaking, in countries that are going through a catching-up phase, faster growth in productivity in the tradable goods and services sector is observed, on top of which come higher movements in wages. These wage developments remain neutral for the sector's competitive position, as long as the two trends continue to move in parallel. Furthermore, in the non-tradable goods and services sector, which does not enjoy the same productivity growth, wages nevertheless tend to rise just as quickly. This obviously leads to higher inflation in this sector and, consequently, a stronger increase in the aggregate level of prices compared with countries with more advanced economic development. However, such divergence has no impact on competitiveness.

CHART 1 CUMULATIVE INFLATION DIFFERENTIALS IN THE EURO AREA AND THE UNITED STATES

(HICP and inflation measured by the CPI; period from 1998 to 2009; 1998 = 100, seasonally adjusted data)



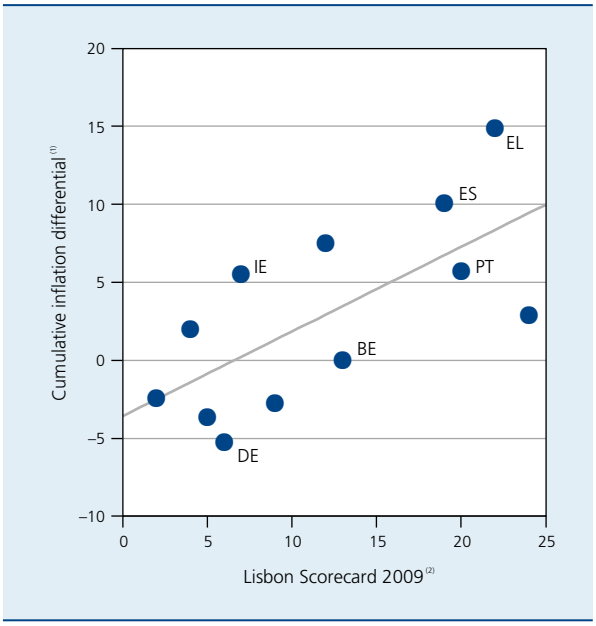
Sources: EC, Bureau of Labor Statistics.

economy to slow down, while a negative inflation differential can stimulate a sluggish economy. In other cases, however, (unsuitable macroeconomic policy, inappropriate trend in wage costs, excessively slow implementation of structural reforms, etc.), these inflation gaps and the related losses in competitive position are problematical. This is what happens when a country accumulates losses of competitiveness over a long period of time. Recurrent losses of competitiveness are not sustainable.

So, it is not the actual existence of inflation gaps in the EMU that poses a problem, but the fact that, over a long period, inflation in some countries has systematically tended to be higher than for the euro area as a whole, while in others, it was systematically lower. So, if European monetary union is taken as a starting point, Ireland, Greece, Portugal and Spain show a significant cumulative positive inflation differential, whereas Germany, Austria and Finland have a cumulative negative gap. In this respect, Belgium takes a neutral position : during its time in the monetary union, inflation there has neither been systematically higher, nor systematically lower than in the euro area as a whole. The fact that the cumulative inflation differentials between Member States in the euro area since 1999 have been a lot higher than those between regions in the United States [1] points up the seriousness of the problem of persistent divergences in inflation within the euro area and the shifts in competitiveness associated with them. This situation seems to suggest that, in this field, market mechanisms play a weaker stabilising role in the euro area, undoubtedly because product and labour markets are less flexible and there is less mobility in the workforce. The need to monitor these developments and, if necessary, put corrective policies into practice is therefore felt to be greater in the euro area.

It also appears that cumulative inflation differentials during the monetary union period can only in small part be attributed to the Balassa-Samuelson effect that goes hand in hand with the catching-up process [2]. In contrast, inflation differentials are quite clearly correlated with the implementation of structural reforms. The closer a country to the Lisbon targets, the more inflation falls. Greece, Portugal and Spain turn out to be the least advanced with regard to the Lisbon objectives [3], while Germany is highly advanced. Here, too, Belgium occupies a middle-of-the-road position. The fact that the Balassa-Samuelson effect is less relevant and that there is a link with structural reforms would suggest that the inflation differentials observed in EMU do actually have some implications for shifts in competitiveness between the Member States and can be partly explained by the differences between national economic policies, especially as far as implementing structural reforms is concerned.

CHART 2 INFLATION DIFFERENTIALS AND IMPLEMENTATION OF STRUCTURAL REFORMS



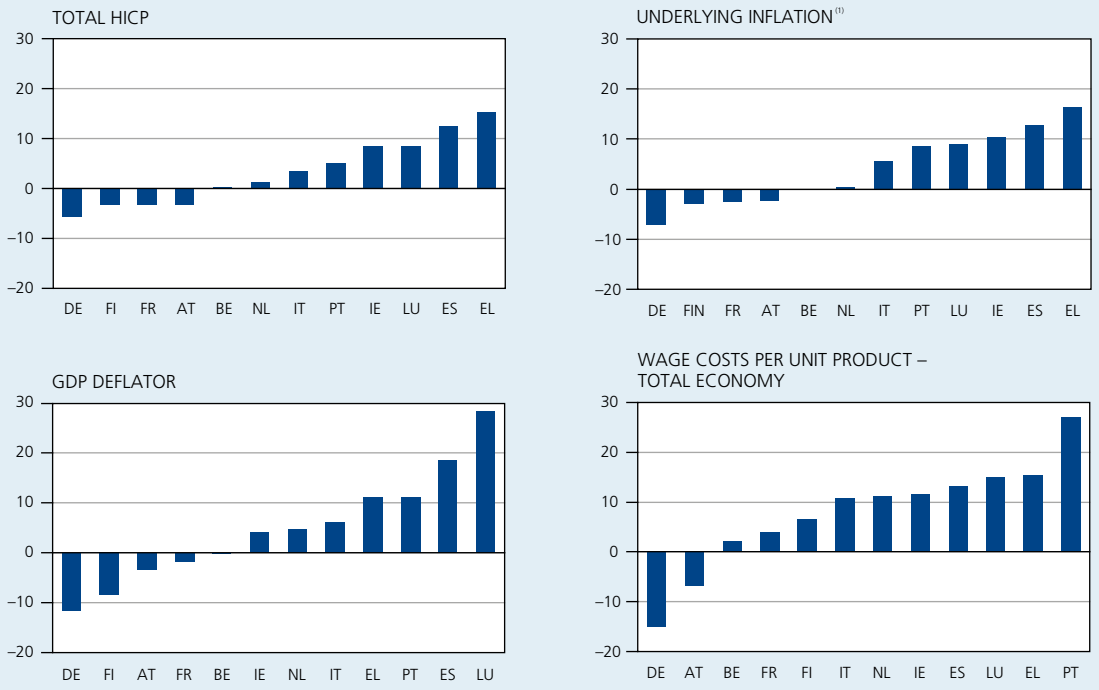
Sources : EC, Centre for European Reform.
(1) HICP, from January 2000 to December 2009.
(2) Measures implementation of the Lisbon objectives. A high score means that the targets have not been met.

Looking at a few other indicators confirms the above finding whereby several countries are confronted with major competitive handicaps owing to the accumulation of positive differentials for inflation, underlying inflation, movements in the GDP deflator and trends in wage costs per unit produced in the economy as a whole. The signals sent out in this respect by the various indicators are quite convergent. It is mainly Greece, Spain, Portugal and Ireland that have seen their competitive edge systematically blunted. At the other end of the scale is Germany which clocked up gains in competitiveness, regardless of the indicator analysed ; and the same goes for Austria and Finland. For each of the indicators analysed, Belgium occupies a neutral position in relation to the whole euro area, which implies that it has sharpened its competitive edge, notably over Greece, Spain, Portugal and Ireland, but also that it has lost some competitiveness vis-à-vis Germany. The other two main neighbouring countries, France and the Netherlands, are in a quite similar position

(1) The fourteen Metropolitan Statistical Areas for which the American Bureau of Labor Statistics calculates a consumer price index. A Metropolitan Statistical Area includes a large city and the region that depends on it.
(2) Cumulative inflation differentials are actually only weakly correlated with differences in productivity growth between the goods and services sectors, even though this factor may have played a greater role in the case of Slovenia and Slovakia. The Balassa-Samuelson effect is undoubtedly more relevant in the new Member States of the EU which have not yet adopted the euro.
(3) The Lisbon European Council in 2000 set the goal of making the EU "the most dynamic and competitive knowledge-based economy in the world" by carrying out structural reforms to boost competitiveness and innovation while completing the internal market.

CHART 3 A SELECTION OF COMPETITIVENESS INDICATORS

(cumulative evolution between 1999 and 2009, differential vis-à-vis the euro area)



Source: EC.

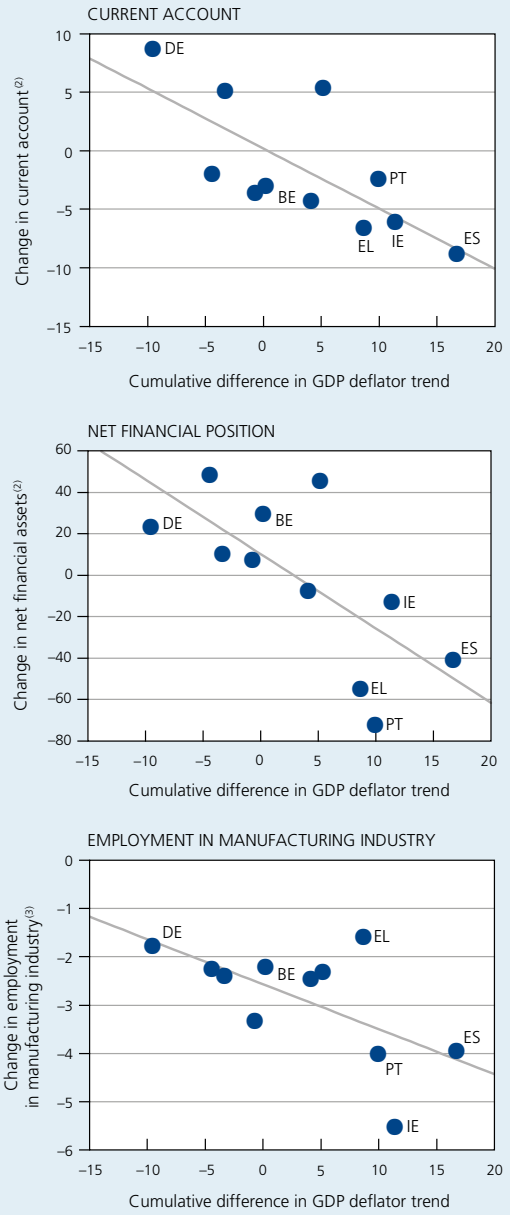
(1) Total HICP, excluding energy and unprocessed food products.

to Belgium, with France tending to show a slight gain in competitiveness in relation to the latter, while the Netherlands would appear to have lost a bit of ground.

In these circumstances, it is not surprising to find that the cumulative inflation differentials that have built up in the monetary union are strongly correlated with trends in the trade balance and the current account balance. In countries with a large positive inflation differential, the trade balance and current account positions have deteriorated sharply, while the opposite can be observed in countries with lower inflation. However, this situation is not just a direct consequence of a deterioration (an improvement) in competitiveness, but it also reflects differences in domestic demand trends. Effectively, demand has been buoyant in countries showing strong wage growth. In addition, divergences in inflation in a monetary union not only influence the member countries' real exchange rate, but also their real interest rates. In cases where the nominal short-term rate is the same for all members (common monetary policy), a positive (negative) inflation differential results in a lower (higher) real interest rate. This mechanism is pro-cyclical and can therefore be potentially destabilising: in an overheating economy, the real interest rate is lower because of the higher rate of inflation, which in principle stimulates domestic demand even further. These differences between real interest rates also seem to be closely correlated with the growth in loans granted to the private sector and the rise in property prices during the period preceding the recession. In the first instance, this growth presumably boosted domestic demand in the countries in question. However, these developments were also behind the emergence of financial vulnerability, since the bursting of the property market bubble in several countries later proved that they were not sustainable.

The movement in the current account balance has not been without impact on the Member States' net financial position. Deficit countries have been forced to turn increasingly to foreign creditors. Initially, the founding of monetary union made it easier to fund external deficits, but the outbreak of the crisis brought a sudden turnaround in the propensity to finance these deficits. Since the beginning of monetary union, there are also indications of a much sharper fall in employment in manufacturing

CHART 4 INFLATION DIFFERENTIALS AND CURRENT ACCOUNT, NET FINANCIAL POSITION AND EMPLOYMENT IN INDUSTRY DURING THE PERIOD FROM 1999 TO 2007 (1)



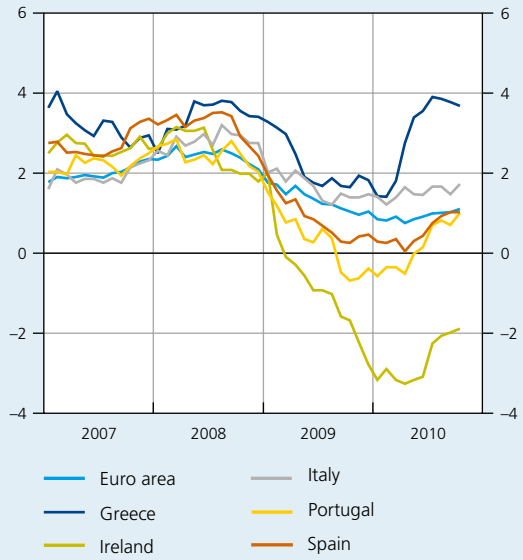
Sources: EC, OECD.
(1) Cumulative difference in GDP deflator vis-à-vis the euro area, on the basis of the twelve original member countries of EMU, excluding Luxembourg. Greek figures are based on data from 2000 onwards.
(2) Percentages of GDP.
(3) Percentages of total employment.

industry in the countries with large positive inflation gaps than in those where the gap is negative. This fall in employment can be explained more directly by shifts in competitiveness. It is hard to stop this decline; and besides, the initial compensatory effect working through domestic demand, as discussed above, has meanwhile tapered off in most of the countries where inflation differentials were positive.

As mentioned above, the exchange rate instrument can no longer be used to eliminate the competitive handicaps that have built up. These handicaps have to be corrected by moderation in domestic price and cost increases (or even a downward trend). This kind of "domestic devaluation" is generally a difficult process because it comes up against downward nominal rigidity, essentially in wage formation. It should nevertheless be pointed out that this process is currently underway in several of the countries mentioned above: underlying inflation in Ireland, Spain and Portugal is actually growing more slowly than in the euro area as a whole, a situation that is in sharp contrast with the period preceding the recession. In Ireland's case, quite significant declines in prices have even been observed. Spain recently carried out a major reform of its labour market, so as to make it more flexible and to reduce the dualisation in the market. On top of a large section of fiscal policy measures, the Greek recovery programme put together with the EC and IMF includes a package of structural reforms aimed at making the economy more dynamic and more competitive. The rise in inflation in Greece, Spain and Portugal in the second

CHART 5 UNDERLYING INFLATION IN SELECTED EURO AREA COUNTRIES

(percentage changes compared to the corresponding month of the previous year) (1)



Source: EC.
(1) Total HICP, excluding energy and unprocessed food products.

and third quarters of 2010 is attributable to the sharp increases in indirect taxes stemming from their respective fiscal consolidation plans. So it is not an indication of any further deterioration in competitiveness nor any reversal of the ongoing adjustment process.

The common monetary policy does not permit any offsetting of inappropriate divergences of this kind in the euro area. The only contribution that it can make in this respect is to ensure price stability throughout the whole euro area. As a result of medium-term inflation in the euro area stabilising at a high enough level – less than, but close to, 2 % –, deflationary pressures have been avoided in the current circumstances in the euro area as a whole and the process of adjustment underway in countries that had been faced with major losses of competitiveness has been made easier. These considerations are among the reasons why the monetary policy strategy was clarified in 2003 by adding the words "close to 2 %" in the definition of price stability.

The main challenges ahead are therefore on the national economic policy front. Suitable domestic policy instruments have to be developed in order to tackle the problematic divergences in the euro area, i.e. in the field of fiscal policy, structural reforms, income policy, macroprudential policy aiming to curb pro-cyclicality, etc. The recession triggered a growing awareness that countries cannot, at one and the same time, be part of a monetary union and follow an unsuitable or excessively short-term-orientated domestic economic policy with impunity. There is thus a need to strengthen coordination and monitoring of macroeconomic policies conducted in the euro area Member States. A new framework for this purpose was proposed by the Van Rompuy Task Force and endorsed by the European Council held on 28 and 29 October 2010.

Box 1 – The action plan for European economic governance

Bearing in mind that the recession pointed up the flaws in economic governance in Europe, the March 2010 European Council set up a working group, under the leadership of European Council President Herman Van Rompuy, with the task of drawing up recommendations designed to guarantee greater fiscal discipline, to introduce a new system of macroeconomic surveillance and to provide an improved framework for crisis management. The proposals put foward by this Task Force on European economic governance were endorsed by the heads of State and government at the European Council of 28 and 29 October. The objective is for an agreement between the Council and the European Parliament on implementing the proposals to be reached by the summer of 2011. This box endeavours to set out the action plan adopted by the European Council, by focusing on measures designed to correct macroeconomic imbalances and competitiveness gaps.

In this key policy area, the action plan provides, on the one hand, for wider macroeconomic surveillance, beyond what is currently prescribed by the Stability and Growth Pact and, on the other hand, for a deepening of national economic policy coordination.

The new surveillance framework expected to be adopted is based on two pillars. The first is preventive action involving regular assessments of the risks of macroeconomic imbalances. In particular, it includes setting up a scoreboard based on a small number of key indicators and putting an early-warning procedure into place for pointing up serious competitiveness gaps or majors risks such as a property bubble forming. In the event of an excessive imbalance, whether potential or real, an in-depth analysis of the country concerned would be carried out by the Commission, possibly in conjunction with the ECB. The second pillar is corrective. If the policies chosen by a Member State were to prove out of line with the broad economic policy guidelines or if they might potentially jeopardise the smooth functioning of Economic and Monetary Union, the Commission would be allowed to address an early warning to the Member State in question. In the event of profound imbalances, however, the Council would be able to place a member country in an "excessive imbalances position" and thus trigger a corrective procedure against it. A series of policy recommendations should then be put to the country in question and if no satisfactory measures were to emerge, sanctions could be imposed on any Member State belonging to the euro area.

On the policy coordination front, the plan is to introduce a "European Semester" to examine how the EU dimension has been taken into consideration when preparing domestic economic and fiscal policies. This strengthened round of policy coordination will run from March to the moment when budgets are presented to national parliaments and will cover all aspects of economic surveillance, including fiscal, growth and macroeconomic stability policies. It will come into force on 1 January 2011.

Alongside the elements concerning macroeconomic imbalances and competitiveness gaps, the action plan adopted by the European Council intends to toughen up the Stability and Growth Pact, notably by bringing in sanctions earlier on in the process and by making them more automatic. It also involves establishing a permanent crisis resolution system with a view to safeguarding the financial stability of the euro area as a whole. In order to improve the efficiency of fiscal governance, the plan also requires national budgetary frameworks to be adapted to comply with a number of minimum requirements, most notably a national accounting and statistical plan. A set of non-binding standards will be drawn up as well, particularly on the role of national public bodies tasked with providing independent analysis, assessments and forecasts related to domestic fiscal policy matters.

2. Monitoring competitiveness in Belgium

In Belgium, monitoring competitiveness is a practice that existed well before the advent of EMU. Because it is a small, open economy, the development of Belgium's economic activity and employment is highly dependent on international trade. The experience of the end of the 1970s and beginning of the 1980s shows only too well that a wage drift is not without impact on the economy and therefore forces the authorities to take draconian measures. At that time, competitiveness had been restored thanks to a devaluation of the national currency, combined with a series of radical measures revolving around wage moderation. Economic activity and employment were nevertheless hit very badly until competitiveness could be restored. When the Belgian franc was pegged to the German mark in 1990, the Belgian authorities effectively gave up the right to use the exchange rate instrument, something that turned out to be of crucial importance in 1982. Since joining the European monetary union in 1999, the exchange rate instrument has disappeared altogether. In such circumstances, competitive positions can only be maintained by suitably adjusted developments in domestic prices and costs.

This is why the Law of 1996 on the promotion of employment and the preventive safeguarding of competitiveness includes a large section on monitoring changes in competitiveness, measured by developments in wage costs in the private sector compared with that observed in the three neighbouring countries, namely Germany, France and the Netherlands. The choice of these three reference countries had been dictated by the fact that Belgium was already *de facto* part of a monetary union with them at the time (1996). On this subject, the explanatory note to the 1996 Competitiveness Law states that: "Germany, France and the Netherlands have been chosen as reference countries because they are in fact countries with which Belgium already has stable exchange rates and monetary convergence". In principle, closer monitoring of competitiveness trends and imbalances in the euro area should therefore not require any major changes in the policy followed in this field in Belgium.

However, the question has to be asked whether the choice of the three neighbouring countries as benchmarks for comparing changes in competitiveness is still relevant today, given that Belgium is now part of a much bigger monetary union. A whole series of basic arguments nevertheless plead in favour of continuing to align Belgium's competitiveness primarily with that of its three main neighbouring countries.

It should first of all be pointed out that the reference countries singled out by the 1996 legislation are also Belgium's three main trading partners, so price and cost developments in relation to these countries have a huge effect on competitiveness. In addition, these nations have a comparable level of economic development. If changes in competitiveness are to be accurately estimated, it is better to compare Belgium with three similar countries. Any comparison with a wider reference zone, which would also include countries in the catching-up phase, could conceal a loss of competitiveness, because inflation and wage cost developments in these countries are (upwardly) influenced by the Balassa-Samuelson effect described above. Although the impact of this effect has

clearly not been very significant during the first twelve years of monetary union, this aspect can nevertheless become more important as new member countries join the euro area. Moreover, largely as result of this law, Belgium has managed to keep its competitive edge vis-à-vis the euro area as a whole, even if it has incurred a loss of competitiveness against Germany. By comparing its own performance with countries that also have ambitious programmes for structural reforms on the labour and product markets, Belgium also has the potential to take measures that could inject substantial dynamism into its economy. Lastly, keeping on an institutional framework that has worked relatively well and which enjoys a broad social consensus has undeniable advantages, too. This enables efforts to be concentrated on making sure the institutional set-up works efficiently, whereas putting together a new framework is a long drawn-out process with an uncertain outcome into the bargain.

The importance of the 1996 law in the efforts to maintain Belgium's competitive edge also stems from the fact that it gives explicit encouragement to the social partners to avoid the undesirable effects of automatic wage indexation. In this respect, the objective is to reconcile this index-linking system with a moderate overall wage trend that has to be aligned on movements in nominal hourly wage costs in the private sector in the three neighbouring countries. To do this, on the one hand, the anticipated impact of indexation has to be deducted *ex ante* from the margin available for real wage increases. On the other hand, this piece of legislation requires any possible overshoots of the wage norm, for instance as a result of unexpected effects of indexation, to be corrected *ex post*, by deducting them from future wage rises. Together with the introduction in 1994 of the health index (which excludes changes in the price of petrol, diesel, tobacco and alcoholic drinks from the consumer price basket) as the reference for indexation in Belgium, the 1996 law is a cornerstone of the policy for keeping the consequences of indexation under control.

Belgium's inflation gap with the three neighbouring countries is therefore a valuable tool for assessing competitiveness, both present and future, and for two reasons. Firstly, an analysis focusing on inflation divergences can either strengthen or weaken the signal coming from relative changes in wage costs. Movements in wages act as a key determinant in price trends, so the relative change in inflation may be perceived as an alternative competitiveness criterion. Secondly, in a country, like Belgium, where wage costs are index-linked, fluctuations in relative consumer price trends can cause fluctuations in relative labour cost developments and, hence, determine any change in competitiveness. Emphasising this dual perspective, the next section of this article concentrates on Belgium's inflation gap vis-à-vis its three main neighbouring countries.

3. Belgium's inflation differential with the three main neighbouring countries

The following section focuses first of all on movements in the inflation differential over the last four years. A more in-depth analysis of this period is of particular interest since it has seen very marked fluctuations in the inflation gap. Moreover, a systematic sequence seems to have formed during this period. To begin with, changes in prices of energy and food products following on from fluctuations in commodity prices on international markets were the main factor fuelling the inflation differential before they began to have a more general influence on the underlying inflation trend, measured here as the change in prices of non-energy industrial goods and services. So, while the recent period clearly raises questions about energy and food price-setting in Belgium, it also shows that the impact of the mechanism for index-linking not just wages but also prices of certain services can trigger so-called related second-round effects and put a strain on competitiveness. The second part of the analysis, which looks at changes in the inflation gap since 1996, the year when the Competitiveness Law came into force, clearly highlights the crucial importance of the link between relative wage cost developments and movements in the inflation gap.

3.1 Increased volatility of the inflation gap between Belgium and its three main neighbouring countries since 2007

In recent months, the inflation gap between Belgium and its three neighbouring countries has widened considerably. In October, inflation as measured by the harmonised index of consumer prices (HICP) came to 3.1 % in Belgium, compared with 1.3 % in Germany, 1.8 % in France and 1.4 % in the Netherlands. The average rate of inflation in these three countries thus works out at 1.5 %, which is 1.6 percentage points less than in Belgium. In 2008, too, Belgium had a clearly positive inflation differential, which had exceeded the 2 percent mark in the summer. During the course of the year 2009, however, the inflation gap turned into a significantly negative differential. Consequently, in June 2009, a negative differential of 1.5 percentage points was recorded, exclusively due to the negative contribution of energy products. Such wide fluctuations had never been observed before and are evidence of much greater volatility since 2007. Between

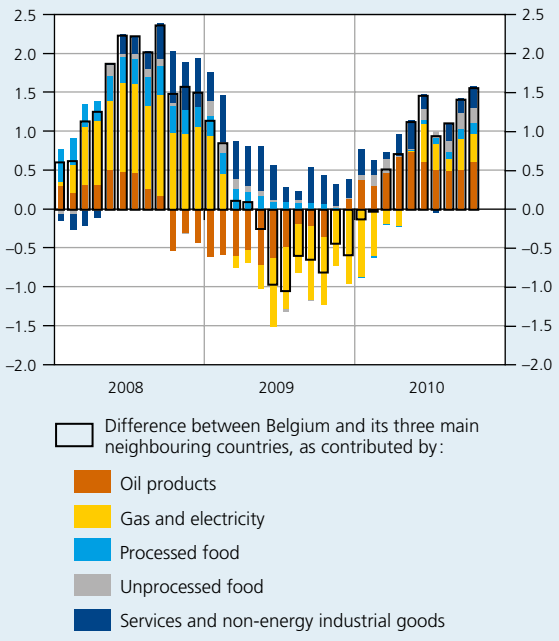
January 2007 and September 2010, the standard deviation of inflation in Belgium from that of the three neighbouring countries actually reached 1 percentage point, whereas it had only hovered around half a percentage point between January 1996 and December 2006.

The widening of the inflation gap observed in 2010 bears many similarities to its evolution in 2008. Against a backdrop of rising crude oil prices expressed in euro, the differential was once again first fuelled by movements in relative prices of petroleum products, before gas and electricity triggered a positive differential after a few months (this has been the case since June 2010). In 2008, moroeover, these developments had been accompanied by a very sharp increase in prices of (processed) food products, in a context of surging food commodity prices. Besides unprocessed food, processed food products again contributed to widening Belgium's inflation gap with the three main neighbouring countries from the summer of 2010 onwards. It remains to be seen whether, like in 2008, this contribution will get any bigger in the near future under the influence of the recent rise in food commodity prices. Finally, in the previous phase where a positive inflation gap had been recorded, a positive contribution from services and non-energy industrial goods had been observed from June 2008, which points up the fact that the greater impact on prices of shocks resulting from movements in raw material prices had ultimately triggered second-round effects. This positive contribution from the above-mentioned components to the inflation gap narrowed in 2009, a downward movement that has recently come to a halt, especially when one considers that the decline recorded in July 2010 is largely due to a one-off and rather artificial effect, namely the bigger weighting given to the group of discounted products in the HICP as of 2010 following a change in the weighting system[1]. So, it will be interesting to see whether the positive contribution from services and non-energy industrial goods will widen again in the future as a result of second-round effects. In fact, the pace of price increases for products used in calculating the health index (heating oil, electricity and natural gas are included, unlike petrol and diesel) has already accelerated to reach 2.6 % in October, whereas it had still been negative in the second half of 2009.

The next part of the article will look in turn at unprocessed and processed food products, and energy, before referring to the underlying inflation trend.

CHART 6 INFLATION GAP BETWEEN BELGIUM AND ITS THREE NEIGHBOURING COUNTRIES

(contribution of the main components to the inflation gap, in percentage points)



Sources: EC, NBB.

UNPROCESSED FOOD

In the case of unprocessed food products, the analysis is complicated by the change in the method for compiling price indices for fruit and vegetables used for calculating the Belgian HICP from January 2010 onwards. This change in methodology, requested by Eurostat, concerns the way in which the seasonal nature of these products, which are not necessarily available all year round, is taken into account. Consequently, the inflation profile for unprocessed food products will be affected throughout the year 2010. Without this methodological change, a smaller positive inflation differential would have been recorded for unprocessed food. Thus, the average inflation rate for this component over the first ten months of 2010 was as high as 3.3 % according to the HICP, as against 2.7 % under the domestic index (which is not affected by the above-mentioned changes). That said, there is no doubt that the pace of price increases has gained momentum in 2010, rising from 1.6 % in the first quarter to 4.8 % in October. This acceleration is basically due to less favourable supply conditions during the summer of 2010, which enjoyed an exceptionally warm and dry July that was followed by a particularly wet month of August, while the favourable weather conditions seen a year earlier had enabled fruit and vegetable prices to be kept at very low levels. Both in Belgium and the three neighbouring

(1) This change of method alters the seasonal profile of the HICP, which has brought about a non-recurring fall in annual inflation in the months of January and July 2010.

countries, sharp fluctuations in supply conditions usually cause a volatile, but nonetheless synchronous, movement in prices of unprocessed food products. While this volatility is no more marked in Belgium, unprocessed food inflation was higher on average in Belgium between 1996 and September 2010, where they posted an annual inflation rate of 2.2 %, compared with 1.7 % in the three main neighbouring countries.

PROCESSED FOOD

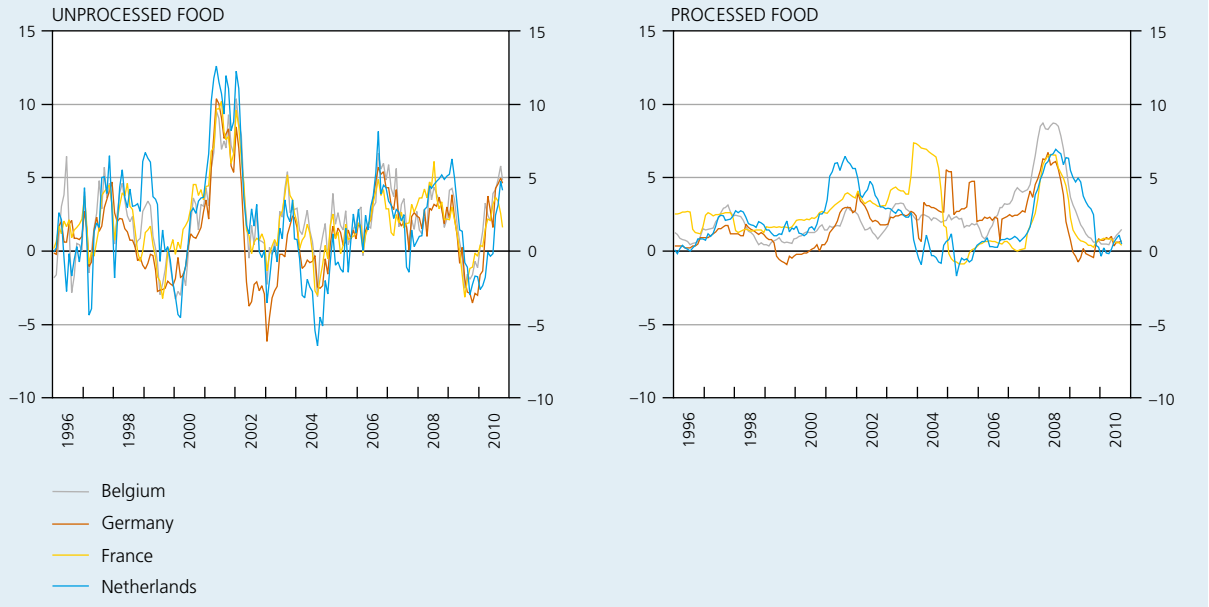
As far as processed food products are concerned, they were found to make a major contribution to the unfavourable inflation gap observed in 2008, when food commodity prices had risen sharply. Considered over a longer period, processed food prices have shown no systematic tendency to rise faster in Belgium than in the three neighbouring countries. However, this is what happened between mid-2006 and the end of 2008. From mid-2007 onwards, marked increases in processed food prices can be linked to the strong increase in prices of agricultural commodities over this period. However, a high degree of transmission of upward cost pressures is not necessarily evidence of uncompetitive price-setting. It can just as easily be an indication of the opposite, because in a fiercely competitive environment, it is hard for the various stakeholders in the food chain, from production to distribution, not to pass on the rise in costs, given that their margins are, in principle, already narrow. This is why the symmetry (or lack of symmetry) between the initial upward phase and the downturn phase is generally the best indicator for assessing the degree of competition. However, no negative gap appeared during the period following the drop in food commodity prices. This finding suggests some degree of asymmetry in price-fixing, at least in the short term, as pointed out in the 2009 annual reports from the Bank and the Price Observatory [1].

During the course of 2009 and more particularly in 2010, prices on international markets started rising again, albeit at varying paces from one product to another. The rise in prices of raw materials was initially concentrated on sugar, cocoa or coffee, before going on to affect commodities like wheat, maize and milk from the summer of 2010 onwards. From July, higher consumer prices were first of all observed in the "sugar confectionery" and "coffee,

(1) In the absence of sufficient data, it has not been possible to find out in which phase of the agri-food production and distribution chain this asymmetry emerged. However, as regards the more specific case of milk, the Price Observatory pointed out that the asymmetry seems to result from price-fixing by both the food production and distribution sectors. At the same time, in several market segments – notably that of premium milk – it has transpired that prices were fixed more evenly and, therefore, more competitively.

CHART 7 CONSUMER PRICES OF FOOD

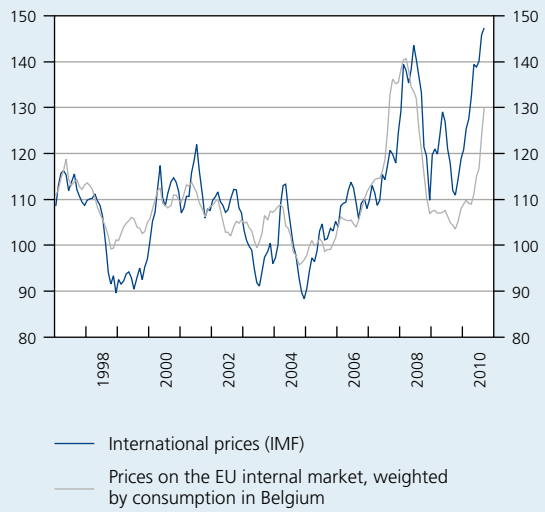
(percentage changes compared with the corresponding month of the previous year)



Source : EC

CHART 8 FOOD COMMODITY PRICES IN EURO

(index 2005 = 100)



Sources: IMF, NBB.

tea and cocoa" components, and then for products like bread and butter, too. In recent months, price rises for these products have been more marked than in the three main neighbouring countries. As the 2007-2008 experience showed, price increases like this can have major consequences. It is therefore important that the way in which rises in food commodity prices are passed on is carefully monitored over the next few months for all food products, a major task for the Price Observatory.

ENERGY

Energy products have a tendency to contribute positively to the inflation differential when raw materials prices rise (as in 2008 and again in 2010) and to contribute negatively to this differential when they fall (as in 2009). This suggests that Belgian inflation is more sensitive to fluctuations in the price of energy raw materials. Judging from several recent publications in the Bank's Economic Review[1], three factors give an explanation for this greater sensitivity: higher energy consumption by households, a lower average level of excise duties on energy products than in other countries, and certain features of pre-tax energy price-setting in Belgium, notably a particularly swift transmission of energy commodity prices to consumer gas and electricity prices.

Turning to Belgian households' comparatively higher consumption of energy products than households in neighbouring countries, this increases their weight in the consumer price index and therefore makes it more sensitive to energy prices. Factors helping to explain this situation are put forward in Baugnet and Dury (2010). Controlling and, as far as possible, reducing the energy intensity of the Belgian consumption profile is a major challenge, not just for the sake of the environment, but also from a macroeconomic point of view. An increase in excise duties on energy products could help here. In addition, any such increase would automatically weaken the link between consumer prices and energy commodity prices (see below). But since it would also have an upward influence on the health index, it risks having adverse effects on wage cost developments.

At the same time, the weight of energy consumption varies according to the source used: it is higher in the national accounts than in the household budget survey. Since 2010, the HICP has switched from a weighting system based on this survey – as is still the case with the national consumer price index from which the health index is also derived – to a system based on the national accounts, which has pushed up the share of energy compared with the national index[2]. According to these data, it is mainly consumption of motor fuels and heating oil that is stronger in Belgium. Although this new weighting system is not yet being used to calculate the national index and the health index – because the Index Commission still has to examine its relevance – it is nevertheless useful to assess the impact that switching over to this new weighting system could have on the health index. As regards the share of energy products included in this index (i.e. excluding motor fuels), there is virtually no difference at all from the current system, but the composition is different: heating oil would see its relative share grow, while the share of gas and electricity would shrink.

The second factor explaining the higher short-term sensitivity of inflation to oil shocks in Belgium is the fairly low level of excise duties and related taxes on diesel, natural gas, electricity and, above all, heating oil compared with the country's three main neighbours. By way of example, these differences in excise duties are illustrated in the article by Baugnet and Dury (2010) mentioned above. The mechanism at work here can be summed up as follows: taking account of the relatively low excise duties, the (implicit) weight of energy commodities in consumer prices for energy products is higher and any given

(1) See Cornille (2009), Baugnet and Dury (2010), Coppens (2010) and Swartenbroekx (2010).

(2) This difference has accounted for more than half of the gap between inflation rates measured using the two concepts since the beginning of 2010. Over the first nine months of 2010, this difference came to 0.2 of a percentage point, while during the same period, the average inflation rate measured by the HICP was 2.1% compared to 1.9% under the national index.

TABLE 1 WEIGHTING FOR ENERGY PRODUCTS IN BELGIUM AND THE THREE MAIN NEIGHBOURING COUNTRIES

(per thousand)

	Average over the period 2000-2010		Weightings in 2010		
	Three main neighbouring countries	Belgium	Three main neighbouring countries	Belgium	*p.m. Belgium (national index)*[1]
Energy	**96**	**105**	**102**	**112**	***101***
of which:					
Motor fuels	40	42	41	50	*39*
Heating oil	8	15	8	17	*12*
Gas	15	20	16	17	*21*
Electricity	23	28	27	27	*29*
Other[2]	9	1	10	1	*1*
p.m. Energy, excluding motor fuels	*55*	*64*	*61*	*62*	*62*

Sources: EC, NBB.

(1) Adjusted for relative price variations between the reference year 2004 and 2009.

(2) Especially the purchase of direct heat via the district heating networks in Germany and France and coal in Belgium.

percentage change in the price of the raw material will trigger a more pronounced percentage change in the prices charged to the consumer (and will therefore have a greater impact on inflation).

In order to analyse the third explanatory factor, the mechanism for setting pre-tax prices needs to be studied carefully. The results of such an analysis vary from one product to another.

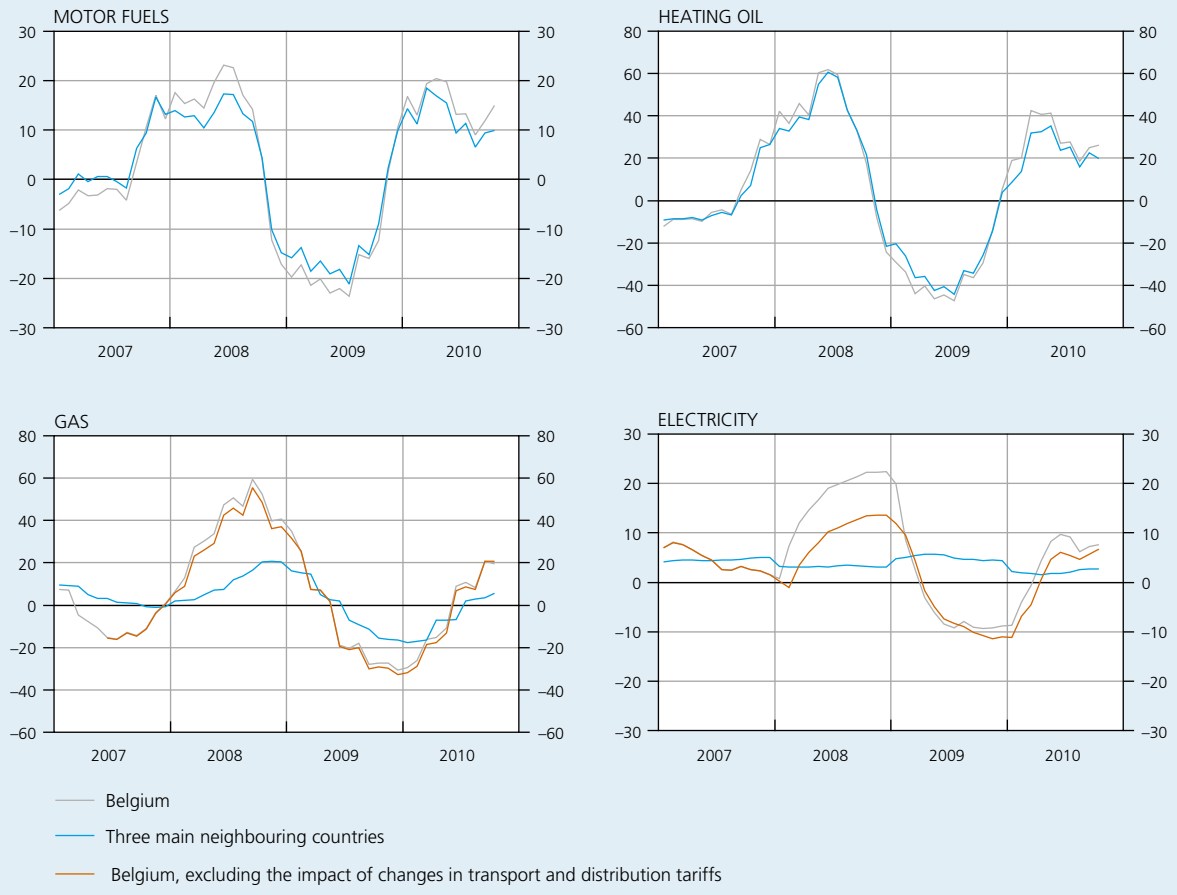
In the case of oil products, various analyses – and notably that conducted by Baugnet and Dury (2010) – provide evidence that the transmission is comparable in the different countries, at least when it is expressed in eurocents per litre. In both Belgium and the neighbouring countries, it is complete (in other words, a rise in the price of the refined product normally triggers an equivalent absolute increase in the consumer price) and the feed-through is very quick (transmission completed only after a few weeks). Also, the programme contract does not seem to have any notable influence on the dynamics of the transmission of crude oil price fluctuations to Belgian consumer prices for oil products. On the other hand, the gross margins on petrol and diesel appear to be slightly higher in Belgium than those recorded in Germany and France, but somewhat lower than margins in the Netherlands. This finding can probably be explained both by the fact that petrol stations generate a higher turnover (and thus reap greater economies of scale) in Germany and France and that the market is not as concentrated there. In France, it should also be noted that supermarkets sell motor fuel at relatively low prices. Therefore, it seems that there is still some margin, albeit very small, for bringing down petrol and diesel price levels in Belgium by sharpening competition and reaping economies of scale. This option seems a lot less conceivable for the pre-tax price of heating oil, which is lower in Belgium than in the three main neighbouring countries. The contrast between the situation for heating oil and motor fuels could also suggest a certain degree of cross-subsidisation between the products targeted by the programme contract.

As regards natural gas, the transmission is slower than for oil products: here we are talking about months rather than weeks. However, Baugnet and Dury (2010) show that it is a lot less rapid in Belgium than in its neighbouring countries[1]. In addition, gas prices in Belgium were pushed upwards in 2007 by the change made by the country's main gas supplier to one of the parameters of the reference index for energy costs in October 2007. Following the collapse of gas prices in early 2007 and changes in supply contracts, the supplier had decided to raise the constant term in the corresponding indexation formula. This pricing formula review was followed by similar – but less far-reaching – adjustments by other

(1) The feed-through of gas and electricity prices to the consumer price index has also become faster than during the period prior to 2007, given that prices are recorded under the "acquisition" approach (each month, the rate applied during the month in question is registered), whereas the "payment" approach had been used before (each month, the price from a fictitious annual invoice covering the last twelve months was recorded). While this change in methodology has evidently speeded up the (observed) transmission compared with the pre-2007 period, it is no longer a source of divergence from the neighbouring countries, since the so-called acquisition method has been used there for much longer. Besides, this is in line with the methodological recommendations in this field. See, for example, Cornille (2009).

CHART 9 CONSUMER PRICES FOR ENERGY

(percentage changes compared to the corresponding period of the previous year)



Sources: EC, NBB.

suppliers. The result was a price increase that can be regarded as permanent (see also Swartenbroekx, 2010, for more details).

Consumer prices of electricity in Belgium also appear to be particularly sensitive and react quickly to price fluctuations on the international energy markets, while in the neighbouring countries the latter do not seem to have any impact on electricity prices (see Coppens, 2010). This is one of the reasons why electricity prices shot up in Belgium in 2008 at a much faster pace than in the neighbouring countries. And it is for exactly the same reason that electricity prices for households in Belgium fell in 2009, before rising significantly again from the middle of 2010. A sharp rise in distribution and transmission rates in 2008 – and to a lesser extent in 2009 – also played a significant part in the rise in electricity consumer prices in Belgium, something that was much less pronounced in the case of gas. These increases in transport costs and distribution charges replaced the cuts that had previously been imposed by the Commission for Electricity and Gas Regulation (CREG), which had ruled that the prices being charged were inappropriate. The arguments put forward to justify this assessment have nevertheless been contested in the law courts and CREG's case was thrown out at the end of 2007. Consequently, substantial price increases were made at the beginning of 2008 which effectively cancelled out the reductions that had previously been required.

The Belgian particularities of price-setting by electricity and gas suppliers – i.e. the part of the final price that does not include taxes and transport and distribution tariffs – can be explained by the unique model of monthly indexation of consumer gas and electricity prices based on pricing formulas which depend mainly on energy

commodity price movements. Consumer prices are in fact adjusted less frequently in the other countries and, in some countries like France and the Netherlands, there are still price controls of some form, while in Belgium, suppliers have been free to fix their own prices since the market was opened up to competition.

The principle of gas and electricity raw material prices being passed on to the consumer should not be called into question. It needs to be defended especially when it comes to more permanent movements since this is a major signal intended to encourage more rational energy consumption. It nevertheless remains to be seen whether pricing formulas closely reflect real supplier cost developments and whether an immediate repercussion onto the consumer of each change in raw material prices really is optimal. But, on the basis of information available in the public domain, it is not possible to make any decisions on whether there are any grounds for these indexation formulas (see, for example, Coppens, 2010, Baugnet and Dury, 2010, or, in this Economic Review, Swartenbroekx, 2010).

Both the keen and atypical sensitivity of consumer electricity prices in Belgium to fluctuations in energy commodity prices in a European context and the changes made to natural gas pricing formulas in 2007 raise questions. It therefore seems quite clear that the regulatory authority should play a more active role here. Under the wider competences the CREG has enjoyed since 2008 (the Law of 8 June 2008 notably gives it the power to assess whether prices offered by gas or electricity companies are objectively justified by their costs), it can now act on an *a posteriori* basis and point out any possible anomalies to the Competition Council. Using its price monitoring powers, the CREG would have liked the Council to re-examine the changes made in 2007 by the main supplier in the gas-pricing formula but the Competition Council no longer wanted to take the case given that it had already ruled previously that this change was not problematical at all. A model for *a posteriori* monitoring of price-setting seems to work better in Germany (see Swartenbroekx, 2010). In the Netherlands, the procedure is different : regulatory authority examines the grounds for energy suppliers' prices and their adjustments before they are actually put into practice.

UNDERLYING INFLATION TREND

The above-mentioned developments have strongly influenced the health index. Food price changes are actually fully reflected in the index, while energy price developments are only partly disregarded. While it excludes petrol and diesel, the health index covers heating oil, gas and electricity, which together account for around 60 % of the energy weighting. Moreover, gas and electricity price developments seem to have been more volatile over the last four years than previously. As a consequence, the health index has not been shielded from fluctuations in energy raw material prices as during the period from 1996 to 2006. So, the pace of increase in the health index climbed to 5.1 % in the third quarter of 2008 and fell back to –0.5 % in the third quarter of 2009 before accelerating again to reach 2.3 % during the third quarter of 2010. In October 2010, it even got as high as 2.6 %. As a result, the new trigger index in force in the general government sector had already been reached in August 2010, although it should not have been until the beginning of 2011 according to the inflation forecasts made in early 2010, assuming lower oil prices and food commodity prices.

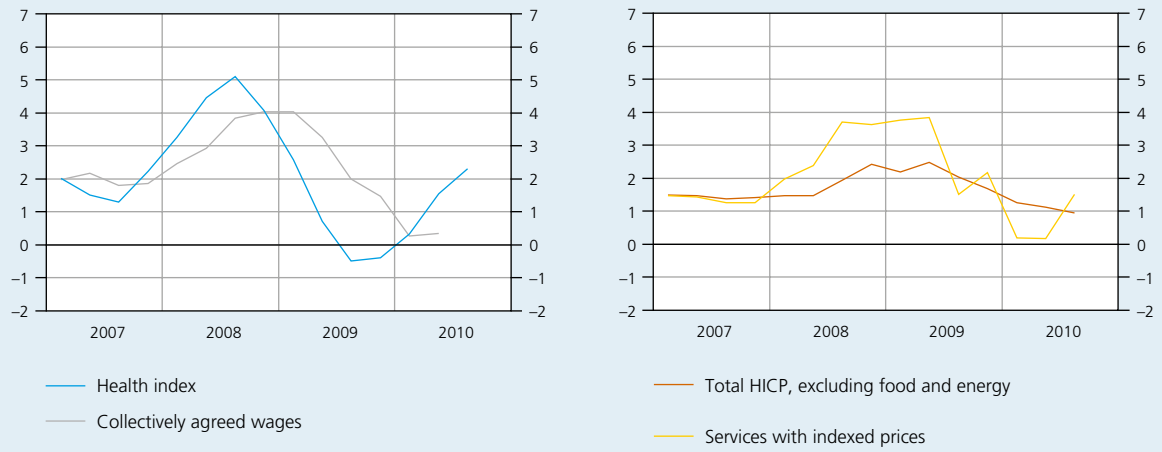
These developments have obviously had some impact on the trend in underlying inflation. To start with, a whole range of services are automatically index-linked via the health index or a related index. This is notably the case with housing rent, which can be set freely when a lease is renewed, but any adjustment of the rent during the lease term is limited by law to an annual indexation based on movements in the health index. Other practical examples of indexation include prices of postal and rail services, for which any increases are linked to inflation, or premiums on fire insurance contracts, which are linked to the ABEX index[(1)]. Overall, changes in prices for roughly a quarter of all services, making up around 10 % of the HICP, are due to a more or less formalised system of indexation. The trend in prices for these services, which follow movements in the health index with a certain time lag, picked up again in the third quarter of 2010 after a net decline in the first two quarters.

It should also be pointed out that an acceleration of the upward trend in the health index feeds through to collectively agreed wages after some delay, owing to the wage indexation system. This faster increase in wages, in turn, is not without repercussions on the trend in underlying inflation, which rises almost in line with wages. Moreover, it was during the period of an upward trend in underlying inflation in 2008 and 2009 that a positive gap appeared with the three main neighbouring countries for this component, which accounts for almost 70 % of the HICP. This gap narrowed in the second half of 2009 and at the beginning of 2010, notably under the influence of the marked weakening of indexation effects at the time.

(1) The ABEX is compiled twice a year by the Association of Belgian Experts. This index follows movements in construction costs in Belgium on the basis of construction material prices and wage costs in the building industry.

CHART 10 UNDERLYING INFLATION TREND

(percentage changes compared to the corresponding quarter of the previous year)



Sources: DGSEI; FPS Employment, Labour and Social Dialogue.

It nevertheless remained positive throughout this period and, in the meantime, the dampening of indexation pressures came to a halt. Likewise, indexation is expected to fuel inflation anew.

Once again, it appears that indexation is a major challenge for safeguarding the Belgian economy's competitive edge. This is precisely why the 1996 law incites the social partners to cancel out the undesirable effects of indexation, by taking full account of their impact on wage formation as well as on competitiveness vis-à-vis the three main neighbouring countries. Under the current circumstances, it must be a priority during the negotiations with a view to concluding a central agreement for the 2011-2012 period.

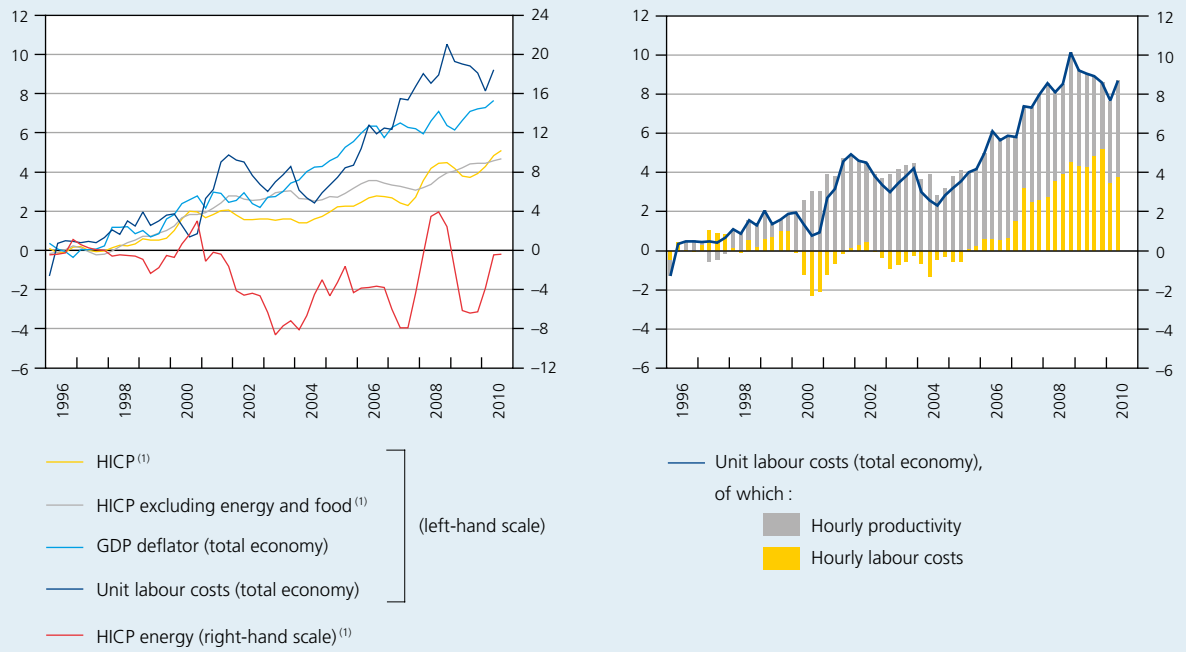
3.2 Trend in the inflation gap relative to the three main neighbouring countries since 1996

A comparison, over a long period, of the main indicators of changes in prices and costs in Belgium and the three main neighbouring countries produces roughly the same indication from all of them, namely that Belgium's competitive position in terms of prices and costs has deteriorated since 1996 in relation to these three countries. The rise in the overall HICP, the underlying inflation trend, the GDP deflator and unit labour costs in the total economy was between 5 and 9 % faster than in these countries. The fact that the main indicators all point in the same direction emphasises how robust these findings are and confirms previous reports compiled by the Central Economic Council for the social partners on the basis of the relative trend in hourly labour costs in the private sector.

It is also striking that, for the whole period running from 1996 to September 2010, the cumulative trend in energy prices in Belgium has remained in line with that in the three main neighbouring countries, even though there is clearly greater volatility in Belgium. In the event of an increase in the price of crude oil expressed in euro (2000, 2008, 2010), the Belgian HICP actually goes up more than the three neighbouring countries' indices, while the opposite happens when there is a fall in crude oil prices (2002-2003, 2007, 2009). The alignment of cumulative energy price trends between Belgium and its three main neighbours can be explained as follows: the impact of the greater sensitivity of the Belgian HICP to oil prices – the whole of the period under consideration has in fact been marked by a trend increase in crude oil prices expressed in euro – was offset by an initially more favourable movement in natural gas and electricity prices. This does not necessarily mean that there is no need for a more in-depth analysis of gas and electricity price-setting. In view of the growing volatility of these energy products and the fact that their prices have risen more rapidly than in the three main neighbouring countries since 2007, such an analysis would most certainly be relevant, especially from a forward-looking perspective. In the past, however, energy price developments, unlike labour cost trends, have not been among the main causes of the Belgian economy's

CHART 11 CUMULATIVE RELATIVE TRENDS IN PRICES AND COSTS: COMPARISON OF THE DIFFERENT INDICATORS

(period Q1 1996 – Q2 2010, cumulative divergence from the three neighbouring countries, seasonally adjusted data)



Sources: EC, ECB.
(1) Period Q1 1996 – Q3 2010.

deteriorating price and cost competitiveness vis-à-vis the three neighbouring countries.

Despite some brief periods of divergence, the GDP deflator actually shows a similar relative movement to unit labour costs in the total economy. This is hardly surprising since wages are an important cost factor. The more stable evolution of the GDP deflator shows that the stronger cyclical pattern of unit labour costs is to some extent offset by profit margins. However, very few differences emerge in the trend movement of the two indicators; indeed, the impact of the buffer role played by profits is limited to the short term. Over the whole period, the relative trend in consumer prices measured on the basis of the overall HICP, or the underlying inflation trend, has remained slightly below that exhibited by the GDP deflator. This can be explained by the fact that consumer prices do not just reflect changes in domestic costs, but they are also influenced by import prices. This divergence is no doubt also partly attributable to a series of indirect tax measures, which usually have a stronger impact on consumer price movements than on the GDP deflator. These measures have actually pushed the consumer price index up faster in the three neighbouring countries than in Belgium. It is mainly Germany that has seen a significant increase in indirect taxes during the period under consideration (essentially in 2007). These tax rises were intended to finance the reduction of social security contributions. Moreover, the relative trend in the HICP deviates from that of the underlying inflation trend from time to time, because Belgian consumer prices are much more sensitive to fluctuations in energy commodity prices. Over the whole period from 1996 to September 2010, the relative movements in the two measures of inflation have nevertheless remained quite similar.

Breaking down relative movements in unit labour costs, it appears that the increase in hourly labour costs in Belgium has remained more or less in line with that seen in the three main neighbouring countries over the period between 1996 and 2005. However, over these years, the rise in productivity was not as high in Belgium, so unit labour costs still rose faster than in these three countries. Yet the main reason for the widening of the gap observed since 2006 is the increase in labour costs per hour worked. This pattern is to a large extent in line with the Central Economic Council's findings concerning the relative trend in hourly labour costs in the private sector.

Conclusions

As a result of the economic crisis, it has become clear that more effective monitoring of imbalances and shifts in competitiveness is required in the monetary union that the euro area countries form. To this end, the Van Rompuy Task Force has drawn up a new framework, which was endorsed by the European Council at the end of October 2010. Several indicators show that, since the European monetary union was set up, Belgium has managed to maintain its price and cost competitiveness vis-à-vis the euro area. Some deterioration in its competitive position with the three main neighbouring countries has nevertheless been observed, and more particularly in comparison to Germany. Meanwhile, against a backdrop of a severe recession, a correction of the competitive handicaps that have built up in the past is now underway, and most notably in Ireland, Spain and Portugal. This means that Belgium has less scope for allowing its competitive position to deviate from that of its three neighbours if it is to consolidate its overall position in relation to the euro area. On the other hand, it is highly unlikely that Germany will continue to boost its competitive edge at the same pace.

This article has also confirmed the Central Economic Council's findings concerning the competitive disadvantage in terms of hourly labour costs in the private sector that has built up in Belgium since 1996 by comparison to the three neighbouring countries. The repercussions of this handicap have been weighed down even further by less favourable productivity trends. The end result is a cumulative positive inflation gap with the same countries of around 5 percentage points since 1996, largely attributable to faster growth of unit labour costs, while the contribution of energy price developments has on the whole been neutral over this period.

Over the first ten months of 2010, inflation rose more quickly than in the three main neighbouring countries. It reached 3.1 % in October in Belgium, while it only averaged 1.5 % in Germany, France and the Netherlands. Several parallels can be drawn with the year 2008. A rise in energy and food commodity prices once again seems to give rise to stronger first-round effects in Belgium. Oil product price trends and also movements in natural gas and electricity prices play an important role here, as they did in 2008. In the last few months, the price of food has also risen a bit more sharply in Belgium than in the three main neighbouring countries, and the experience of 2008 suggests that this gap could widen further in the near future. In this context, the rise in the health index has accelerated sharply, reaching 2.6 % in October, something which tends to enhance the risk of second-round effects. This is a major challenge for safeguarding the country's competitive edge which is absolutely essential.

In the immediate future, vigilance is therefore required on two fronts. On the one hand, attention needs to be paid to the extent of the first-round effects that commodity price changes have on inflation. The Price Observatory, the CREG and the Competition Council have an important role to play here. Besides food price developments, several recent studies by the Bank suggest that, regarding energy products, attention really needs to be focused on natural gas and electricity. For these energy products, raw material price changes feed through to the consumer very quickly through the monthly index-linked pricing formulas used in Belgium – a unique practice in comparison with the neighbouring countries – and, furthermore, it is impossible to tell from publicly available data whether these pricing formulas do actually offer a true reflection of trends in costs. On the other hand, it is important that the social partners seize the opportunity of the next round of wage bargaining negotiations to internalise all possible effects of indexation and strive to reach agreement on nominal wage rises that will help protect the country's competitive position in accordance with the 1996 Law on the promotion of employment and the preventive safeguarding of competitiveness. In the longer term, a reduction in the energy intensity of Belgium's consumption profile would also help to keep price and cost developments under control.

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Implications of liberalisation for methods of setting retail gas prices in Belgium

Carine Swartenbroekx *

Introduction

Various analyses conducted at the National Bank of Belgium (Cornille, 2009) (Coppens, 2010) (NBB, 2010) and elsewhere (ECB, 2010) (NAI Price Observatory, 2010) show that in recent years prices of gas (and electricity) have made a significant contribution to inflation and have increased the volatility measured by the harmonised index of consumer prices (HICP). Various reasons for this have been suggested, including the ways in which liberalisation has changed the methods of setting the prices charged to residential customers.

Indeed, the aim of market liberalisation is to ensure that activities previously organised as monopolies are opened up to competition. In the gas and electricity sectors, this has been a three-stage process: segmentation of the production/supply chain, introduction of competition in the liberalised segments, and maintenance of control in the segments where the natural monopoly still exists. For the European gas industry, this has led to the decoupling of the liberalised activities concerning the purchase and sale of gas upstream and downstream of the transmission/distribution infrastructures, while the latter remain subject to regulation. In practice, this process has entailed thorough restructuring of the segments concerned and the establishment of new market mechanisms and channels linked to the unbundling of the gas supply chain. Consumers in Belgium have felt the effect of these changes, and since 1 January 2007 they have all been able to choose from a range of suppliers. Previously, gas was supplied by a vertically integrated operator at the same price for everyone, but nowadays Belgian consumers have the choice between several operators all offering their own tariff formulas.

This article analyses how the operators active on the Belgian gas market have taken advantage of this freedom to set prices, and how they are positioning themselves against what is happening in neighbouring countries. The analysis of the methods of setting retail prices on the basis of the price lists issued by the main operators shows that the latter have substantial freedom to set prices in Belgium, whereas this degree of freedom is not the same in other countries, a fact which must be borne in mind when making international price comparisons.

After a brief description of the structure of the Belgian wholesale and retail markets on the basis of the various operators active on those markets, section 2 focuses on an analysis per component of the variable-price tariff formulas offered by the gas suppliers serving customers in the residential sector. The situation of the operators as regards retail pricing is then assessed from an international perspective, and some findings which emerged during the exercise are also stated.

* The author would like to thank L. Aucremanne, F. Coppens, D. Cornille, J.-P. Pauwels and G. van Gastel for their comments and observations on this article.

1. Liberalisation and restructuring of the gas and electricity supply chain

Liberalisation implied a restructuring of the gas and electricity supply chain, which involved a decoupling of the chain into various segments, namely production/supply, transmission, distribution and marketing[1]. It also entailed the establishment of pricing methods for each segment and between them, with:

- production/supply, where pricing is not regulated; prices are based on transactions taking place on various wholesale markets between producers, shippers and resellers on the basis of mutual or over-the-counter (OTC) contracts, transactions on exchanges or via auctions (gas releases[2]);
- transmission and storage invoiced by the transmission network operator (TNO), either on the basis of negotiated prices or on the basis of prices regulated by a regulatory body, which is the option adopted in Belgium;
- distribution invoiced in Belgium by the distribution network operators (DNOs) also on the basis of regulated prices;
- and marketing to small consumers for whom prices are based on "free" standardised retail market tariff formulas, and on the basis of negotiated contracts for large industrial consumers (often with direct supply from the transmission network).

The price charged to the end-user includes the costs and profit margins of each segment, plus surcharges and taxes.

Since gas is a primary energy source which has to be bought from the producers, gas resellers on the wholesale and retail markets act as commercial agents whose tariff structures are designed to cover the cost of buying the gas, in particular. As at 31 December 2009, ten suppliers were active on the Belgian wholesale market out of a total of twenty-eight operators holding a federal licence to supply natural gas. This concerns supplies to customers (large consumers) linked directly to the TNO's transmission network (Fluxys) and to resellers active on the distribution networks. Chart 1 shows the distribution of market shares on the basis of energy supplied by the various operators active in 2009.

On the retail market, 45 % of the gas volumes are supplied via the distribution networks for residential and business consumers (SMEs and self-employed workers connected to the distribution networks). The bulk of that gas is supplied in the Flemish Region (67 % of the volumes supplied by distributors). Twelve suppliers are active on the retail market alongside the DNOs[3]. Only seven of the twelve suppliers have developed an active marketing policy targeting customers in the residential sector. Chart 2 shows their respective market shares on the basis of the number of access points[4].

(1) For a description of the gas market and its various components, see Swartenbroekx C. (2007), *The gas chain: influence of its specificities on the liberalisation process*, NBB, Working Paper 122.

(2) Procedures arranged for the resale to competitors of gas volumes held by the historical operators.

(3) In accordance with their public service obligations, the DNOs are the supplier of last resort for customers in difficulties whose supply contract has been cancelled by their supplier: this may concern protected customers qualifying for the social tariff, defaulting customers, customers waiting for a budget meter to be installed, etc.

(4) For the purpose of assessing the retail market situation, market shares based on access points are more relevant than those based on the energy supplied, as the latter attach too much weight to (larger) business users as opposed to residential consumers, since these statistics make no distinction between the two.

CHART 1 OPERATORS ACTIVE ON THE NATURAL GAS WHOLESALE MARKET

(market shares in 2009 based on the energy supplied)

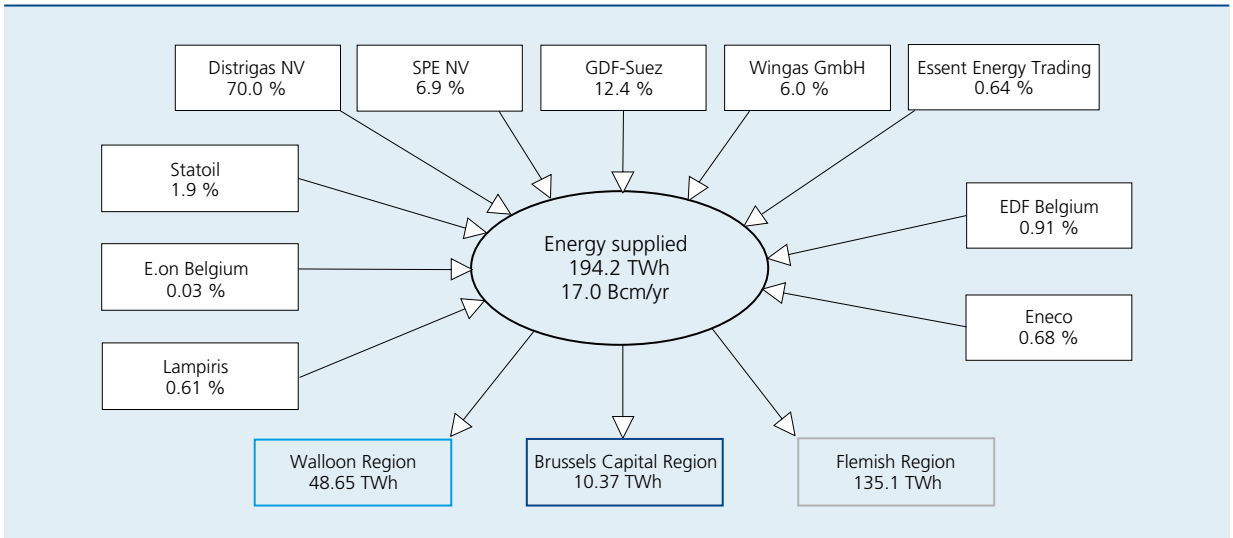
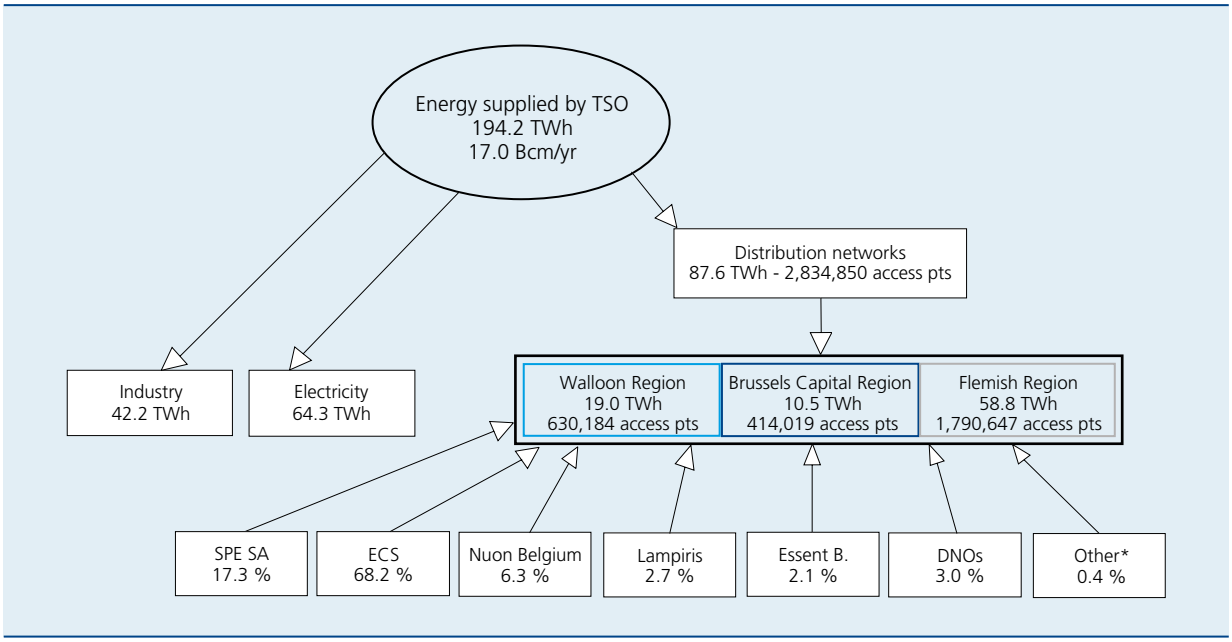


CHART 2 RESELLERS ACTIVE ON THE NATURAL GAS RETAIL MARKET

(market shares in 2009 on the basis of the number of access points)



Sources: NBB, CREG – CWaPE – BRUGEL – VREG (2010).

* In most cases, the "other" suppliers are resellers serving business users, namely Distrigas, EDF Belgium, GDF-Suez, Wingas and Eneco België. In contrast, Elektriciteitsbedrijf Merksplas and Dong Energy Sales also serve private customers in the Flemish Region.

The analysis which follows concentrates on the methods of pricing energy (excluding distribution costs and taxes) for consumers in the residential sector (private customers).

2. Impact of liberalisation on market developments and the pricing of energy

2.1 Transition from regulated tariffs to free tariff formulas for energy costs

Before liberalisation, the prices charged to consumers were based on agreements negotiated within the Electricity and Gas Control Committee (CCEG), between the social partners and the energy sector comprising the historical gas and electricity suppliers – who were at that time also responsible for transmission – and the local distribution companies. These tariffs, negotiated and recommended by the CCEG, were then endorsed by the government.

2.1.1 Electricity and Gas Control Committee

Established by an agreement in 1955, the CCEG aimed to "ensure that the technical, economic and tariff situation and developments in the electricity and gas sectors are geared to the public interest and conform to the overall energy policy". The CCEG was abolished on 1 July 2003.

The negotiated tariff was a single all-in price which guaranteed the same price for all customers in the same consumption class regardless of their location. This tariff recommended by the CCEG was indexed monthly by reference to parameters reflecting the movement in costs comprising a proportional term relating to the purchase price of imported gas at the border, as indicated by the sales formula of the historical supplier, Distrigas, for public distribution, with:

– an annual standing charge = (a x IGD)
– a variable charge = (b x IGA) + (c x IGD)
  intended to cover gas import costs and other associated supply costs.

The gas acquisition index IGA reflected the movement in the natural gas price paid to public distribution and aimed to mirror the indexation of the long-term supply contracts on the international markets. Its publication ceased in November 2007, and all suppliers now use their own indexation formulas. The gas distribution index IGD reflects the movement in distribution costs other than those relating to the acquisition of gas (wages, overheads, return on capital employed, etc.). The current IGD is

defined by the Ministerial Decree of 12 December 2001, and is published monthly on the website of the federal regulator (CREG). It is still being used by all suppliers and is the same for all of them :

IGD = 0,44 + (0.31 x S) + (0.25 x M)

with : S = AGORIA reference labour cost index

M = equipment cost index.

The values of the coefficients a, b and c make it possible to set differential tariffs for the various consumption classes.

2.1.2 Tariff formulas applied to gas

2.1.2.1 January 2007 : full liberalisation of the Belgian market and freedom to set tariffs for energy costs

Following the full liberalisation of the Belgian market, each supplier is free to define its own tariff formulas for the energy cost, and in particular to define the parameters and coefficients used in variable-price contracts for the supply of energy. The indexation adopted by suppliers retains the indexation formula which the CCEG used to apply, with :

– an annual standing charge = (a x IGD)

– energy cost (proportional charge) = (b x Igm) + (c x IGD)

where a, b and c are tariff coefficients specific to each supplier, each tariff formula and each consumption class ;

IGD = the gas distribution index reflecting the movement in distribution costs other than those relating to gas purchases, described above ;

Igm or GPI = an index reflecting movements in the cost of purchasing natural gas. Since full liberalisation of the market, that index has been calculated by each supplier instead of the former gas acquisition index.

Tariffs vary between suppliers in regard to :

– indexation formulas for the purchase of gas (coefficients and criteria underlying the former IGA = Igm or GPI) ;

– and the tariff coefficients a, b and c, so that the indexed prices of each supplier may vary in their sensitivity to movements in the parameters.

These elements influence both the annual standing charge and the cost of energy. The rest of the analysis concentrates on this last component. The tariff formulas are detailed in Annex 1 for the consumption class ranging between 5,001 and 30,000 kWh per annum, which corresponds to the use of gas for cooking and heating. This class also tallies most closely with the consumption band D2 corresponding to annual consumption between 20 and 200 GJ (5,555 to 55,555 kWh), used by Eurostat for its half-yearly monitoring of household gas prices.

The Igm indexation formulas used by suppliers for the purchase costs of gas are very similar, and of the type : (0.25 HUB + 0.0468 GOL603 + x * (CPIy–1 / CPIy–2) + y) / 21.21479

– (HUB), the price of forward contracts for gas traded on the Zeebrugge hub, reflecting the movement in the cost of spot gas purchases. The introduction of this parameter in relation to the former IGA formula also coincided with the end of the supply contract between Distrigas (the historical wholesale market supplier) and Algeria, and its replacement at the beginning of 2007 by a contract with Qatar (CREG, 2008a) ;

– (GOL603), the price of gasoil, which reflects the movement in the cost of purchases under other long-term contracts by Distrigas, indexed after a time lag to the price of oil / petroleum products ;

– (CPIy), the consumer price index, which determines the general movement in prices of other purchases ;

– x, the weighting coefficient applied to the CPI at the option of each supplier ;

– y, a constant, independent of the parameters and freely chosen by each supplier ;

– 21.21479, a reference value used in the calculation of the old IGA index (CREG, 2006).

The differences between indexation formulas concern :

– whether or not account is taken of the consumer price index : the CPI is not used by all suppliers (index adjusted annually) ; if it is not taken into account, a higher coefficient c is usually assigned to the IGD in compensation ;

– the use of a constant *y* allowing the price to be adjusted independently of the parameters (HUB, GOL and CPI).

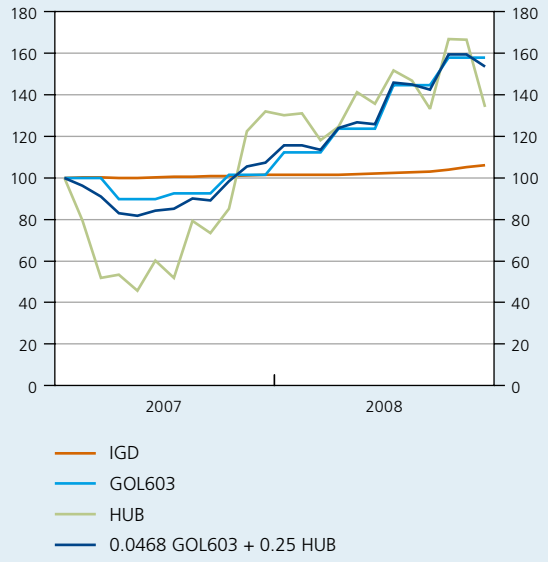
It is notable that the "0.25 HUB + 0.0468 GOL603" component has appeared at some point in the indexation formulas of all these suppliers. As pointed out by the federal regulator, if – as the suppliers claim – their indexation formula reflects the movement in the natural gas acquisition cost, it is reasonable to assume that this component is present in the purchase contracts which they concluded (at the time) with the historical importer on the wholesale market (CREG, 2007).

2.1.2.2 October 2007 : the historical gas supplier uses the freedom to set tariffs...

In June 2007, the historical gas supplier on the retail market, Electrabel Customer Solutions (ECS), announced that, following the increase in energy prices on the international markets, new prices would apply with effect from September 2007. In the end, the revised prices were not introduced until October 2007 owing to confused communication with customers. The context of this price rise deserves some explanation.

CHART 3 TREND IN GOL603, HUB AND IGD PARAMETERS IN 2007-2008

(indices 100 = January 2007)



Source: CREG.

The initial months of the full liberalisation of the Belgian gas market coincided with a decline in fossil fuel prices on the international markets in relation to 2006. This adverse trend in both the GOL and the HUB depressed the margin of operators acting as agents by the amount of the part of the energy price linked to those (declining) parameters, since their energy selling price is structured as follows: b (0.25 HUB + 0.0468 GOL603) + b (ΔCPI) + b (constant y) + c IGD. In order to distinguish themselves from others, suppliers choose their own value of the coefficients b and c and the constant y to cover their gas import costs and other supply costs, and to include their margin.

The withdrawal in January 2007 of the IGA formula which had applied before liberalisation and its replacement by the GPI parameter led to an average decline in the selling price, compared to the price using the IGA, of 0.45 cents per kWh (excluding VAT) over the period from January 2007 to September 2007. The indexation formulas adopted in January 2007 in fact refer to two energy parameters which followed a trend unfavourable to the operators. The cumulative effects of this in the first half of 2007 led to a reduction in the variable part of their price, and possibly their margin (all other things being equal, particularly the gas purchase conditions).

Since the selling price, and possibly the margin, applied by resellers can be adjusted by changing the value of the coefficients b and c and/or that of the constant, this means in particular that the price comprises:

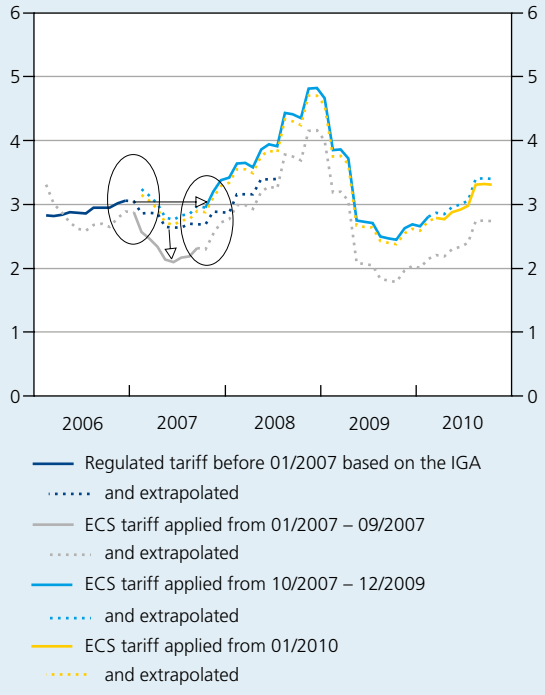
– a variable element, proportionate to the fuel price (GOL and HUB) and the CPI;
– a fixed element unaffected by movements in the parameters, which is the difference between the old constant and the new one (or more precisely b x Δ constant).

The change in the historical supplier's indexation formula with effect from October 2007 concerns the constant in the indexation formula and represents a permanent price increase of 0.66 cents per kWh (0.8 cents per kWh including VAT), regardless of the movement in fuel prices. Its immediate application leads to a realignment of the monthly price at the end-2006 level, just before the full liberalisation of the market (see chart 4).

Caution must be applied to any extrapolation of the effects of this selling price rise on the reseller's margin, because everything depends on developments concerning

CHART 4 TREND IN THE PROPORTIONAL CHARGE FOR THE ENERGY PRICE EXCLUDING VAT

(cents/kWh)



Source: Own calculations based on (ICEDD, 2009a) and (CREG, 2006).

the reseller's upstream purchasing conditions, both on the exchanges and in bilateral contracts (for which the prices are not disclosed). The reseller's margin remains unchanged if the selling price rise merely passes on the change in the price affecting its purchase portfolio. In its (confidential) report on the link between costs and prices of importers and resellers on the Belgian residential and business market in natural gas over the period 2004-2009, the CREG mentioned three factors behind the increase in free market prices in recent years: the rise in oil product prices, the increase in the profit margin of the main gas supplier, and the variable increase in the profit margin of the leading natural gas importer (CREG, 2010a).

Table 1 shows the market shares held by operators active in 2007 as sellers on the wholesale and retail markets (supplies via transmission and distribution networks) expressed in terms of the volumes traded. By comparing the shares of the various players on these two markets, and assuming that the operators give priority to selling the volumes at their disposal on the retail market, it is evident that among the operators active on this market, ECS, SPE, Nuon and Lampiris had to buy on the wholesale market (indexed bilateral contracts and/or spot market purchases). Their share of sales on the retail market is in fact higher than their share, if any, on the wholesale market. In the case of Essent, the available statistics are inconclusive.

In 2007, it could be said that resellers other than the historical supplier were price takers in a context in which:

- on the wholesale market, the importer Distrigas had a dominant share of sales (78.2 % by volume); Distrigas itself obtained most of its supplies on the basis of long-term contracts with producers, accounting for 90 % of its supply portfolio in 2007 (Distrigas, 2008). At the level of the overall supply portfolio of suppliers active in Belgium, contracts with producers for a term of over 5 years still represented 71.3 % of the volume of imports in 2009 (CREG, 2010a);
- and the historical operator on the retail market, ECS, supplied 72.4 % of the access points on the distribution network in 2007 (1).

Obliged to buy on contractual conditions similar to those of the historical operator in relation to the importer Distrigas, and facing sales competition from the tariffs offered by the historical operator to retail market customers, most "alternative" resellers had limited room for manoeuvre on the retail market. In these circumstances, the price increase in October 2007 seems to have created a margin sufficient for all resellers, and big enough for the historical operator's competitors to take up a position within that margin. It could be said that the market has a margin setter and margin takers, the "basic price" of gas and movements in that price being determined by the structure of the resellers' indexation formulas, which themselves reflect the indexation formulas applied to some of the purchase transactions on the wholesale market (the long-term contracts with producers).

TABLE 1 MARKET SHARES OF OPERATORS ACTIVE AS SELLERS ON THE WHOLESALE AND RETAIL MARKETS – 2007

(percentages of the total volumes traded)

Wholesale market (supply)	Market for sales to end-users (via the transmission and distribution networks)
Distrigaz = 78.2	Distrigas = 45.1
	ECS = 28.6
GDF = 15.2	GDF = 10.0
Wingas = 6.0	Wingas = 6.0
Essent = 0.5	Other (EDF, Essent, Dong,
EDF Belgium = 0.1	Nuon, Lampiris) = 3.8
SPE = start 12/2007	SPE = 6.5

Source: CREG – CWaPE – BRUGEL – VREG (2008).

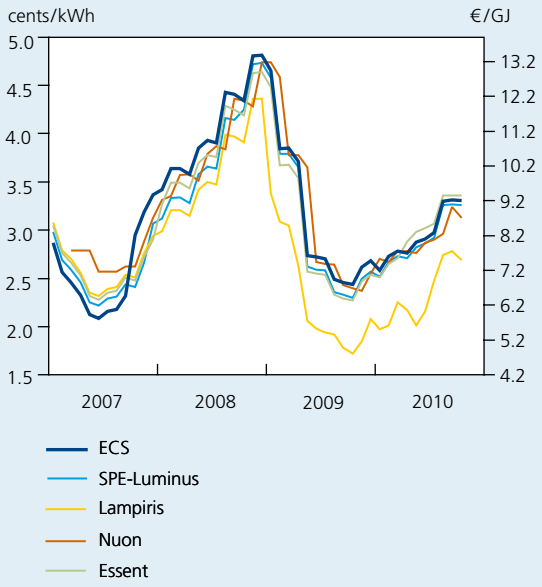
The change in the tariff formula was announced at a time when the indexation parameters used (GOL and HUB) were at their lowest level. That tariff increase, unrelated to the movement in fuel prices, therefore restored the price to a level already reached in the past. In fact, the prices announced in June 2007 in the price list effective from 1 September 2007 were based on the May 2007 monthly parameters (the delay was to do with the obligation on resellers to notify consumers of changes to their contracts). The prices announced in the (revised) price list as at 1 October 2007 were based on the September 2007 monthly parameters. The only autonomous increase in the parameters used in the new GPI between May and September 2007 led to an increase in the monthly price of 0.20 cents per kWh (excluding VAT).

The discretionary adjustment to the constant in the gas price indexation formula enables the historical operator on the retail market to consolidate a price which is independent of the movement in the underlying parameters while retaining the freedom to pass on any changes in the provisions of its purchase contracts detrimental to the competitiveness of its retail selling prices in relation

(1) For the purpose of assessing the retail market situation, market shares based on access points are more relevant than those based on the energy supplied.

CHART 5 TREND IN THE PROPORTIONAL CHARGE MADE BY ECS, SPE-LUMINUS, NUON, LAMPIRIS AND ESSENT FOR THE CONSUMPTION CLASS 5,001 TO 30,000 KWH/YR

(price excluding VAT)



Sources: Own calculations based on price lists and CREG (2010b).

to rival suppliers. In practice, the relative competitiveness of ECS prices compared to those of its competitors was restored, as those competitors in turn made discretionary adjustments to their retail prices, as described in the next section.

2.1.2.3 ... followed by its competitors on the retail market

In January 2007, all suppliers adjusted their tariff formulas for the energy price indexation on the basis of the formula which applied to them for their purchases on the wholesale market, the rules on the application of those formulas being in line with those used previously during the period of regulation. Subsequently, all suppliers adjusted their indexation formulas as they saw fit, changing the coefficients of the parameters and/or the constant, or – more recently – changing the parameters.

For the suppliers, automatic indexation is convenient because part of the price risk is automatically passed on to the customer without further notification. Under Article 74 of the Law of 6 April 2010 on market practices and consumer protection, price indexation clauses are permitted "so long as they are not unlawful and the price adjustment method is explicitly described in the contract". Also, if the suppliers' purchase conditions are changed, or if their margin is affected by an adverse development, they are free to adjust the corresponding weighting coefficients without incurring significant public information expenses. The said law contains rules on the notification of these changes, stipulating that in the event of a unilateral price increase or change in the conditions to the detriment of consumers, the latter are entitled to put an end to the contract free of charge. That right is stipulated in the contracts and can be exercised on the anniversary of the contract, i.e. at least annually (no suppliers specify a period of less than one year in their contracts), giving due notice.

Nevertheless, the disclosure of indexation formulas required by law does ensure some transparency compared to the situation in other countries (see below) because it is possible to deduce the relative importance of the various components and to anticipate how they may change. By analysing the movement in these formulas and the successive adjustments to them, it is also possible to ascertain how the resellers' margins have changed, independently of the movement in the underlying parameters. However, precise analysis of these margins would require access to information concerning the gas purchasing conditions and other costs relating to supply. In that regard, verification of the representativeness of the indices used in terms of cost movements, and the justification for the successive adjustments made to them, falls within the competence of the sector's regulator and that of the competition authorities as bodies considering appeals against decisions by the regulator[1]. At present, it must be said that this information is not accessible and will become more complicated to obtain than in the past, with the involvement of multiple operators for whom the relevant market is not – or is no longer – confined to the domestic market.

Among the resellers, Lampiris is notable for an indexation formula adopted in January 2009 in which the proportional charge refers to the IGD for supply costs, and solely to the TTF (index in €/MWh weighted by the volume of transactions on forward contracts for natural gas in the Netherlands for delivery in the following month) in regard to gas import costs[2]. Since January 2009, Lampiris has stopped buying from Distrigas and switched to the Dutch group Eneco under a multi-annual contract linked to the

(1) In some respects, the functions of the two institutions are closely linked, the regulator being responsible for opening up the sector to competition, while the competition authorities are in charge of maintaining that competition on the basis of national law (Law on the Protection of Economic Competition) and Community competition law (Articles 101 and 102 of the Treaty on the Functioning of the European Union).

(2) Since the second quarter of 2008, SPE-Luminus has also offered a variable-price contract partly linked to the gas price in Zeebrugge (weighted monthly average for day-ahead delivery – see Annex 1), alongside the HUB and the GOL.

TTF price (De Boeck, 2008). In so doing, Lampiris designed its consumer price indexation formula on the lines of the one agreed with its new supplier on the wholesale market. The adjustment of its sale price indexation formulas in accordance with the indexation applied in its purchase contracts therefore conforms to the principle of transferring the price risk to the consumer.

Nonetheless, this change of supplier on the wholesale market with a new gas reference price used for indexation enables Lampiris to offer lower retail prices than its competitors in the current context of low gas prices on the exchanges, unconnected for now with the price of oil. That situation is due to the coexistence of two pricing mechanisms on the European wholesale markets. It must be remembered that, historically, the supply of the wholesale market in continental Europe is based largely on long-term bilateral contracts concluded with producers on a take-or-pay basis as far as volumes were concerned, and also incorporating a price indexation clause. Those clauses refer to the price of competing fuels on the sales markets (oil and its derivatives, and coal) with a lag of 3 to 6 months. Moreover, the development of the gas exchanges led to gas market prices representative of supply and demand conditions. The conditions currently prevailing on the gas market feature excess supply – due to the entry into service of gas liquefaction lines and sustained output of non-conventional gas in the United States – combined with demand still affected by the crisis. These developments depressed the market price of gas while the equilibrium on the oil market did not exhibit the same effects. Consequently, the spot market price for gas is depressed in relation to the gas price indexed to the oil price and used in the long-term contracts, which implicitly form the benchmark for the indexation formulas of the other suppliers. It is still questionable whether this gap will persist and whether the natural gas price will become uncoupled from the oil price (IEA, 2010).

2.1.2.4 Implications for consumers

Regardless of the operator, the tariff formulas with automatic monthly indexation implicitly pass on all or part of the price risk to the end-users, whose only means of protection is a fixed-price contract.

The fixed-term contracts currently offered by suppliers active on the Belgian residential market all have a minimum term of one year at an index-linked or fixed price[(1)]. That implies, in particular, that customers wanting to see suppliers compete, or simply wishing to hedge against the price risk by concluding a fixed-price contract, cannot do so without incurring additional costs except on the anniversary of their annual contract. When the contract is signed, the fixed price is generally higher than the variable price because it includes a margin enabling the supplier to deal with the uncertainty over future price movements. Nonetheless, depending on the subsequent movement in the variable price over the term of the contract, the fixed price may be lower than the corresponding variable price in a given month. There are therefore more favourable moments when consumers wishing to hedge against price volatility can do so at lower cost. Customers have the best chance of compensating for the differential between the variable and fixed prices if they conclude a fixed-price contract at a time of low variable prices. That period should preferably coincide with the contract cancellation date if consumers want to keep their costs down.

In regard to the duration of supply contracts, the Verivox information portal for German consumers considers a contract to be more attractive to consumers the shorter its term and the shorter the period of notice of termination (Verivox, 2010). In Germany, 33 % of the tariffs analysed by that body[(2)] have a first contract term of one month, renewable on a monthly basis in 71 % of cases. Half of these monthly contracts are default supply contracts, the suppliers being appointed for a period specified by law; the contracts can therefore be terminated automatically on a monthly basis. Commercial contracts are increasingly offered for a one-year term with a statutory maximum of two years. On expiry of the commercial contract, consumers can always revert to a default supply contract. Prices are not published via an indexation formula[(3)] but at less frequent intervals (the main reason being the menu costs entailed in adjusting prices) via notification of the customer, generally six weeks in advance. Such flexibility in the contracts makes it absolutely essential to have an efficient infrastructure for the transmission of consumption data between the various market players.

Finally, if indexation formulas refer to the gas price on the spot markets on a monthly basis, they make prices more volatile than if they refer to oil prices derived from the average prices over the six months preceding the quarter in question. The transmission of gas spot price fluctuations is speeded up in comparison with the (smoothed) fluctuations in oil prices. However, over the period 2007-2009, the impact of this adjustment was modest in comparison with the general movement in

(1) Elektriciteitsbedrijf Merksplas, a supplier active in Flanders, offers a contract for an indefinite period which can be cancelled at a minimum of one month's notice on payment of cancellation fees. The basic contracts offered by ECS and SPE-Luminus (respectively ECS Basic Deal and Luminus Standard) are also for an indefinite period and can be cancelled on those terms.

(2) The Verivox study covers 1248 tariff formulas offered to businesses (596 tariffs) and residential customers (652 tariffs) by the 100 biggest resellers active on the German retail market.

(3) Except for eight tariff formulas in which the price is indexed to the heating oil price (Verivox, 2010).

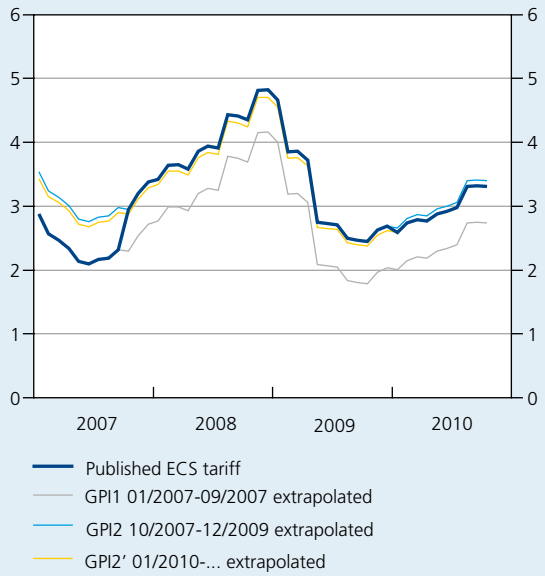
consumer prices of gas (Cornille, 2009). The range of the variations is in fact also due to the weighting accorded to each of the components.

2.2 Contribution of the various pricing components to gas price movements

The movement in gas prices (proportional charge) is shown in chart 6 according to the various successive tariff formulas adjusted by the historical operator in January 2007, October 2007 and January 2010. The permanent price increase represented by the constant is clearly visible from October 2007; without that adjustment, domestic consumers would currently be paying the same price as in January 2007. The change of formula has created an asymmetric price pattern, so that the price does not revert to its previous level despite the reduction in the level of the parameters. Any subsequent reversal of the price trend will therefore only be passed on in part.

CHART 6 ECS ENERGY PRICES EXCLUDING VAT ACCORDING TO SUCCESSIVE TARIFF FORMULAS

(cents/kWh)



Source: Own calculations.

GPI1 = indexation during the period 01/01/2007 – 31/08/2007 (postponed to 30/09/2007)
= 0.25 HUB + 0.0468 GOL + 4.83 ΔCPI – 7.86

GPI2 = indexation during the period 01/10/2007 – 31/12/2009 = increase in the constant in the indexation formula
= 0.25 HUB + 0.0468 GOL + 4.83 ΔCPI – **1.30**

GPI2' = current indexation since 01/01/2010 = reduction in the coefficient applicable to the CPI
= 0.25 HUB + 0.0468 GOL **+ 4.63** ΔCPI – 1.30

and incorporation of the 2 % reduction in the price per kWh invoiced under the EnergyPlus contract:
2.13 GPI + 0.1768 IGD = basic deal for ECS gas 30
2.0874 GPI + **0.1733** IGD = ECS EnergyPlus deal

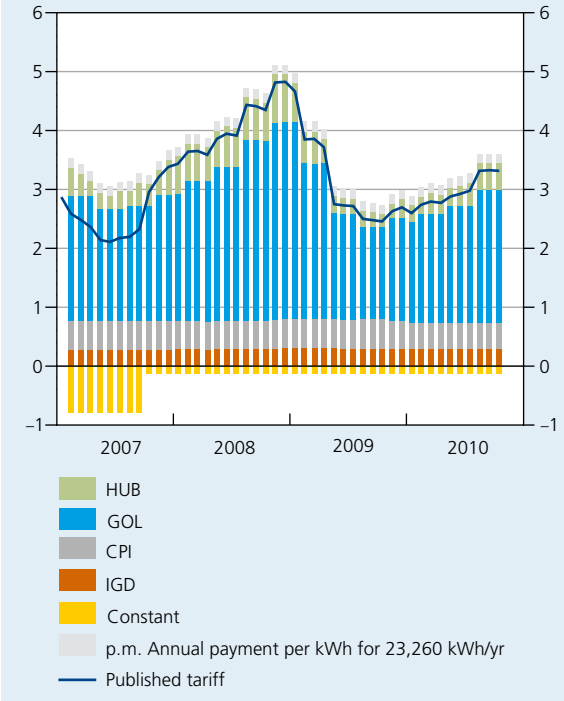
On the basis of the published indexation formulas and with application of the successive values of the parameters used, it was possible to reconstruct the monthly movement in the indexed price by identifying the components relating to each parameter which together make up the price published in the price lists as far as the proportional charge is concerned. For completeness, it would be necessary to take account of the annual standing charge expressed per kWh. In the class considered, using between 5,001 and 30,000 kWh/yr, that currently represents an additional cost of respectively 0.77 to 0.13 cent/kWh excluding VAT in the consumption band in question (shown *pro memoria* in chart 7 for consumption of 23,260 kWh/yr, but not included in the published tariff).

The constant incorporated into the indexation formula with a negative sign has the effect of reducing the overall price (blue line) in relation to the sum of the other formula components. The increase in the constant from –7.86 to –1.3 attenuates that reduction effect.

The change in the price compared to an earlier period is represented in the following charts by a continuous line.

CHART 7 ECS ENERGY PRICE EXCLUDING VAT AND ITS COMPONENTS

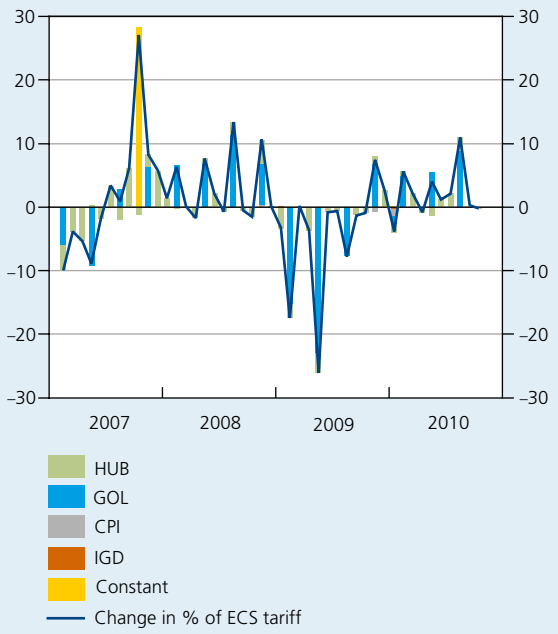
(cents/kWh)



Source: Own calculations.

CHART 8 CONTRIBUTION OF THE COMPONENTS TO THE CHANGE IN PRICE COMPARED TO THE PREVIOUS MONTH

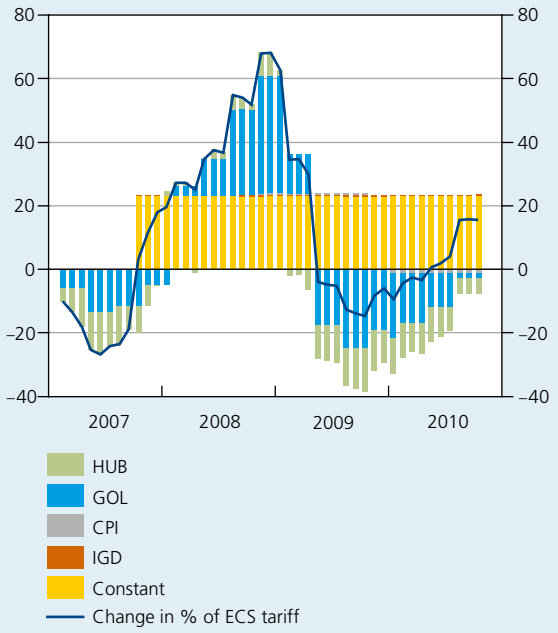
(percentage points, unless otherwise stated)



Source : Own calculations.

CHART 9 CONTRIBUTION OF THE COMPONENTS TO THE CHANGE IN PRICE COMPARED TO JANUARY 2007

(percentage points, unless otherwise stated)



Source : Own calculations.

The contributions of the various price components to that change are represented by stacked bars.

The monthly price change is first influenced by the volatility of the GOL603 parameter (average of prices over the six months immediately preceding the quarter concerned) which may change every three months. The HUB parameter is taken into account every month, but has a less marked influence on the price than the GOL owing to the lower weighting of the HUB in the price formula.

Since January 2007, there has been a permanent price increase following the change in the constant and, in 2008, that was accompanied by the increase in oil and gas prices. Without that change, the price level from the second quarter of 2009 would have been lower than in January 2007 (by ± 20 to 30 percentage points) instead of gradually increasing (asymmetric price pattern).

In 2008, the year-on-year change in the price was first influenced by the price rise caused by the revision of the constant. Then came the increase in the energy parameters, the price in August 2008 having doubled compared to its 2007 level. One-third of that increase was then still attributable to the constant. In 2009, the changes were due entirely to the energy parameters. The slightly negative contribution associated with the CPI from January 2010 is due to the impact of the reduction in the transmission charge included in the energy price (see Annex 1).

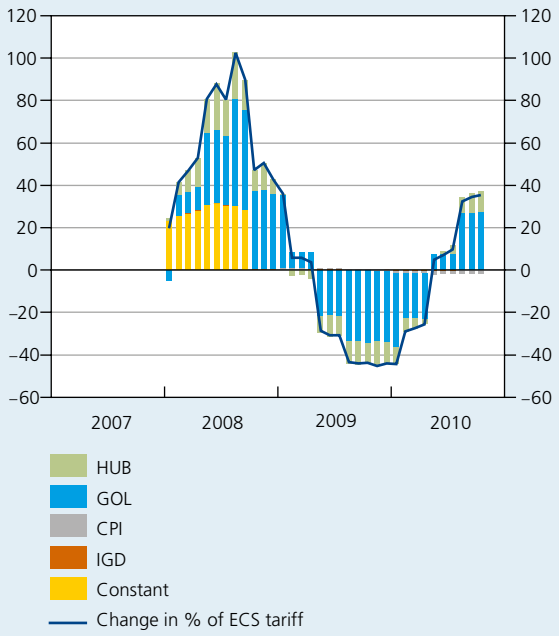
2.3 Comparison of the energy prices charged by ECS, SPE-Luminus, Nuon, Lampiris and Essent

Since January 2007, retail-market suppliers to private customers have made use of their freedom to set prices on a number of occasions, leading to gas price changes unrelated to the underlying parameters. The comparison was conducted for the five leading suppliers whose respective market shares for sales via the distribution network are shown in chart 2. In 2009, the five suppliers considered represented 96 % of the access points.

The main tariff adjustments made by these suppliers are detailed in Annex 1, which also sets out the changes in the energy price stated in their price lists. These figures are illustrated for each of them by a thick blue line, the thinner lines showing the prices which would have applied if

CHART 10 CONTRIBUTION OF THE COMPONENTS TO THE CHANGE IN PRICE COMPARED TO THE CORRESPONDING MONTH IN THE PREVIOUS YEAR

(percentage points, unless otherwise stated)



Source: Own calculations.

the tariff formulas adopted successively had been maintained. The stacked bar charts which follow show the monthly prices with a breakdown between the various components corresponding to each parameter, which together make up the price published in the price lists in relation to the proportional charge.

These charts reproduce the unit energy prices quoted in the suppliers' price lists as published on their website and notified to the regulators for statistical and monitoring purposes. However, it must be pointed out that the monthly prices used for invoicing are those based on the values of the parameters corresponding to the consumption month; they are plotted with a dotted line with a delay of one to two months against the date of the published price, which itself is based on parameters which applied one to two months earlier. The index values are in fact not known until the beginning of each month, whereas the price lists must be sent out during the month preceding implementation of the prices.

It should be noted that – in the case of three of these suppliers – it would have been more advantageous to the consumers if the first set of tariffs introduced in January 2007 had been retained (see charts in Annex 1 – thin grey line below the thick blue line). The indexation adjustment made by Lampiris is the only one which became more favourable than that adopted in January 2007. A similar finding is true in the case of the new variable-price contracts offered since then, such as the Luminus Connect contract introduced in 2008, which referred partly to the Zeebrugge DAH gas price. The Essent Eco contract launched in October 2010 offers a price with indexation comparable to that adopted by Lampiris (see Annex 1). The same applies to the contract offered by the newcomer on the Belgian market from October 2010, Octa+.

At the level of the contributions of the various components, the changes made to the tariff formulas as regards indices and/or weightings have had the effect of increasing the stable part of the tariff, i.e. excluding the parts linked to the energy parameters HUB, GOL and HFO which are more prone to fluctuation. The CPI is in fact adjusted annually, the IGD is an index which rises gradually, and the constant is only changed by discretionary decision. Since January 2007, this stable base has increased in the case of four operators (at Nuon it is relatively constant but already high) and now represents between 0.50 and 0.85 cents per kWh (excluding VAT). The top of this range is seen in the case of Lampiris where the stable IGD component represents up to 49 % of the total price (depending on the movement in the TTF)[1].

These changes led to a permanent increase regardless of the movement in the energy price parameters on the international markets, and may be part of the reason for the deterioration in the gas price level compared to that seen in neighbouring countries, leaving aside the effect of the increase in gas transmission and distribution costs which is not discussed in this article[2].

2.4 Freedom to set prices in Belgium

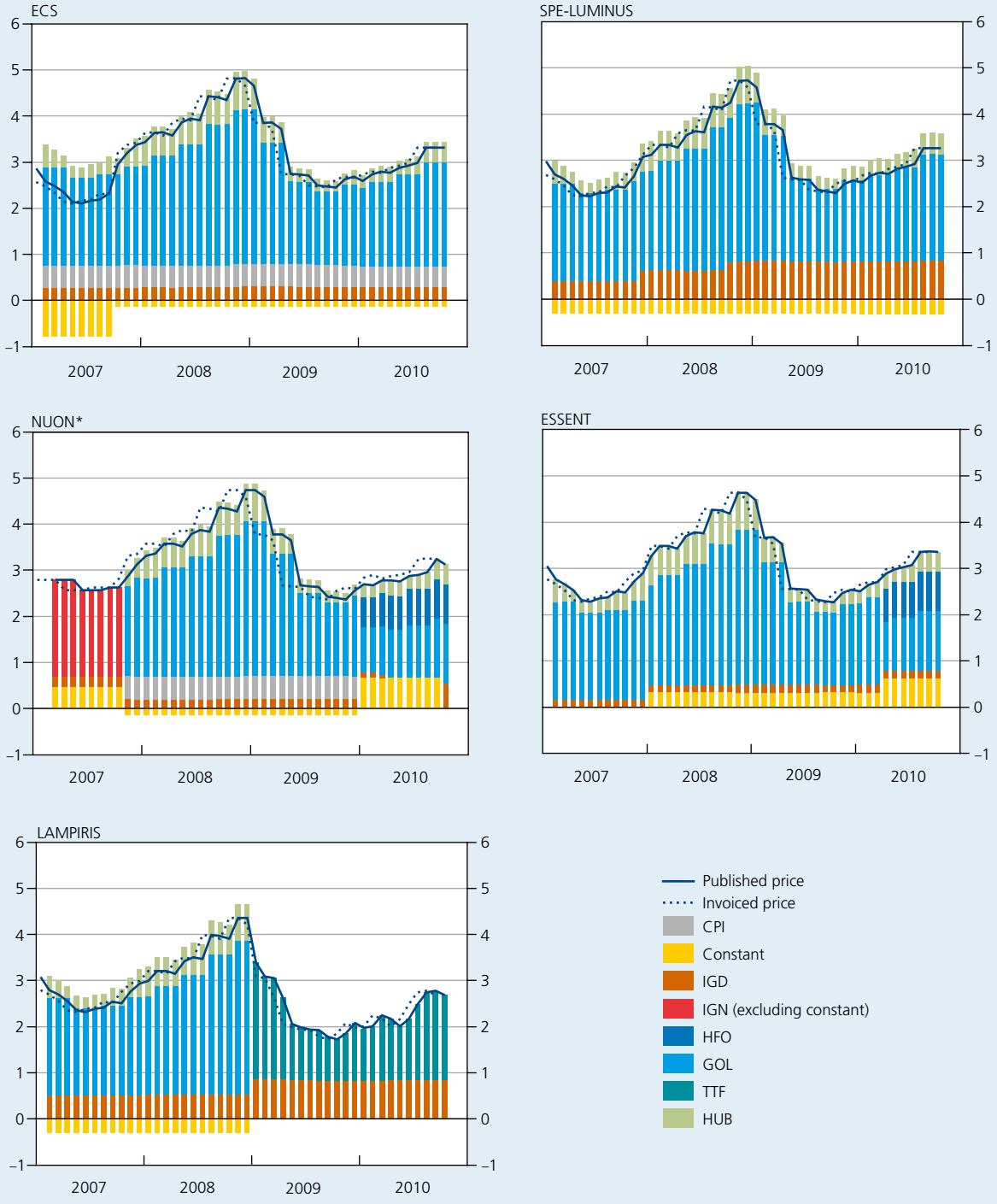
The division of powers between the various levels of authority also has an impact on the freedom to set prices available to players on the gas market. In the case of transmission and distribution tariffs, the federal authorities intervene via the federal regulator, which checks whether the tariff offers submitted to it by the transmission and distribution companies conform to the set methodology. The energy price is not regulated, but may be capped if appropriate by decision of the federal

(1) It should be noted that the increase in the coefficient applied to the annual standing charge (a x IGD) by Essent in January 2008 (see Annex 1 and CREG (2010b)) also represents an increase in stable revenue, but proportionate to the number of access points (and not to the volumes supplied).

(2) See Cornille D. (2009), "Methodology or pricing: what is the reason for the greater volatility of consumer gas and electricity prices?", NBB, *Economic Review*, for a more detailed analysis of this question.

CHART 11 TREND AND BREAKDOWN BY COMPONENT IN THE PRICE OF ENERGY EXCLUDING VAT BY ECS, SPE-LUMINUS, NUON, LAMPIRIS AND ESSENT

(cents/kWh)



Source: Own calculations.

* In its price lists, Nuon refers to the value of the parameters in m–2 instead of m–1.

authorities, after obtaining the opinion of the federal regulator[1]. The powers of the Regions relate, among other things, to certain public service obligations[2]. It is against that backdrop that the decree by the Walloon government concerning public service obligations in the gas market specifies that, on invoices for gas supplies, "the supplier shall notify his standard supply contract and any adjustments to it to the CWaPE. No standard contract may enter into force without prior notification to the CWaPE". For Brussels, the regulator BRUGEL has not stipulated any similar obligation. In Flanders, the regional regulator stipulates that the VREG has no authority to pass legally binding decisions on contractual and commercial aspects of commitments between suppliers and consumers. In these areas, it is necessary to refer to contract law and to the sectoral agreement concluded in March 2005 between energy suppliers and the Consumer Protection Minister entitled "The consumer in the liberalised electricity and gas market" (FPS Economy, 2008)[3].

Under its consumer protection powers, the Federal State has in fact negotiated a binding agreement with the suppliers on their trade practices. The agreement covers issues such as price transparency, marketing and selling techniques, changes of supplier, general conditions, information for consumers and the handling of complaints; in particular, it stipulates that "unilateral changes to essential conditions or changes to energy or gas prices on the basis of factors dependent solely on the will of the supplier are prohibited". Failure to comply with that agreement can be reported to the special federal mediation service for the energy sector (mediation service set up at FPS Economy, SMEs, Self-employed and Energy).

The extension of the CREG's area of competence implemented under the Law of 8 June 2008 enables it to conduct permanent monitoring of the gas and electricity markets, in regard to both market operation and prices, including supply prices. In particular, Article 15/14ter specifies that "the prices offered by a natural gas company must be objectively justified in relation to the costs incurred". If the regulator identifies infringements, it may on its own initiative submit a report to the minister setting out its findings and recommended measures. The CREG reports alleged infringements to the Competition Council, submitting its report and the necessary confidential information (CREG, 2009). The regional regulators are responsible, under their public service obligations, for informing consumers of the prices offered by the suppliers, including the obligation to present an objective comparison. So, just before the end of each month, as input for the price simulators set up by the regional regulators, the suppliers notify the price lists for the following month based on the value of the parameters for the current month.

3. Do other countries also grant as much freedom to set retail prices?

The process of gas market liberalisation launched at European level is following different agendas in the various national markets and is based on arrangements determined autonomously by the national authorities[4]. This leads to levels of (de)regulation which vary from one country to another and which also affect the scope for competition. That scope in turn depends on the competition conditions on the wholesale markets upstream, which determine the conditions on which the suppliers obtain gas, be it via bilateral contracts, purchases on the exchanges or auction procedures. The operators active on the national markets have adapted to the rules on their respective markets, notably where pricing is concerned. Thus, the Belgian pricing policy based on automatic monthly indexation formulas common to all operators active on the residential market means that changes connected with the underlying energy parameters are passed on automatically in the gas price invoiced to the domestic consumer. The proportion of variable-price contracts concerned represents around 93.2 % of the contracts concluded by households as at October 2009 (CREG, 2010c). This pricing policy – which is rather specific to Belgium – is one explanation for the greater volatility of consumer prices of gas and the rapid transmission of changes in gas import prices to consumer prices (in which the indexation formulas are governed by the same principles), points already noted elsewhere (Baugnet and Dury, 2010).

The above analysis emphasises the freedom to set prices which resellers enjoy on the retail market in Belgium. If these prices are compared at international level, the question remains to what extent that freedom to set prices also exists in other countries, and whether it is based on similar arrangements.

3.1 From varying levels of regulation to simple retail price monitoring

In July 2007, the European Regulators' Group for Electricity and Gas (ERGEG) conducted an initial survey among the regulators to assess the effective liberalisation of gas and electricity prices by ascertaining whether regulated prices persist in segments which are nevertheless open

(1) Article 15/10 of the Law of 12 April 1965 on the transport of gaseous and other products by pipeline.

(2) Public service obligations according to the Gas Directive 2003/55/EC – Article 3(2) – "Member States may impose on undertakings operating in the gas sector, in the general economic interest, public service obligations which may relate to security, including security of supply, regularity, quality and price of supplies, and environmental protection, including energy efficiency and climate protection."

(3) The latest version of this agreement was supplemented in June 2008, and entered into force on 15 December 2008.

(4) For an appraisal of the current situation, see EC (2010), *Report on progress in creating the internal gas and electricity market*.

to competition. That survey was updated in July 2008 (ERGEG, 2009) and January 2010 (ERGEG, 2010).

The survey reveals that, in regard to the residential market, Belgium is among the Member States where gas and electricity prices are not subject to regulation in the sense defined by ERGEG (see definition below).

Apart from Belgium, the Member States where retail prices of gas and electricity are totally liberalised (according to ERGEG) are Austria, the Czech Republic, Germany, Luxembourg, Slovenia, Sweden and the United Kingdom. In Finland, only electricity prices have been liberalised[1].

3.1.1 Definition of a regulated retail price

ERGEG considers that a regulated retail price is a price which is regulated (or controlled) by a public authority, rather than a price established solely by supply and demand. Such regulation may take various forms: price-setting or approval, maximum prices, or a combination of those measures.

Despite the proclaimed full liberalisation of their retail markets, a number of Member States continue to regulate energy prices on this segment, justifying that policy by the need to protect vulnerable consumers. In ERGEG's opinion, that protection should not be provided by regulated prices applicable to some or all of the customers. However, the obligation to relinquish such provisions in the long term is open to interpretation: a recent judgment by the European Court of Justice (Case C-265/08 – 20 April 2010) confirms that, under certain conditions, the Directive on the internal gas market does not preclude national legislation making temporary provision for setting the price level for the supply of natural gas to final consumers.

3.1.2 ERGEG's position on regulated retail prices

ERGEG's position comprises a number of points:

- in the long term, regulated retail prices are incompatible with a competitive environment, and ERGEG is urging the adoption of scenarios in which these regulated prices are gradually phased out;
- ERGEG recognises that competition entails close supervision in order to ensure that customers are treated fairly, so that they can obtain the best terms and can exercise their freedom of choice in an open market. Yet regulated prices tend to distort the market;
- measures concerning social protection for vulnerable consumers must be in line with market principles;
- regulated prices can interfere with the operation of the wholesale and retail markets and send the wrong price signals to suppliers and consumers.

3.2 The situation in some neighbouring countries

The ERGEG analysis, summarised in Annex 2, shows that free pricing applies in all consumption segments of the Belgian gas market, without any regulation according to the ERGEG definition. Without claiming to be exhaustive, this section examines in more detail the natural gas prices offered to domestic consumers in neighbouring countries of North-Western Europe. Two groups of countries emerge:

- countries with regulation: France, the Netherlands, Denmark, Ireland[2];
- countries without regulation: Germany, the United Kingdom, Luxembourg, Austria, Sweden, Finland.

The findings which emerge from that examination are summarised in three boxes with:

- a brief description of the scope of gas price regulation in the residential sector, if any;
- the supervision measures which nevertheless exist in countries without regulation;
- the price indexation arrangements observed in all the countries analysed.

The scope of gas price regulation in the residential sector can be summarised as follows.

(1) The Finnish gas market is in fact closed to competition under Article 28(1) of Directive 2003/55/EC which exempts Finland from opening up the gas market so long as the country has no direct link to the EU gas network (EC, 2003).

(2) Prices are considered to be regulated if there is any control by the authorities (price approval procedure, maximum prices) though the prices may still be freely set.

Box 1 – Scope of regulation

France – coexistence of regulated price deals and market price deals

Regulated price deals (90 % of residential locations, in volume) offered by the historical supplier GDF-Suez and 22 local distribution companies (or less than 5 % of customers) – the regulated selling prices have to cover supply

costs and are fixed jointly by the ministers responsible for the economy and energy on the advice of the regulator (CRE).
Market price deals offered by five alternative suppliers alongside the historical supplier.

The Netherlands – control procedure before any price change

Before any price is changed, there is a control procedure (safety net) to ensure the change is justified, with maximum prices imposed if appropriate.
These maximum prices correspond to the total purchase costs and a gross margin considered to be reasonable by the *Energiekamer*, which comes under the Minister for Economic Affairs and is based at the competition authority, Nma.

Denmark – maximum prices controlled by the regulator

Maximum prices for suppliers designated as having a default supply obligation in relation to customers who have not changed their supplier.
The maximum prices for the supply obligation are controlled by the regulator, DERA. They cover the costs plus a reasonable margin assessed by the regulator in the light of the efficiency achieved by the suppliers in the contracts for the purchase of gas (efficiency regulation).

Ireland – maximum prices controlled and subject to review by the regulator

Maximum price fixed for 18-month periods (price may be reviewed by the regulator if he considers that to be in the consumers' interests).
Determination of an average maximum tariff composed of the gas price, transmission and distribution costs, operating expenses and the supplier's margin. Suppliers must take all possible steps to ensure that in any period of twelve successive months the average gas price does not exceed the maximum authorised by the regulator.
The regulator monitors market developments (report on competition), the decision to suspend that regulation depending on the competition situation.

The absence of regulation does not give operators total freedom; rather, it is more of a supervised freedom.

Box 2 – Supervisory measures in countries without price regulation

Germany

Free prices, but since 2008 the competition authorities have been able to bring proceedings on account of anti-competitive practices, both at federal level (*Bundeskartellamt* in the case of trans-regional suppliers) and at the level of the *Länder*.
12/2007: amendment of the legislation against restraints of competition in order to strengthen control over the existence of unfair prices in the energy sector. The *Bundeskartellamt* can investigate (and prosecute) a dominant undertaking on account of excessive prices, by demonstrating that other firms charge lower prices or that the price is disproportionate to the costs. The burden of proof rests with the undertaking in question.

03/2008: 35 regional/local gas resellers were prosecuted on suspicion of having charged excessive retail prices in 2007 and 2008. In August 2008, the prosecution was halted because the resellers undertook to reimburse the customers and not to recoup the amounts in question by way of subsequent price increases ("no-repeated game"). The *Bundeskartellamt* oversees all the proceedings.
10/2009: the Federal Court condemns a supplier for using an invalid contractual clause: the price-matching clause allowed an immediate increase in prices in the event of a cost increase, but conversely made no provision for an obligation to cut prices if costs went down.
03/2010: judgment of the Federal Court ruling that retail gas prices cannot depend exclusively on the price of oil (light heating oil), because that single link is unfavourable to customers and can lead to extra profits for suppliers (e.g. if transport or operating costs decline).

The United Kingdom

Free pricing formulas (4,000 tariffs offered).
10/2008: *ex post* analysis of the market situation (the Energy Supply Probe) under the direction of OFGEM (and of the regulator which is its supervisory authority) whose job is to protect the interests of consumers by promoting competition.
Following that analysis, introduction of a new condition for awarding supply licences, prohibiting unjustified tariff differentials: prices must reflect the costs of the undertakings, and price differences must be objectively justified on the basis of costs or on other terms and conditions.
From 2009: publication of *Quarterly Wholesale/Retail Price Report*s which include an analysis of the link between wholesale and retail prices.
Establishment of an independent body – *Energywatch* – to protect and promote the interests of gas and electricity consumers: free, impartial information, registration of complaints, and use of the experience thus gained to inform the authorities on these aspects, by involving the regulator and the operators in such a way as to make them more receptive to the needs of consumers whenever any change is made to operators' policies, procedures and systems.

Luxembourg

Free pricing since 1 July 2007.
The regulator notes that "it does not have the legal means to conduct a survey of prices charged on the market".

Austria

Free pricing – indexation at irregular intervals by the suppliers but with clear and transparent notification (the same applies to invoices).
The regulator E-control has a legal mandate to check the transparency of invoices, and conducts analyses on the market situation jointly with the competition authority BWB.

Sweden

Small market (44,400 households).

Finland

Finnish gas market closed pursuant to Article 28(1) of Directive 2003/55/EC which exempts Finland from opening up its gas market so long as the country has no direct link with the EU gas network – small market.
Gas prices are not regulated as such: there is no authority responsible for their approval or for fixing them in advance.

The indexation arrangements concerning variable-price contracts can be summarised as follows.

Box 3 – Indexation arrangements under variable-price contracts

France

Market deals = –x % compared to the regulated prices = parallel changes.
Regulated standing charge for customers connected to the transmission network and customers connected to the distribution network consuming over 4 GWh/yr – changes every 3 months.
Regulated public distribution price for business and domestic customers connected to the distribution network and consuming less than 4 GWh/yr:

- regulated tariffs of local distribution companies adjusted 4 times a year (1 January, 1 April, 1 July and 1 October) in line with the movement in costs. Ministers may ask a supplier to submit a new scale of charges on the recommendation of the CRE;
- GDF-Suez regulated prices adjusted (in theory) at unspecified times, but in practice they change according to GDF's costs (proposal by GDF) and the "authorisation" obtained by the CRE/Ministry (public service contract). The government sets the selling prices at least once a year, but GDF is permitted to change them between two price decrees (on the recommendation of the CRE, according to an approved formula).

Publication in March 2009 of the formula for calculating GDF's supply costs; formula included in the public service contract and audited by the CRE for application during 2008 to 2010.
Δ supply costs of GDF-Suez = 1.3107 Δ exchange rate €/$ + 0.01988 ΔGOL(€/t) + 0.02652 ΔHFO(€/t) + 0.06206 ΔBrent(€/b)[1].

The Netherlands

Obligation to inform the competition authority (NMa) of price changes four weeks in advance so that it can check whether the adjustments are reasonable (safety net) (NMa, 2009).
Contract formulas offered:

- fixed-term at a fixed or variable price, with prices generally adjusted in January and July;
- indefinite-term and variable price with adjustment in January and July.

Denmark

Contract formulas offered:

- variable price indexed to the price of petroleum products or to Nord Pool Gas price, adjusted monthly;
- price fixed for one or two years, with or without maximum prices.

Ireland

Maximum price fixed for 18-month periods:

- standard tariff with fixed charge and charge per kWh consumed;
- tariff with no fixed charge and two price levels (< and > 3,550 kWh);
- "winter saver" tariff allowing big winter bills to be staggered;
- reduction for payment by direct debit.

(1) April 2010: with the emergence of a significant spot market (attractive in a context of spot prices below the long-term contract prices), the CRE was questioned about the absence of spot prices in the approved formula. A new audit was launched by the CRE (Europénergies, 2010a). Under this formula, a price increase for private customers was announced from 1 July 2010. Meanwhile (June 2010), the Minister for Economic Affairs asked that, after that rise, prices should remain unchanged until the CRE had completed its audit (Europénergies, 2010b). At the end of August 2010, the CRE confirmed that the existing formula offers a correct approximation of the supply costs of GDF-Suez, while stressing the need to consider a revision in order to take account of new developments: new indexations based on the spot price in long-term contracts and increased percentage of supplies obtained on the spot market (CRE, 2010). Some people warned that this could lead to greater price volatility (Pétrostratégies, 2010c).

Germany

Around 16,000 gas and electricity tariffs offered by 900 electricity resellers and 750 gas resellers.
Prices change as and when changes in market conditions so require: adjustment authorised *nach billigem Ermessen der Entwicklung der Kosten* (according to a reasonable assessment of changes in costs).

The United Kingdom

Retail prices adjusted at not too frequent intervals because of the costs entailed and the potential adverse effect on customer relations (consumers prefer stable prices).
Main types of tariffs:
- tariff varying according to payment method: "credit" tariff with invoicing at the end of each quarter, direct debit tariff with payment taken direct from the customer's account, tariff for prepayment via a meter;
- dual fuel tariff offering a discount for customers buying both gas and electricity from the same supplier (amount fixed quarterly or annually);
- fixed or capped tariff (limit that price will not exceed during a set period);
- special tariff for vulnerable, low-income customers (voluntary agreement between OFGEM and suppliers for the financing of these tariffs).

Luxembourg

Natural gas purchase price indexed to the price of petroleum products (fuel oil and heating oil) with quarterly indexation.

Austria

Free price – indexation at irregular intervals by suppliers with obligation to publish clear, transparent information on price adjustments.
Rebates granted:
- according to the payment method (direct debit);
- for new customers;
- for brand loyalty (after a minimum period has elapsed);
- for recommendation to new customers.

Sweden

Annual contracts with a variable price adjusted quarterly, and fixed-price contracts for 1, 2 or 3 years.

It is clear that the interpretation and comparison of price movements is subject to the influence of regulation, which may still vary considerably in scope from one country to another.

According to economic principles, the operators' selling price formulas reflect – or aim to reflect – the price structure of their purchase portfolio.

Except for Denmark (where maximum prices nevertheless apply), none of the countries analysed had any automatic monthly indexation mechanism like that adopted by all suppliers active in Belgium. Indexations take place on an *ad hoc* basis, at quarterly/six monthly intervals. The reseller must always give advance notice of new prices to consumers, who can then rescind their contract.

With the fall in spot prices of gas, a number of regulators/authorities have been concerned about that reduction being passed on to consumers, the possible outcome being asymmetric retail price patterns; *ex post* analyses

have been conducted in a number of countries, including Germany and the United Kingdom.

This monitoring is only possible and effective if the regulators (or others) have the power to pursue it and to take *ad hoc* measures (development seen in Germany since 2008 under the aegis of the competition authorities).

Even in countries where prices are not regulated, the authorities keep a watchful eye on prices of electricity and gas because these are essential household expenditure subject to a public service obligation, with prices which must be determined by the market. Regulators, competition authorities and consumer protection bodies intervene to varying degrees in accordance with their respective area of competence.

In September 2009, the Citizens' Energy Forum (or London Forum)[1] which is the European platform for consultation between market players (regulators, operators, consumers) on the retail energy markets stated in the conclusions of its second meeting that it was in favour of close cooperation and coordination between regulators, competition authorities and organisations representing consumers in regard to supervision of the market and action against anti-competitive or unfair practices (EC, 2009b).

3.3 Towards more visible methods of gas pricing in Belgium

Although in Belgium, as elsewhere, gas and electricity prices have contributed to inflation and increased its volatility, they are also largely responsible for the divergence between Belgian prices and the European average (Cornille, 2009). Similarly, it emerges from econometric studies that, in comparison with neighbouring countries, the methods of setting gas prices in Belgium are a factor in the variability of consumer prices of gas, and the greater speed with which those prices adapt to changes in gas import prices (Baugnet and Dury, 2010). Essentially, in economic terms, price changes are appropriate incentives for supply and demand adjustments, provided they reflect the real movement in supplier costs. For comparison, retail prices of natural gas are more volatile in Belgium than in other countries, with undesirable second-round effects in terms of the general trend in prices, effects which could be countered by measures capable of smoothing that volatility. However, any intervention by the authorities in the methods of setting retail prices must take place in a context in which Belgium already has totally deregulated prices according to the ERGEG definition: introducing maximum prices, for example, would be a form of regulation. Moreover, any intervention in the frequency of indexation must be preceded by an assessment of the advantages of reduced price volatility in relation to the risk that operators pass on to the consumer the costs of price risk hedging which less frequent adjustment of their selling prices would imply, plus any menu costs. It would be appropriate, at least, to consider practices in other countries where prices are deregulated. Two types of adjustment are conceivable.

First, introduction of "supervised" freedom to set prices with effective prior verification that the price adjustments proposed by the suppliers are indeed cost reflective. That approach is based on the one adopted in the Netherlands, where the validity for changes to both electricity and gas prices is examined by the regulator before they take effect (Coppens, 2010). That presupposes, in particular, the creation of an obligation to submit the changes and their justification in advance, and confidential access to information relating to the management of the gas purchase portfolio (bilateral contracts, acquisitions on exchanges or at auctions). A complete and accurate assessment of these purchase conditions is also important for suppliers facing competition on the wholesale markets. Generally speaking, the required transparency is more complex to implement than in the past owing to the involvement of multiple operators for whom the relevant market is not – or is no longer – confined to the national market. Another option is *ex post* supervision, like that applied in Germany following the amendment to the legislation against restraints of competition, adopted at the end of 2007. The competition authorities can investigate (and prosecute) a dominant firm for overcharging on the basis that other companies' prices are lower or that the price is disproportionate to the costs, but without having to prove that the company in question is guilty of anti-competitive behaviour. The obligation to explain the differences found rests on the company in question (Lohmann, 2009).

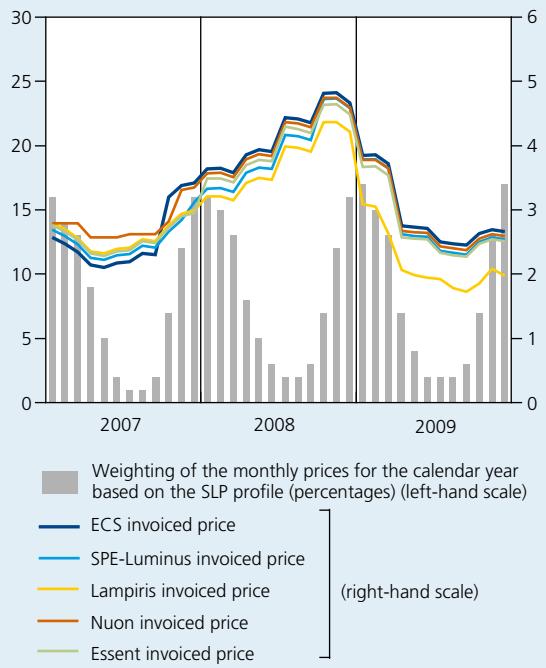
Also, information on prices needs to be easier for the average consumer to understand. Unless they repeat all the calculations or print the price lists every month, consumers do not get any information on the prices which they actually pay month by month[2]. It must be said that this comparison of the tariffs offered by the operators has shown that the picture is rather unclear for consumers, as the information given out allows them to get only a rough idea of the price paid, and especially of how it has

(1) The Commission's Third Energy Package includes improvements to the operation of the retail markets for the benefit of consumers. In that connection, the Commission created this special regulatory platform on the basis of experiences gained from the Madrid Forum (gas) and the Florence Forum (electricity).

(2) The federal regulator provides these figures in its monthly analysis of "Natural gas prices on the residential market", but without any link to the calculation of the invoiced price.

CHART 12 MONTHLY MOVEMENT IN THE PROPORTIONAL CHARGE COVERING THE ENERGY PRICE EXCLUDING VAT AND THE CORRESPONDING WEIGHTING FOR THE CALENDAR YEARS 2007 TO 2009

(cents/kWh, unless otherwise stated)



changed. In fact, the only price which consumers see on the invoice is an average price calculated over the invoicing period. Under the sectoral agreement in favour of "consumers on the liberalised electricity and gas market", consumers can obtain free of charge the detailed calculations of the components of their invoices (including the price components and details of the indexation mechanisms). One possibility would be to present the movement in the monthly prices charged alongside the movement in the standard consumption profile used for weighting the monthly prices in establishing the price charged for the energy. That approach is illustrated in chart 12 for the three calendar years 2007 to 2009 [(1)]. It helps gain a better understanding of the composition of the price invoiced.

Finally, increased cooperation and/or close coordination between the regulators, the competition authorities and the organisations representing consumers in the supervision of the markets would enhance transparency regarding these complex pricing mechanisms for the consumer.

(1) The gas consumption generally recorded at annual intervals is allocated over time on the basis of a standard consumption profile obtained either from a Synthetic Load Profile (SLP), or from the number of degree-days, both being available on the Synergrid website. The profile presented here corresponds exactly to calendar years. In practice, this type of chart is specific to each invoicing procedure, since the weighting is influenced by the number of days between the issue of two successive invoices and the corresponding SLP/degree days. Thus, the weightings in chart 12 relate to calendar years (invoice on 31 December in each year) and vary from one year to the next.

4. International price comparison, a tricky exercise

The differences revealed by international gas price comparisons may be due to the gas price itself and/or to the methods used to measure it.

This article has shown that retail price deregulation is a process which is still going on in some EU Member States, and that any price comparison is therefore biased to some extent. It should be noted that the level of retail gas price regulation is far form uniform between the various American States (see Annex 3 on liberalisation in the United States). The persistence of varying forms of regulation limits the operators' scope for action and price adjustments, and that may also affect the level and volatility of the natural gas price indices.

Moreover, freedom to set prices implies the existence of multiple formulas in accordance with the general principle whereby resellers need to find the right balance between the terms on which they purchase the gas and the tariff formulas offered for sale on the retail market. The underlying parameters used may therefore vary and be adapted at different frequencies (monthly, quarterly, half-yearly, *ad hoc* or even annually with the fixed-price contracts), while respecting the regulatory framework set by the national authorities. In neighbouring countries, indexation takes place less frequently or on an *ad hoc* basis with prior announcement of the new indexed prices. The cost associated with these procedures (obligation to notify customers) tends to discourage frequent indexation. Conversely, automatic indexation such as that applied in Belgium avoids some of those costs and is all the more attractive since all operators adopt that approach in their variable-price contracts. This rather specific situation also helps to explain why the consumer price of gas changes faster in line with changes in gas import prices in Belgium, compared to neighbouring countries (Baugnet and Dury, 2010).

Finally, the statistical recording of price movements may also lead to differences. In its annual report on the 2009 price analysis (NAI Price Observatory, 2010), the National Accounts Institute mentions a number of differences between Belgium's neighbouring countries in the methodology used to record gas and electricity prices:

– in the composition of the sample of prices monitored. In Belgium and the Netherlands, the national index is

calculated on the basis of prices charged by suppliers active on the market, weighted according to their market share. Germany conducts a sample survey in 188 towns on the basis of the best prices offered by the leading operator. In France, it is only regulated prices that are taken into account;

– in the frequency of the surveys, the calculation of averages or the use of end-of-period data, the definition of consumption profiles and the recording times.

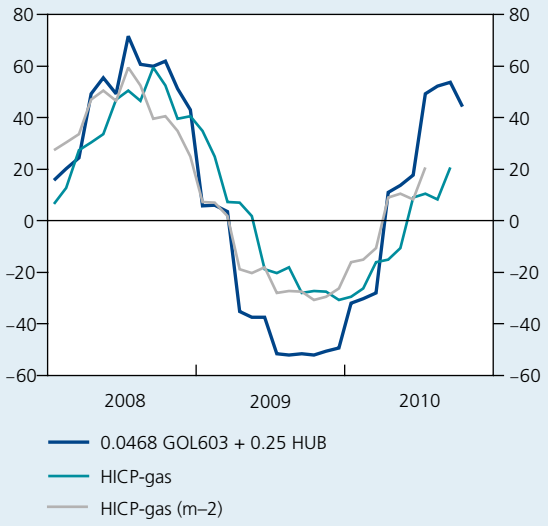
In Belgium, the change in the method of HICP recording with effect from 2007, switching from a "payments" approach (based on annual invoices) to an "acquisition" approach (based on the monthly prices recorded at the time of acquisition of the product) corresponds to an alignment with the methods of recording monitored prices in other countries (Cornille, 2009). However, the actual monitoring of the monthly prices actually paid is subject to an initial delay of one to two months between the price published in the price lists and the monthly price used for invoicing, a delay resulting from the non-availability of the parameters at the time when the operators communicate those data to the regional regulators. A second one-month delay in the transmission of data from the Walloon and Flemish regulators to the Directorate General of Statistics and Economic Information is reflected in the calculation of the HICP (NAI Price Observatory, 2010). Whereas in neighbouring countries the HICP reflects the price charged for the corresponding consumption month, in Belgium it reflects figures which are two months out of step with the prices which will actually be invoiced[1]. That delay is evident in chart 13, showing year-on-year changes in the "0.0468 GOL + 0.25 HUB" component used by many operators in their indexation formulas, and the corresponding movements in the HICP for natural gas (HICP-gas). These two curves display a very similar pattern, and the similarity is even more marked in the timing of the changes if the figures for the HICP two months ahead are considered (HICP-gas (m–2)) in order to compensate for the delay in communicating the data. However, the similarity between the GOL+HUB component and the HICP-gas is not perfect in regard to the range of the fluctuations, as the latter reflects an average price and is therefore influenced by price changes other than those linked to the parameters GOL and HUB (introduction of fixed-price contracts, use of the parameters HFO, TTF and DAH, increase in the proportion of stable components, inclusion of distribution costs and suppliers' margins in the HICP-gas, etc.)[2].

(1) This means that changes in the price of gasoil affect the consumer price of gas after a lag of seven to eight months (NAI Price Observatory, 2009).

(2) The same applies to the movement in the HICP for electricity (Coppens, 2010).

CHART 13 YEAR-ON-YEAR CHANGES IN THE HICP-GAS AND THE "0.0468 GOL + 0.25 HUB" COMPONENT

(percentage changes)



Conclusions

As commercial intermediaries, gas resellers pass on the cost of buying the gas plus a margin, so that the movement in purchase costs is generally reflected in the selling price.

This article has adopted the approach of analysing in more depth the mechanisms governing pricing on the retail market on the basis of the price lists of the operators active on the Belgian market. It turns out that the method which the various operators use to set the retail price is very similar in its principles, and is based on indexation of the selling price to parameters which reflect the movement in the cost of buying the gas, thereby passing on the price risk to the consumer. That indexation is based on formulas specific to each operator and applied at monthly intervals, which is a very convenient situation for all the operators since a major part of the price risk is automatically transferred to the consumer without entailing any additional information costs. On the other hand, it leads to monthly price adjustments and short-term volatility. Adjustments to the tariff formulas themselves, left to the discretion of the operators, do not stand out very clearly. Their justification in view of the real movement in the costs incurred in purchasing gas on the wholesale market remains an issue, as the relevant data are not published. On that point, verification by the competent institutions regarding the representativeness of the indices used in terms of the movement in costs

and the justification for successive adjustments merits support.

The disclosure of the automatic indexation mechanisms has the advantage of being relatively simple and transparent (certainly after in-depth analysis) in regard to fundamental movements in the parameters and their influence on prices. However, for the average consumer, the calculation of indexed prices appears complex and the information supplied seems incomplete, as it is not easy for consumers to find out about movements in the monthly price, even if only to understand the price on the invoice. Consumers wishing to hedge against the price risk can always eliminate the uncertainty associated with variable-price contracts by signing a fixed-price contract, but they have to do so on their old contract renewal date, giving due notice if they want to avoid any additional charges.

The use in Belgium of automatic indexation with publication of the underlying formula applied differs from the practices prevailing in neighbouring countries. Except for Denmark (though maximum prices do apply there), none of the countries analysed had any systematic indexation mechanism like that adopted by all the suppliers active in Belgium. In those countries, prices are adjusted less frequently or on an *ad hoc* basis, always with prior notification of the consumers. That limits the frequency of adjustments in view of the costs associated with those procedures, hence attenuating gas price volatility.

Moreover, the freedom to set prices enjoyed by operators in Belgium has led to discretionary adjustments to indexation involving an increase in the stable portion of the price unconnected with movements in the energy parameters.

For the purpose of international comparison, this finding has to be viewed in the European context in which varying situations coexist and distort the movement in gas prices. The European gas market is in fact undergoing a process of liberalisation, with the actual arrangements and agendas varying between Member States. Depending on the country, there may be regulated prices, price approval procedures, maximum prices or totally unregulated prices. However, these prices are still at least subject to supervision owing to the authorities' concern that the retail prices charged should reflect the true cost of a product which is subject to a public service obligation, which is an item of essential household expenditure, and for which the price must be determined by the market.

The scope for creating effective competition on the retail market remains also dependent on the competition conditions prevailing on the wholesale market and the associated issues, which are often international in scale. They concern in particular the eventual emergence of a European oligopoly on the wholesale market, the development of LNG transactions and their impact on supplies, the breaking or continuation of the structural link between gas prices and oil prices, etc.

Annex 1 : Main price adjustments made since liberalisation

Transition from regulated indexation to indexation at the discretion of the suppliers

Before the full liberalisation of the market on 1 January 2007, the indexations used were based on the gas acquisition index (IGA) reflecting the movement in the natural gas price paid to public distributors. Before that date, this index was based on the G parameter, the "all gas" border price, the weighted average of gas import prices (in €/MWh) at the Belgian border[1] for supplies to the Belgian market in the long term, including all fixed and proportional charges associated with these regular imports : G = P + F

with

$$P = P_{NL}\frac{ACQ_{NL}}{ACQ_{TOT}} + P_{Nor1}\frac{ACQ_{Nor1}}{ACQ_{TOT}} + P_{Nor2}\frac{ACQ_{Nor2}}{ACQ_{TOT}} + P_{Alg}\frac{ACQ_{Alg}}{ACQ_{TOT}}$$

F = fixed costs associated with the gas supply to the market, such as costs of shipping and regasification of Algerian gas, costs of transporting North Sea gas to the Netherlands, and the Zeebrugge terminal charges.

The G parameter was calculated by the CREG up to December 2006, and was then replaced by a new reference parameter, the "New G", as the historical operator stopped notifying the old G parameter following the full liberalisation of the gas market in Belgium on 1 January 2007. The "New G" was very similar to the old G parameter in its value and movement, and referred to the price of Brent crude, GOL gasoil, and HFO extra heavy fuel oil, and to the consumer price index, the CPI.

New G = 1/3 (0.300 Brent) + 1/3 (0.069 GOL) + 1/3 (0.072 HFO) + 1.16130 $\{(CPI_{n-1}/CPI_{n-2}) - 0.02\}$.

Publication of the IGA ceased in November 2007, and all suppliers now use their own indexation formulas. The IGA values were used in chart 4 and extrapolated, in part, beyond November 2007 on the basis of data supplied by the *Institut de conseil et d'études en développement durable* (ICEDD, 2009a).

With the full liberalisation of the Belgian market, all suppliers are free to define their own tariff formulas for energy costs. The indexation adopted by the suppliers has retained the indexation formula used in the days of regulation, with :

annual standing charge = (a x IGD)

energy cost (proportional charges) = (b x Igm) + (c x IGD)

where a, b and c are tariff coefficients specific to each supplier, each tariff formula and each consumption class ;
IGD = the gas distribution index, published by the CREG and reflecting the movement in distribution costs other than those relating to gas purchases ;
Igm or GPI = an index reflecting the movement in the cost of purchasing natural gas and calculated by each supplier instead of the old gas acquisition index (IGA). Initially, these indexation formulas were very similar for all suppliers, being of the type : (0.25 HUB + 0.0468 GOL603 + x * (CPIy–1/CPIy–2) + constant) / 21.21479

The successive tariff adjustments are detailed below for each supplier. They concern the annual consumption class ranging between 5,001 and 30,000 kWh/yr, which corresponds to the use of gas for cooking and heating. The movement in the proportional charge covering the energy cost is indicated in the chart by a thick blue line, while the thinner lines show the prices which would have applied if the tariff formulas adopted successively had been retained. The period in which the tariff shown applies is specified in the key to each line which then coincides with the thick blue line.

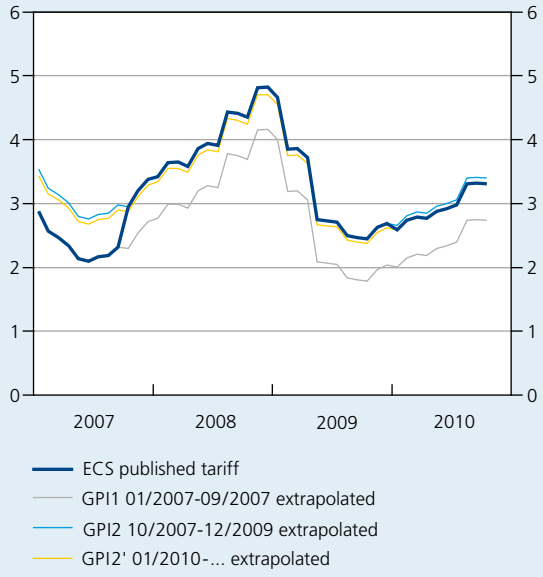
(1) Average purchase price weighted by volumes of gas bought by Distrigas from its suppliers : Gasunie, North Sea I, North Sea II and Sonatrach (CREG, 2006).

Electrabel Customer Solutions

In October 2007, ECS modified its indexation formula by increasing the value of the constant (this amounted to attenuating the reduction effect of the ECS constant, which is negative – see section 2.1.2.2). In February 2010, the value of the coefficient applicable to the CPI was reduced from 4.83 to 4.63, leading to a cut of 0.02 cent/kWh, the supplier thus passing on part of the 35 % decline in the transmission charges included in the energy price (CREG, 2010b). The 2 % reduction applicable to the EnergyPlus deal was also passed on in the unit price.

CHART 14 MOVEMENT IN THE PRICE OF ENERGY EXCLUDING VAT AT ECS ACCORDING TO ITS SUCCESSIVE TARIFF FORMULAS

(cents/kWh)



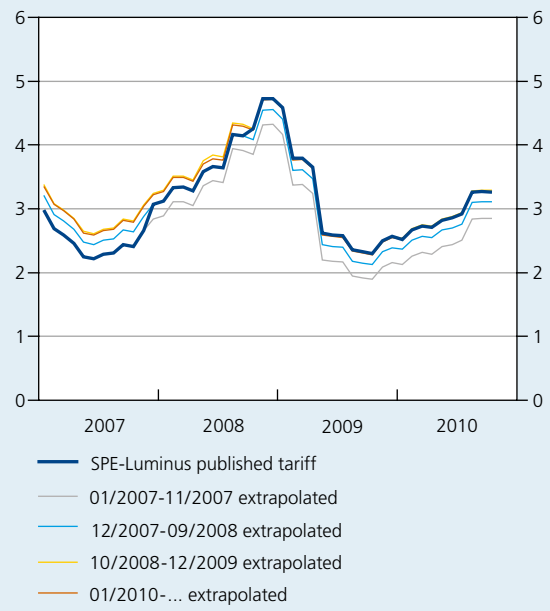
SPE-Luminus

The SPE-Luminus tariff formula (proportional component of the energy price) was adjusted in December 2007, October 2008 and March/April 2010. The changes concerned the coefficient applied to the IGD (energy cost = ((b x Igm) + (c x IGD)) which was increased in December 2007 (from 0.3 to 0.47 = +8 %) and October 2008 (from 0.47 to 0.6 = +4 %). The constant changed from –3 to –3.2 (–1 %) in March 2010 (and to –3.23 in April 2010) with retroactive effect from January 2010, giving customers the benefit of the change in transmission charges.

In the second quarter of 2008, SPE-Luminus introduced another variable-price contract (Luminus Connect) using a new Igc index based partly on the spot price of gas as well as the HUB and the GOL with a reduced weighting (50 % x [0.0468 GOL603 + 0.25 HUB + 0.995999 DAH] – 1.53897). The DAH is based on forward prices at the Zeebrugge Hub Day ahead market, the weighted monthly value being calculated with the aid of the SLP consumption profile. Only the aggregated Igc is published.

CHART 15 MOVEMENT IN THE PRICE OF ENERGY EXCLUDING VAT AT SPE-LUMINUS ACCORDING TO ITS SUCCESSIVE TARIFF FORMULAS

(cents/kWh)

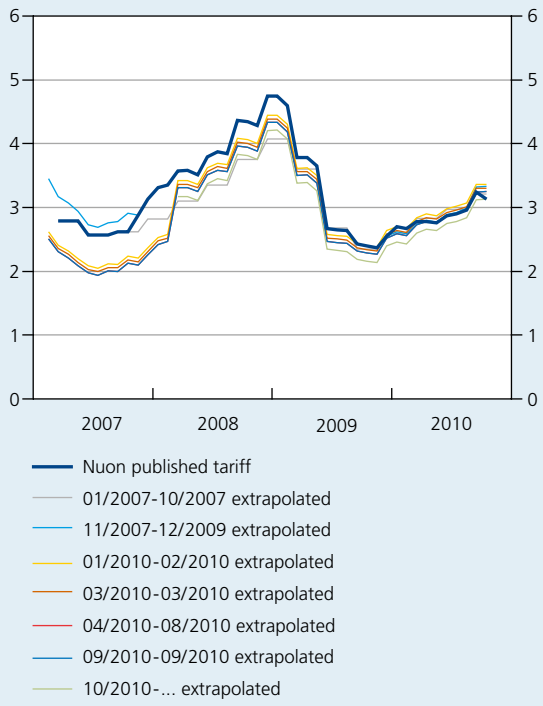


Nuon

In November 2007, Nuon adopted the same formula as ECS (Gni index based on the parameters HUB, GOL, CPI + constant), abandoning its Ign index based solely on petroleum products (GOL, Brent and HFO). In January 2010, a new parameter Gni2 was defined with reintroduction of the reference to the price of heavy fuel oil HFO (parameters HUB, GOL and HFO). The reference to the CPI was abandoned and replaced by a higher constant. Also, the weighting applied to the IGD was halved. The weighting coefficients applied to the IGD were revised in March and in April 2010, as the weight of the IGD tends to disappear. With effect from September 2010 an intermediate consumption class was introduced in regard to tariffs for consumers using gas for cooking and heating: the class ranging from 5,001 to 30,000 kWh/yr was extended and divided into sub-classes 5,001 to 20,000 kWh/yr and 20,001 to 40,000 kWh/yr. The IGD coefficient was slightly reduced for the higher band. In October 2010, the IGD coefficient was increased substantially (multiplied by 200) and a negative value completed the indexation formula, which had the effect of neutralising the constant incorporated in the Gni2 index. In the end, that amounted to replacing the constant with the IGD without modifying the definition of the Gni2 index.

CHART 16 MOVEMENT IN THE PRICE OF ENERGY EXCLUDING VAT AT NUON ACCORDING TO ITS SUCCESSIVE TARIFF FORMULAS

(cents/kWh)

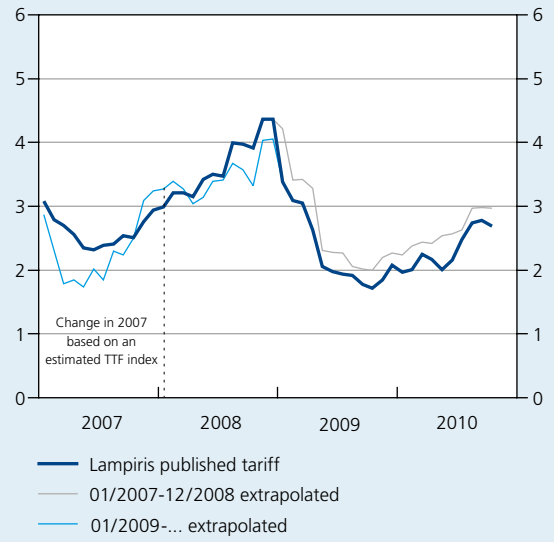


Lampiris

The Lampiris tariff formula was modified in January 2009 and since then its only energy reference parameter has been the TTF, an index in €/MWh of forward natural gas contracts in the Netherlands for delivery in baseload the following month (published by Heren ICIS). The old index (0.25 HUB + 0.0468 GOL – 3.068 + 3.2 IGD) was replaced by (TTF + 5.1 IGD). In February 2009, the change in the indexation represented a cut of 10 % in relation to the old tariff, and remained of the same order of magnitude throughout 2009, although it reached 20 % (04/2009 and 05/2010) as a result of the respective movements in prices of oil and of gas on the spot gas markets.

CHART 17 MOVEMENT IN THE PRICE OF ENERGY EXCLUDING VAT AT LAMPIRIS ACCORDING TO ITS SUCCESSIVE TARIFF FORMULAS

(cents/kWh)



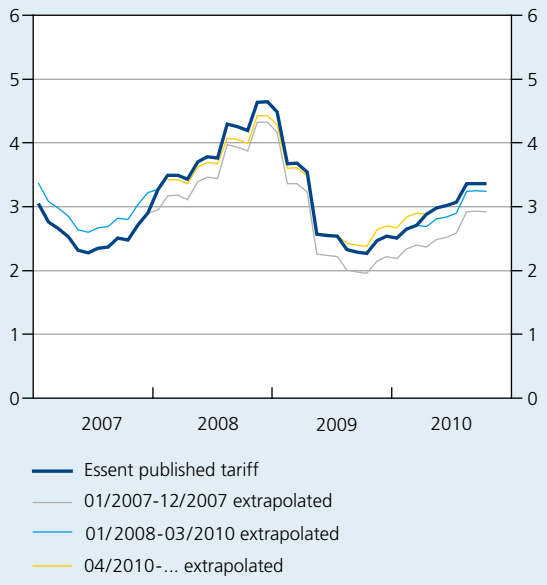
Essent

In January 2007, Essent adopted an indexation system based on the HUB and GOL, without reference to the CPI but applying a slightly positive constant. The adjustment of its tariff formula in January 2008 consisted in increasing that constant (from +0.143 to +3.17) and the IGD weighting (from 0.092 to 0.1), resulting in a 10 % increase in the proportional charge. The annual standing charge was also increased from 22.82 IGD to 25.41 IGD, representing an 11 % increase in the annual standing charge due per access point. The latest tariff revision entered into force in April 2010; in that instance, the constant went up again (from +3.17 to +6.16) and the HFO parameter was introduced (with weightings shared between GOL and HFO), which amounted to a price increase excluding VAT of around 6 %.

Since October 2010, Essent has offered another variable-price contract, Essent Eco, in which the indexation moves in line with that applied by Lampiris according to the formula (0.1 $TTF_{1.0.1}$ + 0.507 IGD) for the consumption class from 0 to 30,000 kWh/yr (the only difference being that the $TTF_{1.0.1}$ is published by the Endex exchange).

CHART 18 MOVEMENT IN THE PRICE OF ENERGY EXCLUDING VAT AT ESSENT ACCORDING TO ITS SUCCESSIVE TARIFF FORMULAS

(cents/kWh)



Annex 2 : ERGEG – situation regarding end-user price regulation as of 1 January 2010

Table 2 is taken from a publication issued by the European Regulators' Group for Electricity and Gas (ERGEG) setting out the results of their latest survey of the actual liberalisation of gas and electricity end-user prices. It presents an overview of market opening and price regulation in the national gas market segments open to competition within the EU.

The ERGEG reported a number of findings :

– in fifteen of the twenty-five countries analysed in the ERGEG study, regulated retail prices exist alongside market prices in at least one of the gas market segments (households, small businesses, medium-sized to large businesses and energy-intensive industries) ;
– the higher the level of consumption in a segment, the less likely it is that the segment will be subject to regulated prices : regulated prices still apply in fifteen countries in the case of the household segment, in eleven countries for small businesses, eight countries for medium-sized to large businesses, and six countries for energy-intensive industries ;
– in most of the countries with regulated prices, over 80 % of customers are eligible for supply at those prices, in each market segment, which indicates a lack of competition in the retail market. However, that percentage is often lower for the segments where consumption is heavier ;
– it is not possible to draw any firm conclusions about the relative level of regulated and free market prices when the two coexist. The results for each consumption segment differ considerably from one country to another. In France, the regulated price is higher than the free market prices offered to households, as suppliers offer discounts on the regulated price. In Spain, the regulated price is similar to the market price. In Lithuania, the regulated price is lower than the liberalised prices. These diverse situations reflect the many varying motives justifying the maintenance of regulated prices (ERGEG, 2009) ;
– in most countries with regulated prices, customers who have opted for liberalised prices can revert to regulated prices either when they like or after a certain period of time ;
– in three-quarters of cases, it is the regulator that sets the regulated prices (otherwise it is the minister). In roughly a quarter of cases, the decision to remove regulated prices rests with the regulator (or otherwise with the minister, the government or parliament).

TABLE 2 SITUATION REGARDING END-USER PRICE REGULATION AS OF 1 JANUARY 2010

Country	Final market opening date	Price regulation on 1 January 2010			
		Households	Small businesses	Medium-sized to large businesses	Energy-intensive industries
Austria	2002-10				
Belgium	2007-01				
Bulgaria	n.				
Croatia	*n.*				
Czech Republic	2007-01				
Denmark	2004				
Estonia	2007-07	2009-07			
France	2007-07				
Germany	1998				
Greece	2009-2030	2031-11	2031-11	2031-11	
Hungary	2007-07				
Ireland	2007-07				
Italy	2003-01				
Latvia	2014-04				
Lithuania	2007-07				
Luxembourg	2007-07				
The Netherlands	2004-07				
Poland	2007-07				
Portugal	2010-01				
Roumania	2008-07				
Slovakia	2007-07				
Slovenia	2007-07				
Spain	2003-01		2009-07	2009-07	
Sweden	2007-07				
The United Kingdom	1998				

Finland exempted from market opening. No gas in Cyprus and Malta.

Price regulation:

	Yes
	No
	Closed market
XXXX-XX	Scheduled date of price regulation removal

Changes between July 2008 and January 2010:

End-user price regulation in open market segment removed

Segment closed in July 2008

Source: ERGEG – Status review of end-user price regulation as of 1 January 2010.

Annex 3 : Liberalisation – regulation in the United States

As elsewhere, local distribution companies provide the local transmission and distribution services. Concerning the supply to the retail market (residential consumers and small-volume gas users), levels of liberalisation vary from one State to another according to the laws and regulations : twenty-seven States are not considering unbundling programs in the residential gas sector ; the other twenty-one and the District of Columbia have adopted laws and regulations to that end, but have not all made the same amount of progress in the liberalisation process. Finally, only three States and the District of Columbia have a fully liberalised market, active and accessible to all consumers in the residential sector. Four other States have full market liberalisation, but the lack of active suppliers has hampered the development of a competitive market in their territory (fewer than 5 % of active customers despite 100 % eligibility). The large consumers of gas have been able to obtain supplies from the liberalised market for many years.

Sources : EIA/DOE (2010a), *Status of natural gas residential choice programs by State as of December 2009* and EIA/DOE (2010b), *Natural gas residential choice programs – US summary 2009*.

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Trends in taxation of privately held assets

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L. Van Meensel *

Introduction

At the present time, when a rigorous budgetary policy is being imposed in most countries, there are those who argue that a rise in taxes, or even new levies on wealth and the income from wealth of private individuals, could make a contribution to the budgetary effort. Moreover, it is widely acknowledged that levies on employment are very high in Belgium. It therefore seems useful to find out whether part of the budgetary revenues could come from other sources of finance. At issue in particular are additional taxes on consumption or activities that cause pollution, but also supplementary revenues drawn from taxes affecting the assets of private individuals.

This article attempts to position Belgium's existing levies on income from wealth and wealth itself in relation to those applying in the other countries of the EU. Whilst not claiming to be exhaustive in any way, it is intended to present the main characteristics and trends.

The article is structured as follows. Firstly, it takes a brief look at some statistical and methodological aspects of levies on wealth and the income from wealth. Then, the situation in Belgium is analysed. This analysis is followed by an international comparison, within the bounds of what is possible, of the scope and level of the various levies linked to the assets of private individuals. Lastly, a concise commentary is provided on advances with respect to cooperation on tax matters at the international level as well as on the European Directive on taxation of savings.

1. Preliminary observations: statistical and methodological aspects

It should be emphasised firstly that levies on wealth cover a far more extensive spectrum than the (annual) tax on net assets in the strict sense, which consists of a rate of taxation applied to the value of the wealth. Besides, this type of levy does not exist in Belgium. On the other hand, Belgium does have a system of taxation on transfers of assets and on the returns paid which forms an integral part of what is understood by the taxation of wealth.

It is a difficult task to carry out an international comparison of the scope of levies on capital and the income from capital held by private individuals, and to draw up reliable statistics in this respect is no easy matter. In fact, statisticians come up against a series of methodological problems. The international comparison carried out for the purposes of this article is based in essence on an annual study by the EC which has resolved several of these problems [(1)].

Alongside levies on wealth and the income from wealth, the system of personal taxation plays a major role in a number of countries. A withholding tax on income from movable property like the *précompte mobilier* in Belgium does not exist in some of them or, if it does exist, it does not provide full discharge, so that income from wealth is taxed in the context of personal taxation, at a specific rate or not. The taxation of property holdings is also very

* The authors wish to thank Hugues Famerée for its contributions to this article.

(1) EC (2010), *Taxation trends in the European Union, data for the EU Member States, Iceland and Norway*.

heterogeneous and sometimes included in the personal taxation. In addition, tax deductions are granted for certain types of savings in several countries. The EC gets round the problem posed by these different methods by breaking down the taxation of natural persons, on the basis of the stock of internal information obtained from the national tax authorities, depending on the tax base being looked at: the employed, the self-employed, the inactive population and capital flows. Account is therefore taken, as far as possible, of the proportion of total tax that relates to the income from wealth and the tax deductions granted on savings and on interest paid on a mortgage.

The treatment of the income of self-employed workers and the relevant levies is also a complex concept. In fact, this income remunerates both the labour supplied and the capital invested. The same is therefore true of the taxes to which the self-employed are subject. However, it is a particularly arduous task to undertake an accurate breakdown of these two components, with the result that the following comparison ignores levies on the income of the self-employed.

However, whilst with regard to income from wealth, the data from the EC allow the levies payable by private individuals to be isolated, they include, with regard to the other forms of levies on wealth, those borne wholly or partly by companies, which cannot be isolated entirely for each country. In the chapter devoted to Belgium below, it was nevertheless possible to ignore the taxes paid by companies alone, whereas in the international comparison which follows, they were still included.

Lastly, it should be emphasised that levies on income from wealth are generally made on the gross return whereas it may be thought that the latter is partly intended to compensate for the erosion of purchasing power by inflation, and consequently to preserve the real value of the wealth. The real rates of taxation that take account of levies on the real return on assets – and which are therefore higher – provide a more reliable picture of the fiscal pressure on income from wealth than the nominal rates of levy.

2. Levies on wealth and income from wealth of private individuals in Belgium

2.1 Outline of main levies

This section, which is devoted to the levies in Belgium, is based on the methodology of the EC in order to differentiate between levies on income from wealth of private

TABLE 1 LEVIES ON WEALTH AND INCOME FROM WEALTH OF PRIVATE INDIVIDUALS IN BELGIUM

(millions of €, unless otherwise stated)

	Proportion (percentages)	1995	2000	2005	2009	Proportion (percentages)
Federal government	55	3,352	3,442	2,342	2,048	20
Registration fees and gift duties	14	872	1,346	134	76	1
Tax on stock market transactions	2	133	465	157	129	1
Withholding tax on income from movable property (*précompte mobilier*)	39	2,386	1,737	2,064	2,039	21
Personal taxation (net revenues)	–7	–402	–495	–435	–596	–6
Other [1]	6	363	389	422	400	4
Regional government	20	1,208	1,900	4,656	4,982	51
Inheritance tax	11	647	1,042	1,485	1,780	18
Gift duties				265	270	3
Registration duties	7	438	681	2,728	2,744	28
Other [2]	2	123	177	178	188	2
Local government	26	1,567	1,875	2,408	2,759	28
of which withholding tax on income from immovable property (*précompte immobilier*)	24	1,482	1,773	2,340	2,684	27
Total		**6,126**	**7,216**	**9,405**	**9,788**	
p.m. Percentages of GDP		*3.0*	*2.9*	*3.1*	*2.9*	

Sources: EC, NBB.

(1) This relates particularly to revenues drawn from tax on long-term savings as well as stamp duty, court office fees, mortgage fees and documentation fees.

(2) This relates in particular to tax levied by the Brussels-Capital Region on property holdings.

individuals and other levies on wealth. It does not take account of levies on wealth that are paid exclusively by companies[1]. With regard to registration fees and some other levies, it is impossible to differentiate between the portion paid by households and that paid by enterprises so that a part – albeit limited – of the revenues referred to below originates from companies.

The revenues from the various levies and competence in this respect are spread between federal, regional and local government. Whilst slightly over half of the revenues originating from levies on wealth and on income from wealth went in general to the federal government prior to 2002, this share represented no more than around a fifth in 2009. In fact, half of the revenues arising from levies on wealth and income from wealth of private individuals fell into the purse of the Regions as a result of the Lambermont agreements, which involved an almost wholesale transfer of registration and gift duties to the Regions with effect from 2002.

Part of the registration fees, tax on stock market transactions and documentation fees is still collected at the federal level. In Belgium, the levies on income from wealth are primarily made up of the withholding tax on income from movable property and the net revenues from personal taxation linked to wealth, made negative by the scope of tax deductions. Apart from the Lambermont agreements, the decline in revenues drawn from the withholding tax on income from movable property has also had a negative impact on the portion going to the federal government. In nominal terms, revenues going to the latter even contracted in 2009 in relation to the level shown by them in 1995. This decrease is essentially explained by the fall in nominal returns on the assets to which the levy applies. The Regions draw the bulk of their revenues from registration fees, gift duties and inheritance tax, as well as the withholding tax on income from immovable property (*précompte immobilier*). The reforms instituted during the last few years, particularly the reduction in the rate of levy with respect to gift duties, contributed to the growth of revenues which also benefited from the upward movement in prices on the property market.

As regards local government, the revenues originating from levies on wealth correspond more or less to the additional percentages levied on the withholding tax on income from immovable property. These represent around a quarter of the levies on wealth and income from wealth of private individuals in Belgium. The cadastral income on which the withholding tax on income from immovable property is levied is only index-linked and has not been reviewed since 1975. As a consequence, local government is obliged to raise the rates of levy in order for its revenues to develop in line with real economic growth.

(1) These involve in particular part of the withholding tax on property and the circulation tax paid by companies, as well as the supplementary distribution tax imposed on nuclear power operators in 2009.

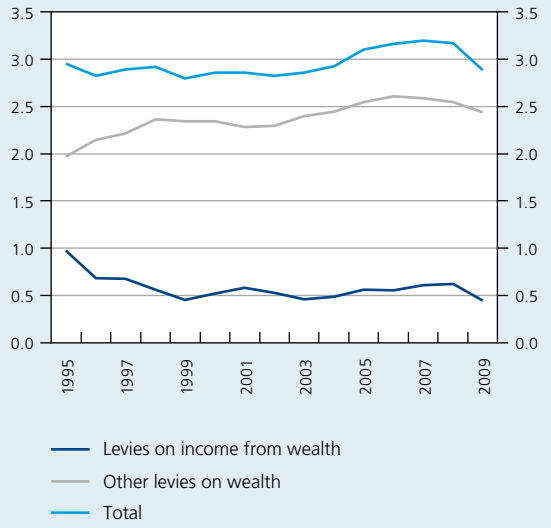
2.2 Development of levies on wealth and income from wealth of private individuals in Belgium

The revenues drawn from levies on wealth and income from wealth of private individuals in Belgium have fluctuated around 3 % of GDP during the last fifteen years. This movement is explained by the increase in receipts with regard to levies on wealth, on the one hand, and by the contraction in revenues resulting from levies on the income from wealth, particularly the withholding tax on income from movable property, on the other. Expressed as a percentage of GDP, these revenues were reduced by half between 1995 and 2009, in particular due to the fall in the interest rates on deposits.

The growth in revenues originating from other levies on wealth results from the increase in receipts relating to registration fees and inheritance tax. Revenues from registration fees increased from 0.6 to 1 % of GDP in 2007 but this net increase does not stem from a raising of the rate of levy. On the contrary, most of the reforms have been in the direction of a reduction in the rates or an expansion

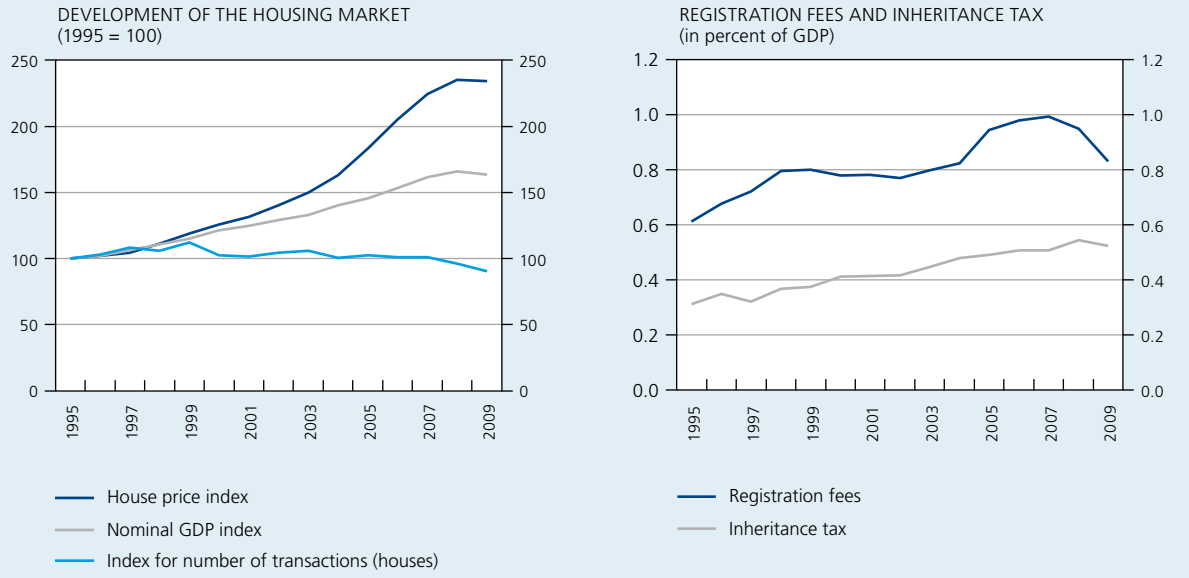
CHART 1 DEVELOPMENT OF LEVIES ON WEALTH AND INCOME FROM WEALTH OF PRIVATE INDIVIDUALS IN BELGIUM

(percentages of GDP)



Sources: EC, NBB.

CHART 2 PROPERTY PRICES AND REGISTRATION FEES & INHERITANCE TAX IN BELGIUM



Sources: OECD, NAI.

of tax deductions. The favourable developments on the property market combined, probably, with a decline in the proportion of non-registered payments pulled revenues upwards. Since then, the financial and economic crisis has brought with it a fall in the number of transactions and in prices, leading to a decline in the revenues from registration fees, to 0.8 % of GDP in 2009. As for inheritance taxes, these grew from 0.3 to 0.5 % of GDP between 1995 and 2009, without any increase in the rate of levy.

2.3 Policy with respect to levies on wealth

Alongside levies on the different assets, various tax deductions are granted by the federal government in the context of the system of personal taxation with the aim of influencing the savings behaviour of taxpayers. Essentially, it is thus the possession of one's own home and various forms of long-term savings that are encouraged.

The losses in revenues stemming from these tax deductions form the subject of an estimate in the Inventory of fiscal expenditure (*Inventaire des dépenses fiscales*) published by FPS Finance in the parliamentary documents. With regard to the tax year 2007, the fiscal expenditure relating to property holdings amounted to € 1,441 million [1]. Of this, the tax deductions linked to the system of mortgage borrowings entered into prior to 2005 represent the most significant amounts, particularly the additional reduction for home buyers' tax savings. This reduction, which is applied at the marginal rate, applies to part of the capital depreciation and life insurance linked to mortgage borrowings entered into prior to 2005 with the aim of acquiring a house to live in. If the latter were entered into with the aim of financing a new construction, the interest payments exceeding the taxable property income can give rise to a supplementary deduction.

The capital depreciation and the life insurance that is not taken into account for home buyers' tax savings can be deducted, in the context of long-term savings, up to an amount of € 2,080 (tax year 2011), at the special average taxation rate [2].

The deduction for a sole and own home was introduced with effect from the tax year 2006. This new deduction covers the interest, the capital depreciation and the insurance premiums for the mortgage protection life insurance on home loans entered into with effect from 2005, at a level of € 2,080 plus € 690 for the first ten years. The deduction for a sole and own home will gain steadily in importance. The decrease, between the tax years 2005 and 2007, in losses in revenues stemming from the

(1) It is not possible to isolate the losses in revenues stemming from life insurance policies taken out with a mortgage loan.
(2) This lies between 30 % and 40 %.

TABLE 2 FISCAL EXPENDITURE RELATING TO PROPERTY HOLDINGS AND SAVINGS[1]

(losses in tax revenues in millions of € per tax year)

	1996	2000	2005	2007
Fiscal expenditure relating to property holdings	892	1,142	1,303	1,441
Additional reduction for home buyers' tax savings	576	806	965	883
Complementary deduction of interest on mortgage borrowings	127	106	83	58
Life insurance premiums and capital depreciation	189	230	255	249
Deduction for sole and own home				251
Fiscal expenditure relating to savings	251	326	387	473
Acquisition of shares or stakes in the company	7	5	6	4
Staff contributions for group insurance / pension fund (second pillar)	81	94	94	92
Pension savings (third pillar)	163	227	286	377
Total	**1,143**	**1,468**	**1,689**	**1,914**
p.m. As a percentage of GDP	*0.6*	*0.6*	*0.5*	*0.6*

Sources: HCF and various editions of the "Inventory of fiscal expenditure".

(1) The deduction applied to the cadastral income of the home is not included in the table because, since 2005, the cadastral income of the taxpayer's own home may no longer form part of personal taxation if there are no mortgage borrowings going back to the system prior to 2005. In both systems, the cadastral income relating to the taxpayer's own home is only taxed to a small extent or not at all.

deduction for home buyers' tax savings and the complementary deduction of the interest on borrowings has been more than offset by the growth in fiscal expenditure linked to the deduction for a sole and own home.

Apart from the long-term savings referred to above, it is possible to deduct the expenditure allowed for the purchase of shares in the company and for individual pension savings (third pillar) at a level of € 870 (tax year 2011) at the special average taxation rate[1]. Personal contributions in the context of group insurance or a pension fund in the second pillar also provide an entitlement to a tax reduction calculated at the special average taxation rate. The grant of a tax break upon payment of the premiums gives rise to a fiscal levy on the amounts collected when the contract matures, whether it involves pension savings in the second or the third pillar. The amount deductible in the context of individual pension savings was raised considerably (by around a quarter) with effect from the tax year 2006, a fact which helps to explain the growth in revenue losses.

The significance of these various tax deductions in the context of personal taxation remained fairly stable as a proportion of GDP, at about 0.6 %, between the tax years 1996 and 2007.

This tax deduction policy, combined with specific levies on certain assets and the exemption of certain kinds of income, such as the interest on regulated savings deposits, but also the non-taxation of capital gains, results in the fact that the various forms of savings are taxed in a very different way in Belgium. This situation can be partly justified by the wish to stimulate or promote certain forms of savings. But it may also bring with it an adjustment by private individuals of their asset portfolio on the basis of strictly fiscal considerations, without this behaviour necessarily constituting an optimum.

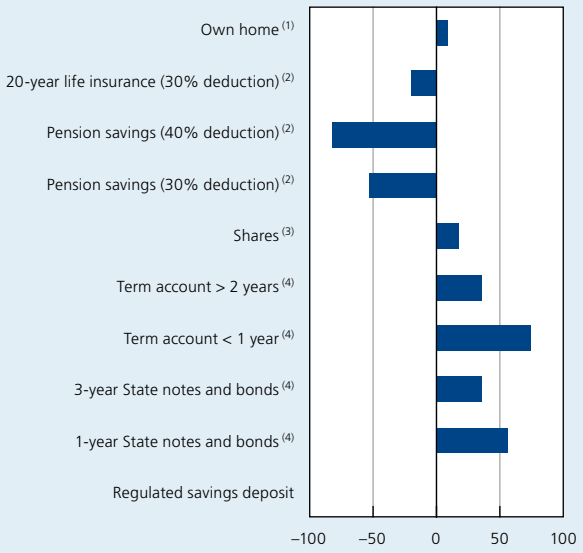
The impact of the different levies and tax deductions on the assets of private individuals is taken into account in the real rate of taxation. This rate takes account of levies on acquisitions, annual taxes, exit taxes and also the tax deductions granted[2]. The taxes are generally collected on the gross return from the asset despite the fact that the latter is partly intended to offset the negative impact of inflation on the real value of wealth. This offsetting does not correspond strictly speaking to a supplementary income since it is aimed at maintaining purchasing power. That is why the calculation of the real rate of taxation is applied to the net return after the deduction of inflation. This exercise has been performed for State notes and bonds, savings accounts, pension funds, shares and property holdings. Especially in view of the fact that it is calculated on the net return, this real rate of taxation is

(1) However, the two tax deductions cannot be combined.

(2) The method used in this context is based on Valenduc (1993).

CHART 3 ACTUAL RATE OF LEVY ON DIFFERENT ASSETS OF PRIVATE INDIVIDUALS

(percentages)



Source : NBB.

(1) Based on the purchase of a home at € 200,000 subject to registration fees of 10 %, and financed by mortgage borrowings conferring the right to the deduction for a sole and own home.
(2) Based on an assumed annual return of 6 % and inflation of 2 %, as well as a term of 20 years, taking account of annual levies, exit taxes and any tax deductions.
(3) Based on the dividend yield and the capital gain in the Belgian All Shares index between 2004 and 2009 ; the dividends distributed are assumed to be taxed at 25 %. Furthermore, a tax on stock market transactions of 0.17 % is taken into account.
(4) For the period 2004-2009.

very volatile for certain assets [1], particularly for short-term savings products. In order to take account of this aspect as far as possible, it is the real average rate of taxation for the period 2004-2009 which has been used.

The comparison of levies on the different assets shows that as the investment horizon is reduced, the real rate of taxation increases. With regard to the period 2004-2009, the average real rate of taxation on a term account with a duration of less than a year stood at close to 75 %, whilst it reached no more than 36 % for term accounts with a duration of more than two years. This is simply due to the fact that the return on an investment is generally higher where its duration is longer.

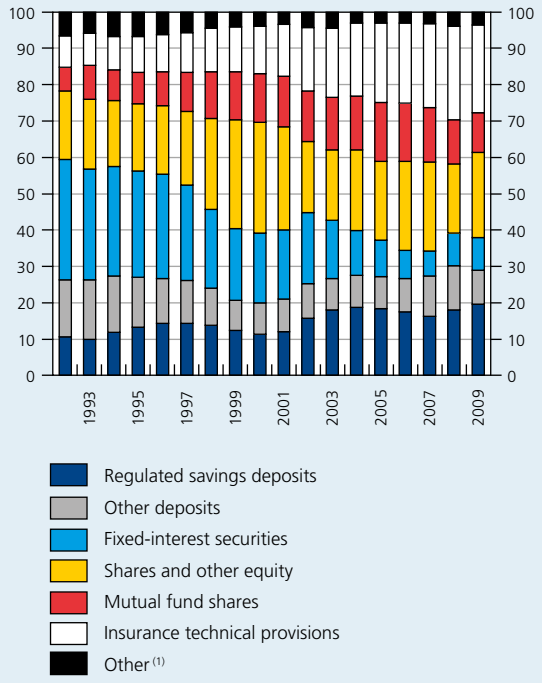
The rate of levy diverges even more between the different types of asset. Thus, the negative rate of taxation shows that pension savings are heavily subsidised, both for the deductions made at the minimum rate of 30 % and at the maximum rate of 40 % Despite specific levies on payments [2], life insurance also benefits from very favourable tax treatment. Based on the average return on Belgian shares between 2004 and 2009, calculated to take account of dividend distributions and capital gains, the effective rate of taxation on these assets was 17.6 %, that is to say less than the withholding tax on income from movable property at 25 % [3]. This situation is attributable to the fact that capital gains realised during this period were not taxed. The zero rate on regulated savings deposits also distorts the neutrality of taxation in relation to the various forms of savings. The OECD and the fiscal and parafiscal section of the High Council of Finance have drawn attention in the past to the fact that the lack of competition in the area of savings deposits means that this tax exemption mainly benefits the banking sector. In effect, the banks reward savings deposits at a lower level.

Holdings in undertakings for collective investment (referred to as "OPCs" in Belgium) constitute another financial product for which the tax incentive plays a significant role in the savings behaviour of households. In 1990, variable-capital and fixed-capital investment companies, "SICAVs" and "SICAFs" respectively, were created in response to the SICAV in Luxembourg. Up to

(1) With regard to products of this type, the gross return is less than inflation in some periods, which entails negative returns in real terms.
(2) This involves the tax of 1.1 % on payments made into insurance products and the annual tax on beneficial holdings.
(3) The dividends distributed represent around 44 % of the annual return of 5.7 % over this period.

CHART 4 STRUCTURE OF FINANCIAL ASSETS OF PRIVATE INDIVIDUALS

(percentages)



Source : NBB.

(1) The item "Other" includes commercial credit and various claims against the public authorities and the financial institutions, as well as the currency in circulation held by private individuals.

a few years ago, the incomes issued from capitalisation SICAVs were regarded in all cases as capital gains and were therefore not subject to the withholding tax on income from movable property.

Since 1 January 2006, new rules have applied to capitalisation SICAVs that have invested at least 40 % of their assets in bonds and benefit from the "European passport" [1]. Thus, since that date, the capital gain obtained upon buy-back of the units – and therefore upon their sale by the private individual – or the complete or partial sharing-out of the assets of the SICAV is subject to the withholding tax on income from movable property at 15 % with regard to the part corresponding to the interest collected by the SICAV. Since 1 January 2008, the withholding tax on income from movable property also applies to the capital gain generated by the bond portfolio, after the deduction of losses.

During the last two decades, the significance of holdings in OPCs has grown considerably within the wealth of private individuals, owing to the favourable tax treatment of these financial products. The success of the regulated savings deposits is also partly explained by the exemption of this product from the withholding tax on income from movable property. In the last few years, a net rise in technical reserves in insurance has also been seen. These include the reserves formed in the context of group insurance (pension in the second pillar), savings insurance (pension savings in the third pillar) and individual life insurance, all three of which benefit from favourable tax treatment.

3. Positioning of Belgium in relation to other countries

3.1 General outline

In Belgium, levies on income from wealth of private individuals and other levies on wealth increased from 3.9 % of GDP in 1995 to a maximum of 4.3 % in 2008. This share fell back to 4.1 % in 2009 in the wake of the financial and economic crisis. As a percentage of GDP, the scope of these levies is thus slightly higher in Belgium than in the EU on average, where these revenues grew from 3.2 % in 1995 to 3.8 % in 2008. In order to avoid influencing the international comparability of the data, levies on wealth paid by companies are taken into account, whereas they were excluded from the analysis of levies in Belgium in the previous chapter.

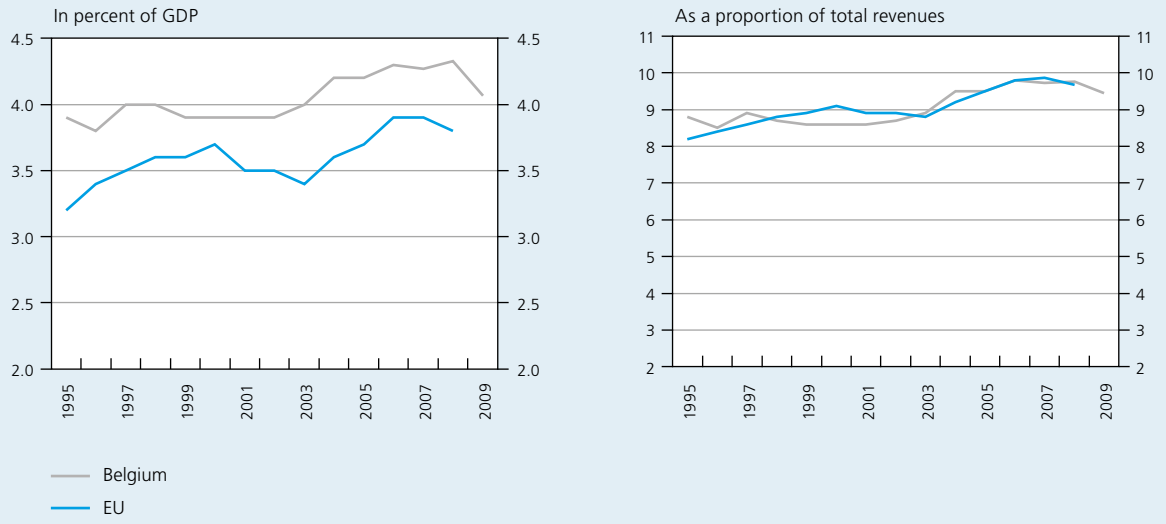
Levies on wealth and income from wealth of private individuals represent a little under 10 % of total tax revenues both in Belgium and in the EU. The development of revenues in the EU is similar to that seen in Belgium.

The comparison between the EU Member States of revenues originating from levies on wealth and the income from wealth of private individuals as a percentage of GDP shows the significance of these levies in Belgium in 2008 compared to the European average, with only the United Kingdom, France and Cyprus being ahead of Belgium. In several countries that have joined the EU during the last ten years, the scope of these levies is less than 1 % of GDP. The significance of levies on income from wealth is less than that of other levies on wealth [2] in almost all the economies. This is very clearly the case in Belgium : levies on income from wealth of private individuals only account for 0.6 % of GDP, as against 1 % of GDP in the EU. In

(1) These funds come under the European Directive on investment funds and can therefore be distributed more easily in the EU.

(2) In the Netherlands, the net effect of levies on income from wealth is actually negative owing to the considerable impact of the tax deduction on mortgage loans and the deduction of social security contributions in the second pension pillar, which result in significant tax refunds.

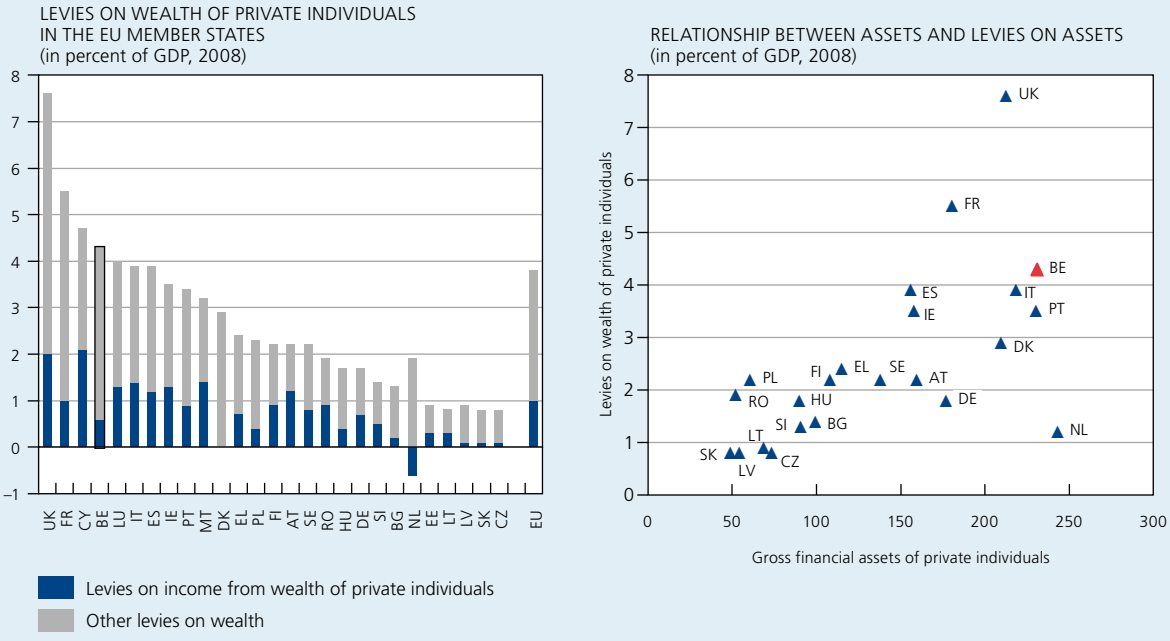
CHART 5 DEVELOPMENT OF LEVIES ON WEALTH OF PRIVATE INDIVIDUALS



Source: EC.

Belgium, these revenues originate essentially from the withholding tax on income from movable property paid by private individuals. This is reduced by the net tax on capital within the system of personal taxation, this being negative following the significant tax deductions in the context of personal taxation.

CHART 6 LEVIES ON WEALTH



Source: EC.

The level of taxes on wealth and the income from wealth as a percentage of GDP does not constitute a relevant piece of information with regard to the scope of rates of levy for a given country. In fact, it is strongly dependent on the size of the wealth of private individuals in this country, an approximation of which can be given by their gross financial assets as a percentage of GDP, therefore excluding the value of property holdings. In general, those countries where private individuals have a relatively large amount of wealth as a percentage of GDP show higher revenues originating from levies on wealth and the income from wealth as a percentage of GDP.

Nevertheless, the relationship between assets and the levies on assets, as a percentage of GDP, shows that countries posting a similar level of wealth may display levies on wealth that differ considerably. Thus, the United Kingdom and the Netherlands, both of which have a high level of gross financial assets as a percentage of GDP, post very different levels of revenues levied on wealth and the income from wealth. These reached 7.6 % of GDP in the United Kingdom in 2008, whilst they were only 1.2 % of GDP in the Netherlands. Compared to countries where private individuals hold financial wealth of a comparable scope in relation to GDP such as Italy, Portugal, Denmark and the Netherlands, Belgium applies relatively sizeable levies on assets and the corresponding income. In the United Kingdom, on the other hand, fiscal pressure on the wealth of private individuals is around twice as great as in Belgium.

In view of the effect of the tax base, it is necessary to complete the analysis with the main rates of levy for the main taxes on property and financial assets. The analysis presented below can only be regarded as an indication of the way in which wealth and the income from wealth are taxed in Belgium. In fact, it is not possible to be exhaustive owing to the complexity of the different systems which generally include numerous exceptions to the standard rates.

3.2 Taxation of property holdings

Property holdings are a key component of households' assets. A study carried out on Belgium by the OECD in July 2009 included an analysis of the size of levies on property holdings[1]. The data from 2007 reveal that the scope of annual levies on property holdings (this involves the withholding tax on income from immovable property, which is reduced by the tax deductions in the context of personal taxation) was, at 0.4 % of GDP, lower in Belgium than the average of the EU15, where revenues amounted to 0.8 % of GDP, and much lower than that recorded in the United Kingdom and France. Amongst the countries for which information was available, only Hungary, Austria, the Czech Republic and Greece had lower revenues as a percentage of GDP. The OECD underlined the fact that the relatively weak fiscal pressure on property holdings in Belgium results from the tax treatment of mortgage loans and the withholding tax on income from immovable property. The system of mortgage deductions is based on the marginal rate of taxation and is wider than in most of the other countries, given that it relates not only to the interest payments but also to the capital repayments and the premiums for the mortgage protection life insurance.

The converse is found if levies on transactions relating to the purchase of housing are considered. A study carried out by the European Mortgage Federation in 2010 reveals that, in relation to the overall purchase price of a home, the levies on the purchase are highest in Belgium out of the fourteen countries included in the comparison. These significant levies represent, on average, close to 10 % of the overall price when a purchasing a home.

In the analysis referred to above, the OECD indicated that tax deductions ultimately lead to higher housing prices and are harmful, along with significant transaction costs, to mobility on the labour market and the allocation of the workforce. Furthermore, the institution highlighted the fact that, according to its empirical studies, levies on property holdings weigh less heavily on economic growth than other taxes, so that this tax base can be utilised to a greater extent than is currently the case. It therefore advocated increasing the annual levies on housing on the basis of a realistic cadastral income and limiting the tax deduction to interest payments.

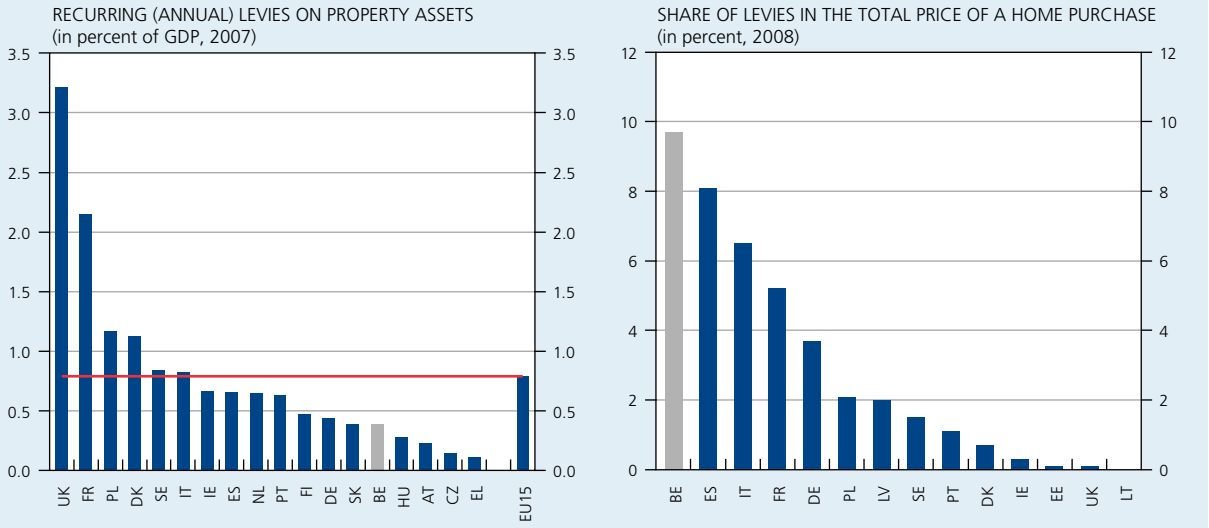
3.3 Taxation of financial assets

In Belgium, the withholding tax on income from movable property applicable to interest and dividends is the main levy on income from financial assets. This provides full discharge if the taxpayer wishes. This income need not be listed in the declaration relating to personal taxation, therefore. In several countries, there is no system of withholding tax on income from movable property or if there is, it does not always provide full discharge.

The comparison of the tax treatment of dividends is based of the data from the OECD. These data take account of the fact that there is no withholding tax on income from movable property providing full discharge in several countries and that the income from dividends is either

(1) The OECD does not distinguish in this regard between levies paid by private individuals and those paid by companies.

CHART 7 LEVIES ON PROPERTY ASSETS



Sources : OECD, European Mortgage Federation.

taxed or not at a particular rate in the system of personal taxation [1]. The data take account of the highest marginal rate at which this income can be taxed. It appears that the highest rate of withholding tax on income from movable property applicable to dividends in Belgium, which is 25 %, is positioned at the average of that applied in the other countries, whilst the rate of 15 % on the dividends of certain shares is below the average [2]. Around one-third of the dividends distributed in Belgium between 2004 and 2006 were taxed at a rate of 15 %.

When levies on interest from government bonds are considered, it appears that the withholding tax on income from movable property providing full discharge at 15 % in Belgium is also lower than the average of the other countries. Only Luxembourg, Greece and Italy apply a lower rate for residents. In the United Kingdom and Denmark, this income is taxed at the marginal rate for personal taxation, the rates of taxation thus potentially amounting to more than 50 %.

A general levy on capital gains is lacking in Belgium where they are not normally taxed, with notably the exception of carry transactions for property holdings and, as already indicated, capitalisation SICAVs that invest more than 40 % in bonds.

The Netherlands, Luxembourg, Lithuania, the Czech Republic and Cyprus do not tax capital gains on shares [3] either. Other countries such as Austria and Portugal have systems that only tax the capital gains on shares if they are made within a particular timeframe. In most of the other countries, the rate of taxation on capital gains approaches the withholding tax on income from movable property levied on dividends. This makes the tax system more neutral in respect of the type of growth in wealth.

3.4 Inheritance taxes and gift duties

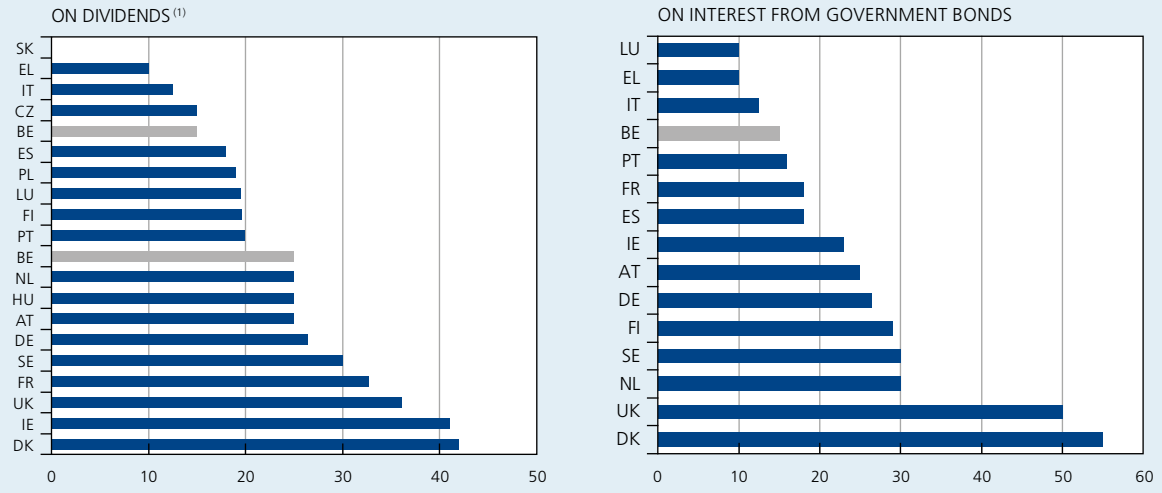
A comparison of revenues from taxes on inheritance and gifts as a percentage of GDP reveals that Belgium records the most significant revenues, based on the data from the OECD. This stems partly from the relatively high level of wealth in Belgium, but also from relatively high rates. However, comparing the systems is a very complicated matter owing to the differing taxation depending on the degree of blood relationship, which constitutes a key factor in determining the rate in a large number of countries. But if the highest marginal rate for inheritance taxes in the direct line is considered – that is to say to children, between spouses or, in certain circumstances, between cohabitees – it can be seen that the rate is relatively

(1) No account was taken of company tax on distributed profits since it was considered that this tax is only borne to a very small extent by the saver in a world of capital mobility and that it mainly results in a fall in investment.

(2) The rate of 15 % applies to the dividends on shares issued from 1994 onwards, the dividends of SMEs listed on a stock exchange and the dividends distributed by investment companies.

(3) It is impossible to compare the levies on capital gains on property holdings owing to the complexity of the systems in force in the different countries.

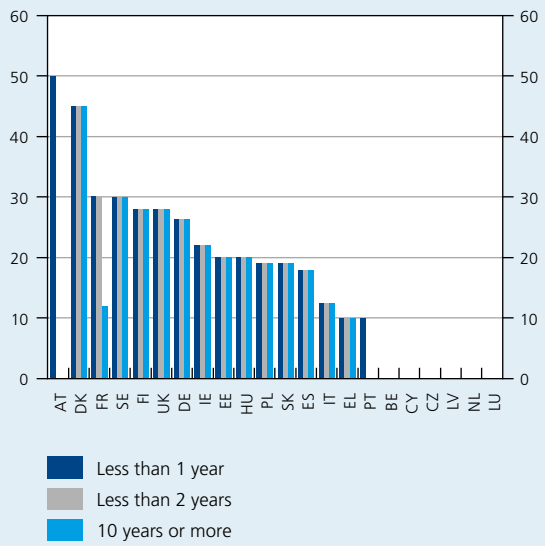
CHART 8 LEVIES ON INCOME FROM FINANCIAL ASSETS
(percentages)



Sources: OECD, NBB.
(1) With regard to Belgium, the rate of 25 % and the reduced rate of 15 % are both listed.

significant in the Belgian Regions. The rate is only higher in France, the United Kingdom and Spain. In the United Kingdom, however, where the highest marginal rate is 40 %, the first portion of the estate is exempt from tax and the amount of this exempt portion is relatively significant, at £ 312,000. In many countries, and more particularly in the countries that have joined the EU recently, there is no system of inheritance taxes. Other countries, such as Portugal and Austria, have abolished their systems of inheritance taxes in the more recent past – in 2004 and 2008 respectively.

CHART 9 LEVIES ON CAPITAL GAINS ON SHARES



Source: NBB.

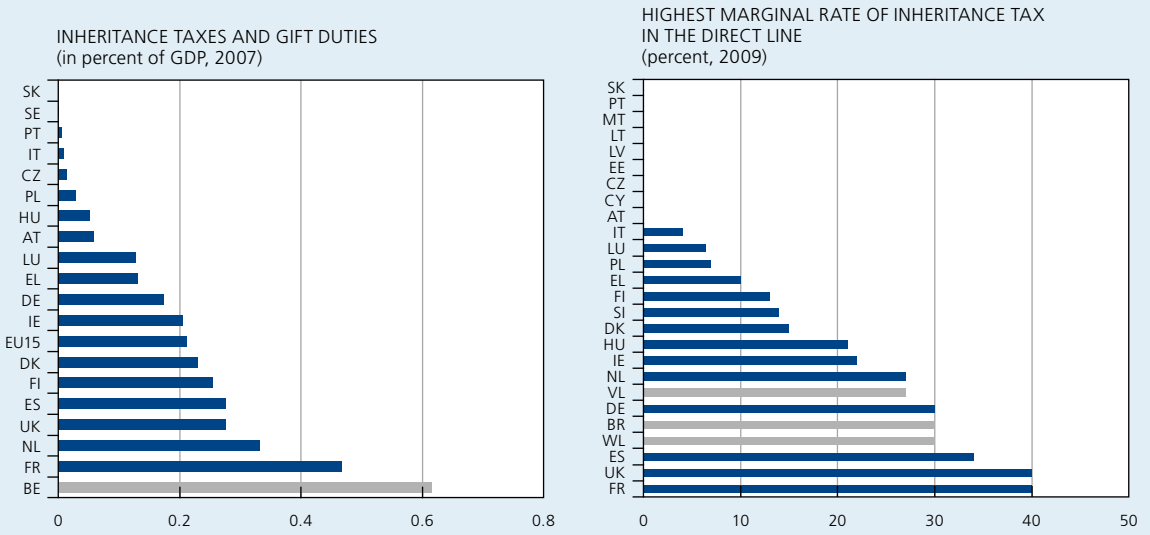
3.5 Levies on wealth in the strict sense

Levies on wealth are generally understood in the first instance to mean an annual levy on the net wealth of private individuals. This type of levy no longer exists except in a small number of European countries. Only France, Switzerland, Norway and Liechtenstein still apply this type of taxation. In the Netherlands, the levy on wealth was replaced in 2001 by a levy on a notional return, which corresponds *de facto* to a levy on wealth.

In other European countries, these levies have been abolished during the last few decades. Thus, levies on wealth have disappeared in Austria (1994), Denmark (1997), Germany (1997), Finland (2006), Luxembourg (2006), Sweden (2007) and Spain (2008). These reforms were frequently accompanied by an increase in other taxes on income (from capital).

Owing to the need to undertake budgetary consolidation, however, several countries are looking at reintroducing levies on wealth. This is the case in Spain and Ireland, for

CHART 10 INHERITANCE TAX AND GIFT DUTIES



Sources: OECD, NBB.

example. An outline of the levies on wealth applied in France and the Netherlands can be found below.

FRANCE

France has a long tradition of levies on wealth. In 1982, a tax on high levels of wealth (*impôt sur les grandes fortunes)* was introduced which was abolished in 1987 and subsequently replaced by a solidarity tax on wealth, the *impôt de solidarité sur la fortune*, abbreviated ISF. The latter is an annual levy, involving progressive rates, on the wealth of private individuals with the aim of increasing redistribution by way of the tax system. This levy is payable from the point where the net value of wealth is greater than € 790,000 (as at 1 January 2009)[1]. The rate of levy increases from 0.55 % on the first slice to 1.8 % on net wealth of more than € 16,480,000. There are several restrictions in place to prevent income being taxed "excessively". In 2005, a so-called "tax shield" (*bouclier fiscal*) was introduced, by virtue of which the combined total of direct taxes on income, including the ISF, could not exceed 60 % of the aforementioned income. In 2008, this restriction was scaled back to 50 %.

The fairly small product of the levy has fluctuated between 0.15 % and 0.2 % of GDP in the last few years. The costs associated with its collection and its control are expected to remain limited, varying between 2 and 2.5 % of the product. According to an evaluation by the French national audit office (*Cour des comptes française*), the "ISF is increasingly developing in the direction of property taxation". Moreover, an outflow of capital has been observed, although its exact impact is difficult to calculate.

THE NETHERLANDS

In 2001, the levy on wealth in force in the Netherlands, at a rate of 0.7 %, and also the levy on income from wealth, were replaced by a levy on the return from wealth, which forms part of the system of personal taxation. This levy assumes a notional return on wealth of 4 %, on which a tax of 30 % is levied. This tax corresponds *de facto* to an annual levy on wealth of 1.2 %[2]. Taking account of the way it operates, the levy is fairly stable and fluctuates in the region of 0.5 % of GDP.

The levy on notional income could bring about negative returns in a few years, after subtracting inflation, for those investors who have opted for a portfolio of defensive investments (e.g. savings deposit).

(1) The assets taxed consist in particular of property holdings that are unbuilt, built and in the course of construction, State notes and bonds, shares, jewellery, cars and horses. The value of the main home is reduced by 30 % Debts relating to these assets can be deducted.

(2) The wealth is taxed with effect from € 20,661 (in 2010) or € 41,322 for married persons or registered partners; this threshold is increased by € 2,762 for each dependent child. The wealth includes in particular bank accounts, shares, bonds, investments and certain forms of property holdings (e.g. second homes). It is reduced by unpaid debts. The taxpayer's own home and certain financial holdings, and also works of art, are not included.

4. International cooperation

In the last few years, an effort has been made to reduce international tax evasion, particularly tax evasion relating to income from wealth. In fact, the free circulation of capital and the lack of coordination between countries provided private individuals with the opportunity to evade tax on income from wealth. This section briefly sets out the work of the OECD to combat tax evasion, as well as outlining the European Directive on taxation of savings.

4.1 Work of the OECD to combat tax havens and tax evasion

The OECD has been working to improve international cooperation with respect to transparency and the exchange of tax information for around fifteen years. In concrete terms, this institution advocates exchange of information between tax authorities on demand and in specific cases in order to provide the tax authorities with better tools to act against fraud.

In 1996, at the instigation of the G7, the OECD launched a project focusing on harmful tax practices. An initial report on the subject was published in 1998 [1]. It served as the basis for discussions held within the OECD in order to eliminate preferential tax regimes, identify tax havens and urge them to adopt the standards of the OECD with respect to tax cooperation. Non-member countries were encouraged to join in with the OECD's work [2].

In a report published in 2000 [3], the OECD drew up a list of 35 countries and territories fulfilling the criteria of tax haven [4]. In the wake of this report, numerous countries undertook to observe the principles of the OECD with respect to transparency and exchange of tax information.

In April 2009, the members of the G20 put pressure on uncooperative countries by raising the threat of sanctions. For its part, the OECD drew up three lists in a report published on 2 April 2009 to classify countries according to their degree of tax cooperation: a black list, a white list and a grey list. The countries on the white list are regarded as sufficiently observing the standards; those on the grey list have promised to conform to them although they have not done so yet and those on the black list have refused to commit to them. In the wake of this report, clear improvements were observed in 2009 when the OECD's standards were approved and adopted by numerous countries.

When the report was published, Belgium appeared on the grey list. Under international pressure, it then made a commitment to quickly implement observance of the OECD standards. In various ways since then, it has shown its willingness to increase tax transparency: bringing forward its participation in the system for exchanging information in the context of the European Directive on the taxation of savings (1 January 2010 instead of 1 July 2011), systematic incorporation of the exchange of tax information at every renegotiation of a bilateral convention and the signing of numerous agreements observing the OECD standards.

In July 2009, Belgium signed the 12th agreement on the exchange of information for tax purposes, an act which allowed it to move off the grey list (29 countries moved from the grey list to the white list in the course of 2009). Furthermore, it has established numerous bilateral contacts in order to multiply the number of tax agreements.

4.2 European Savings Taxation Directive

The free circulation of capital and the lack of coordination between the Member States of the European Union regarding taxation of income from savings allowed private individuals to evade taxation on interest collected in a Member State other than their country of residence. This situation generated movements of capital between Member States and distortions that worsened the conditions on the internal market. In the context of the fight against detrimental fiscal competition, the Member States finally decided in 2003 to adopt a Directive in order to rectify these distortions.

In concrete terms, the aim of this Directive, which has been in effect since 1 July 2005, is to ensure the effective taxation of income from savings collected in the form of interest payments that are made in one Member State in favour of natural persons having their place of residence in another Member State, in accordance with the legislative provisions of the latter country. In order to do this, it envisages that the Member States undertake the automatic exchange of information relating to these payment flows. Whilst the exchange of information is the cornerstone of the Directive, three countries (Belgium, Luxembourg and Austria) have nevertheless obtained a temporary exemption, allowing them not to exchange this information but to levy a deduction at source. These countries raised the

(1) OECD (1998).

(2) The OECD standards with respect to tax cooperation require in particular the exchange of tax information on demand, the abolition of banking secrecy, access to reliable information, observance of taxpayers' rights and an assurance of the confidentiality of the data exchanged.

(3) OECD (2000).

(4) According to the OECD definition, a tax haven is defined on the basis of several criteria, particularly the following four: insignificant or non-existent taxes, lack of transparency on the tax regime, absence of information exchange and attraction of dummy companies with fictitious activities.

objection that the mechanism for exchanging information was contrary to their legislation on banking secrecy. During the transition period, the three Member States are nevertheless entitled to receive information from other Member States and to bring forward the introduction of automatic information exchange. When this is done, the countries concerned will no longer make a deduction at source. Belgium has decided to take part in the system for exchanging information under the European Savings Taxation Directive with effect from 1 January 2010.

The deduction at source stood at 15 % between 1 July 2005 and 30 June 2008, and at 20 % between 1 July 2008 and 30 June 2011. It will be 35 % with effect from 1 July 2011. This taxation is rebated at a level of 75 % in the beneficiary's country of residence. The State levying the deduction at source keeps 25 % of the proceeds generated in this way to offset the administrative costs associated with collecting the tax[1].

In order to prevent a flight of capital from the EU, the Member States have opened negotiations to encourage associated and dependent territories and certain third-party countries to adopt similar provisions. The Directive has been partly or fully adopted by the following countries: Switzerland, Liechtenstein, San Marino, Monaco, Andorra, Anguilla, Montserrat, the Cayman Islands, Guernsey, Jersey, the Isle of Man, the British Virgin Islands, the Turks and Caïcos Islands, the Dutch Antilles and Aruba.

Every three years, the EC submits a report to the Council of Ministers about the operation and effectiveness of the Directive. The first report, drawn up in 2008, reveals that amongst the countries having opted for the exchange of information, it is the largest economies that show the highest figures with respect to declaration of interest collected by non-residents. Thus, the United Kingdom posted an amount of € 9.1 billion for payments made between 1 July 2005 and 5 April 2006 (the end of the tax year). Between 2005 and 2007, France declared € 5.1 billion; Italy 3.1 billion and Germany close to 3 billion. The case of Luxembourg, which declared € 11.6 billion of interest collected by non-residents over the period 2005 to 2007, also deserves to be highlighted. The tax amnesty offered in Germany between 31 December 2003 and 1 April 2005 could explain this high figure.

As for the countries applying a deduction at source, the lion's share of the revenue for 2005, 2006 and 2007 originates from Switzerland and Luxembourg, at 46 % and 23 % of total revenues respectively. Austria and Belgium account for 8.3 % and 3.9 % of the amounts collected at source respectively; and Jersey and the Isle of Man 6.2 % and 4.2 % respectively[2]. The other countries having opted for a deduction at source (third-party countries and associated territories other than those referred to above) only represent a small proportion of the total collected. In Belgium, the portion retained from the deductions at source levied on interest payments to non-residents represented between 5.5 and 11.8 million annually from 2006 to 2009[3].

Over the period 2005-2006, the largest beneficiaries of the deduction at source were Germany (€ 192.7 million) and Italy (112.9 million). Belgium received € 56 million in 2006, 53 million in 2007, 83 million in 2008 and 49 million in 2009. This income originates essentially from Luxembourg and Switzerland (on average, 73 % of the income received during the period 2006-2009 originates from Luxembourg and 24 % from Switzerland).

According to the EC report, the analyses compiled from the data gathered over the period 2000-2007 by other sources (BIS, Eurostat and the European Fund and Asset Management Association) do not show any noticeable change in the behaviour of private individuals with respect to savings following the implementation of the Directive. Whilst certain significant developments are observed, they were already in existence prior to the introduction of the Directive[4].

In its report, the EC puts forward changes in order to strengthen the effectiveness of the Directive. In fact, several weak areas in the text give rise to opportunities to get round the legislation. In the first place, the Directive only applies in countries that are signatories; consequently, it runs the risk of generating relocation effects. Secondly, it only applies to natural persons; it is therefore easy to get round through recourse to legal persons. Thirdly, the definition of income from interest makes it possible to circumvent the Directive by using innovative financial products.

The first change requested by the EC in order to rectify these weaknesses would be to ask the paying agents to use all the information at their disposal about the true actual beneficiary when payments are made in favour of artificial persons or legal entities. This method should make it possible to detect cases where a payment made

(1) It should be noted that the mechanism of deduction at source is optional for the actual beneficiary who can in fact authorise the paying agent to send the required information to the tax authorities in his Member State. The actual beneficiary must produce a certificate issued by his country of residence to avoid the deduction at source on the interest paid to him.

(2) That is to say € 631 million for Switzerland over the period 2005-2007, 313 million for Luxembourg, 113 million for Austria, 84 million for Jersey, 57 million for the Isle of Man and 53 million for Belgium.

(3) That is to say € 5.5 million in 2006; 8.3 million in 2007; 10.1 million in 2008 and 11.8 million in 2009.

(4) This observation could also result from the fact that the directive was anticipated during the period under analysis.

TABLE 3 DEDUCTIONS AT SOURCE RECEIVED

(in millions of euro, largest beneficiaries only, list not exhaustive)

	2005 (2nd half)	2006	2007
Belgium	16	56	53
Austria	2	8	10
Germany	38	155	n.
Spain	13	39	46
France	13	50	64
Greece	5	14	n.
Italy	28	85	107
Netherlands	7	23	27
United Kingdom	33	62	86

Source: Hemmelgarn T. and G. Nicodème (2009).

in favour of an artificial person is actually intended for a natural person.

In order to clarify the concept of paying agent "upon receipt", the EC advocates as a further change the use of a positive definition of the intermediate structures established within the Member States and required to act as paying agents "upon receipt". These structures would thus be forced to apply the provisions of the Directive unequivocally.

The third element of the EC recommendations covers several aspects. Firstly, the definition of interest payment is too restrictive. Consequently, certain innovative financial products which can be equated with the products explicitly covered by the Directive make it possible to get round the legislation. The EC proposes widening the definition of interest payments by taking account of developments in savings products and the behaviour of investors. Secondly, the treatment of securities issued by OPCs is not consistent. Depending on their technical characteristics, certain OPCs come under the scope of the Directive whilst others escape it. In order to remove these differences in treatment, it is important to establish a precise definition of the entire group of OPCs to be incorporated in the Directive's area of application. The use of a definition that is both simple and inclusive would make it possible to reduce the risk of getting round it. Furthermore, certain Member States wished to widen the area of application of the Directive to payments of dividends and capital gains originating from investments that do not offer any substantial protection of capital. This position was not widely shared since the Directive is not the ideal framework for improving cooperation between tax authorities in this respect.

Based on this report, the EC adopted a proposal to modify the Directive on 13 November 2008. The European Parliament approved the proposal from the EC and put forward a series of amendments. The favourable Opinion of the European Economic and Social Committee was adopted on 13 May 2009. On 25 November 2009, the Ecofin Council reached a policy agreement and submitted a proposal for a Directive amending the European Directive on taxation of savings. Whilst the text is regarded as acceptable overall to the Council, certain countries have nevertheless expressed reservations. Discussions are currently still in progress.

4.3 Discussions regarding the possible introduction of a tax on banks

The possible introduction of a tax on banks is the subject of a debate on the international stage (G20, EU). No consensus has been reached at the present time. Certain countries which have been only slightly affected by the financial crisis (such as Canada) are opposed to it. Nevertheless, at the European level, the unilateral introduction of a tax on banks has been decided on for the territory of the EU. This decision was taken at the meeting of the European Council on 17 June 2010. The Member States wish "to introduce systems of levies and taxes on financial institutions to ensure fair burden-sharing and to set incentives to contain systemic risk". The European Council emphasised the importance of coordinated and consistent action by Member States in order to prevent distortions of competitiveness between national markets and problems of multiple taxation for cross-border institutions.

The taxation package to be introduced is still causing debate. Several lines of action are envisaged: on the one hand, there is taxation of the profits or the activities of financial institutions; on the other hand, taxation of financial transactions. This summer, the European Council asked the EC to consider the terms of a tax on banks. On 7 October 2010, the EC submitted its ideas in this respect, proposing a dual approach. At the global level, it suggests introducing a tax on financial transactions. The EU hopes to convince its international partners of the merits of a global process. At the EU level, however, a tax on financial activities would be preferable according to the EC. The latter will shortly carry out an impact analysis on the aforementioned measures, in order to deliver concrete proposals in 2011.

Conclusions

It is no simple matter to compare levies on the wealth of private individuals, owing to the complexity of the systems and the diversity of the components of wealth. Nevertheless, several general findings can be expressed.

Compared to the average in the EU, levies on the wealth of private individuals and the income that they draw from it in relation to GDP are fairly substantial in Belgium overall. This is due in part to the relatively significant volume of assets held by private individuals in Belgium, but also to the rates of certain levies. The comparison between Belgian rates and those applying in other countries does not allow a clear-cut conclusion to be drawn. It should nevertheless be noted that in Belgium, the annual income from wealth is generally taxed moderately and levies on capital gains are virtually non-existent. On the other hand, wealth-related transactions such as property purchase and the inheritance of estates are taxed relatively heavily. The actual rate of taxation is distributed very unfairly between the different forms of assets. Some are heavily subsidised, by way of tax deductions granted in the context of taxation of natural persons, such as pension savings, whilst some financial products, particularly those with short terms to maturity, are taxed quite heavily.

At the international level, it is the case that levies on wealth in the strict sense have disappeared in most countries over the last twenty years. They have persisted in a number of countries and it is not impossible that the need to undertake budgetary consolidation will prompt others to reinstate them.

In the last few years, an effort has been made to reduce international tax evasion, particularly those relating to income from wealth. In fact, the free circulation of capital and the lack of coordination between countries provided private individuals with the opportunity to evade tax on income from wealth. In order to combat tax evasion effectively, the OECD has been encouraging transparency and the exchange of tax information for about fifteen years. In 2009, under international pressure, numerous countries (including Belgium) took measures to comply with the OECD's tax standards. At the EU level, the Member States adopted a Directive on the taxation of income from savings in 2003. Omissions in the current text (in effect since 1 July 2005) provide private individuals with various opportunities to get round the Directive. In 2008, the EC proposed some amendments to the Directive in order to rectify these problems. Nevertheless, the new legislative text has not yet been adopted by the Ecofin Council.

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The Belgian deposit guarantee scheme in a European perspective

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Introduction

Deposit guarantee schemes provide a degree of protection for depositors' savings when a financial institution is unable to fulfil repayment. These schemes have been in existence for a long time, but the recent financial crisis once again demonstrated their importance.

As explained in the first section of this article, deposit guarantee schemes are not simply consumer protection instruments; they also make a major contribution towards financial stability.

The second section focuses on the advantages and disadvantages of deposit guarantee schemes: they must be carefully designed to achieve two goals simultaneously, as far as possible: namely, consumer protection and financial stability.

The third section describes the current Belgian deposit guarantee scheme and comments in particular on the way it has been modified in the context of the financial crisis.

Finally, the fourth section analyses the European Commission's recent proposals for introducing a new Directive on deposit guarantee schemes, setting out the implications of those proposals and the challenges ahead.

1. Role of deposit guarantee schemes in financial policy

The establishment of a deposit guarantee scheme has two main aims: the protection of depositors' savings and the maintenance of financial stability by the avoidance of bank failures.

1.1 Depositor protection

The primary purpose of establishing a deposit guarantee scheme is to ensure repayment of depositors falling victim to a bank failure.

Generally speaking, most individual depositors have little inclination to check how their bank uses their deposits. Moreover, there is considerable information asymmetry between depositors and bank managers, since the former are not generally able to judge and control the varying degrees of risk in the latter's management strategy (Madiès, 2009a). The cost of acquiring the information on the risk profile of the bank's investments is probably excessive in relation to the resulting advantage for depositors.

Deposit guarantee schemes are therefore justified by the need to protect and represent depositors, seen as a vulnerable population, in order to remedy their lack of control. When such a scheme is set up, the information asymmetry is transferred from the depositors to the body supervising the credit institutions which, in view of its expertise and opportunities for investigation, is assumed to be in a better position to overcome the problems of information asymmetry (Madiès, 2009a and b).

Furthermore, the need to protect depositors is also justified by the potentially very high costs which would result from the loss of their deposits if a bank were to fail. Those

costs are passed on to every individual depositor, but the losses may also have a considerable impact on private consumption, owing to the sudden decline in consumers' wealth, and hence on economic activity as a whole.

1.2 Financial stability

To ensure an efficient banking system, it is necessary to create a climate of confidence and thus avoid panic responses which could destabilise the financial system as a whole. Creation of such a climate of confidence therefore contributes towards maintaining the stability of the financial system, essential for its smooth operation.

A lack of confidence can trigger chain reactions leading to the failure of banking institutions which are, in principle, solvent and sound. A run on the banks may be precipitated by ill-informed or misinformed depositors, unable to distinguish between negative information concerning the sector as a whole and the situation of their own bank. A panic response is generally based on self-fulfilling behaviour by savers, all anticipating large-scale withdrawals by other depositors and rushing to recover their deposits. Since the value of the bank's assets in the event of compulsory, early liquidation will be less than the amount of the deposits, the bank may be perfectly sound (or solvent) yet driven to fail by a bank run (Diamond and Dybvig, 1983).

A deposit guarantee scheme limits the degree to which problems inherent in a particular bank are transferred to other healthier banks, since it guarantees depositors compensation if their bank fails, so that they do not need to rush to the bank to recover their assets. This mechanism therefore reduces the likelihood of a chain reaction and contagion of the entire banking system.

However, deposit guarantee schemes are only one of the instruments intended to ensure financial stability. They are part of a broader financial safety net. There is a consensus that such a safety net should comprise deposit protection, prudential supervision and regulation, and a lender of last resort[1].

First of all, *ex ante* crisis prevention measures such as effective prudential supervision and a coherent regulatory framework should afford protection against bank failures. The sector itself must also accept its responsibility and control the risks by rigorous internal risk management.

In regard to *ex post* measures to resolve a crisis, the central bank can extend the provision of liquidity for the banks when they face financing problems, if need be by resorting to unconventional measures as it did during the recent crisis. These can be viewed as the operations of a lender of last resort, in that most of the banks were no longer able to raise finance in the usual way on the interbank market. Finally, the fiscal authorities can intervene to restore the solvency of the banks by acquiring a share in their capital or by standing guarantor for their financial obligations. Unlike the explicit insurance offered by deposit guarantee schemes, these actions by central banks and authorities constitute an implicit insurance of intervention in a crisis: the action will be discretionary and will often benefit all creditors, and not just the depositors.

2. Core principles for an optimal deposit guarantee scheme

2.1 Advantages and disadvantages

Taking account of their objectives, deposit guarantee schemes have certain theoretical advantages and disadvantages. After discussing them, we shall examine the conditions which an effective guarantee scheme must fulfil in order to overcome the disadvantages as far as possible in practice. The authorities in fact have a choice of several regimes which differ in terms of coverage, funding and administrative rules[2].

ADVANTAGES

First, there are several advantages to be gained by protecting depositors' savings.

As a result of deposit protection, the financial wealth of households is largely safeguarded in times of crisis. That prevents the occurrence of decidedly negative wealth effects on private consumption, which could drive the real economy and the financial sector into a destructive spiral.

Moreover, individuals can more or less disregard the risk of failure when choosing their bank. That therefore reduces the customer's information costs, making it easy to seek out the institution offering the highest rates. That situation may increase competition between banks, though on average the banks should be able to reduce the amount of their deposit remuneration. In a regime where deposits

(1) Cf. in particular FSF (2001) and Schich (2008b). The lender of last resort can be defined as an institution, usually the central bank, which grants loans to the banking sector when all other means at its disposal for obtaining credit have been exhausted. According to the classical definition, the aim of the lender of last resort is to avoid unnecessary bank failures by enabling the banks to overcome their temporary liquidity problems by granting loans at an appropriate interest rate against the necessary collateral.

(2) Cf. in particular Garcia (2000) and Demirgüç-Kunt et al. (2005).

are not guaranteed, savers in fact demand an additional risk premium which depends on the credit institution's – often difficult to estimate – risk of default.

Deposit guarantee schemes also offer a number of significant advantages for financial stability, primarily in comparison with implicit guarantees.

Unlike implicit guarantees which, by rescuing the financial institution, provide a "blank cheque" for all the creditors, shareholders and even managers, the protection offered by deposit guarantee schemes is confined to depositors. It is therefore in the interests of the uninsured parties to assess the bank's risk positions since, in the event of failure, they will not enjoy the same security as depositors. A deposit guarantee scheme may therefore encourage better market-based risk monitoring on the part of the players best placed to achieve that (institutional investors and shareholders).

Another advantage is the creation of a level playing field which eliminates the competitive disadvantage of small banks. Since they are not regarded as systemically important and their survival is not essential to the functioning of the economy, they may be at a disadvantage compared to systemically important banks when it comes to a rescue operation. During the crisis, it did in fact become apparent that a number of large banks received assistance on the basis of implicit principles such as "*too-big-to-fail*" or variants such as "*too-interconnected-to-fail*" or "*too-complex-to-fail*". That may have given savers the impression that their savings were better protected in those large institutions. A deposit guarantee fund eliminates that misconception and ensures that deposits are guaranteed in all banks, so that the smaller ones do not need to offer higher rates in order to attract deposits.

Finally, since most depositors enjoy full protection, deposit guarantee schemes make it politically more acceptable for governments to decide to allow an institution to fail. They thus avoid being forced to rescue all institutions, even insolvent ones, via implicit guarantees so that depositors do not suffer losses. Apart from the considerable impact on the budget often involved in such implicit guarantees, they may lead to the maintenance of a weak financial system.

DISADVANTAGES

An important risk often associated with deposit guarantee schemes, but also with the lender of last resort and other implicit guarantees, is the risk of moral hazard. This concept refers to the changes in the behaviour of insured persons, causing them to take greater risks than they would without insurance. Such behaviour could be adopted by both banks and depositors, knowing that there is the explicit or implicit certainty of government intervention at times of distress in the financial sector. When choosing their bank, depositors would no longer attach any importance to the soundness of the institution but would seek out the highest interest rates. Also, bankers would be tempted to make risky investments, on the assumption that neither they nor their customers would have to bear any losses. The provision of guarantees for savers and financial institutions may therefore have the opposite of the desired effect and result in a riskier financial system.

2.2 Core principles of the optimal system

Listing the advantages and disadvantages shows that the design of a deposit guarantee scheme entails a trade-off between the objectives, namely depositor protection and financial stability. Giving too much deposit protection increases the risk of moral hazard, whereas an inadequate level of protection undermines confidence in the system. It is therefore necessary to limit the risk of moral hazard without endangering the system's credibility. Moreover, the creation of the system must be considered in the broader context of the financial safety net of which it forms part, and in the international context. Coordination and harmonisation are key elements here.

CREDIBILITY

The deposit guarantee scheme must be credible in the eyes of savers. It cannot be effective unless the guarantees offer a sufficiently high level of cover to apply to the bulk of the deposits. Also, depositors must be convinced that, after a bank fails, the system will actually be able to repay their deposits within a reasonable period of time. If the fund is undercapitalised *ex ante* by the financial sector, and/or if the government has insufficient fiscal scope to finance intervention *ex post*, the system will lack credibility so that it would still be rational for depositors to start a bank run. An effective deposit guarantee scheme should also preferably be transparent, simple and publicised.

LIMITATION OF MORAL HAZARD

There are various ways of limiting moral hazard. In regard to coverage, it is possible to exclude some large creditors such as financial institutions and institutional investors. It will then be very much in the interests of those players to monitor the risk-taking behaviour of their bank (Gropp and Vesala, 2004). Moreover, unlike small depositors they are in the best position to do that.

Another possibility is the introduction of co-insurance, which limits the cover to a fixed percentage (e.g. 90 %) of the amount of each individual deposit. That solution would help to encourage depositors to adopt a critical attitude when choosing their institution. However, it does have the disadvantage of causing all depositors to suffer a loss in the event of a failure, substantially increasing the risk of a bank run, as became apparent at the time of the crisis in the United Kingdom (Ondo-Ndong and Scialom, 2008). In 2009, Directive 2009/14/EC abolished the co-insurance option.

A third solution to the problem of moral hazard consists in financing the deposit insurance fund by a system of risk-based contributions. This entails methods of levying contributions from financial institutions according to their risk profile. The price tag attached to the risk will restrain the risk-taking behaviour of financial institutions. The drawback of this method is the difficulty of determining the risk profile of the institutions. Thus, balance sheet data are one possible basis, but they provide little indication of the future; market information is another possibility, but it is not always available and may be biased. Moreover, there are various types of risks, such as market risks, credit risks, operational risks and systemic risks, which are difficult to combine in a single figure. In that regard, the bank regulator seems the most appropriate information source.

Finally, the problem of moral hazard can be limited by imposing restrictions on the banks, e.g. in the form of liquidity and solvency requirements: that is the task of prudential regulation and supervision. In that regard, one form of regulation necessitates the other (Greenspan, 2001).

NATIONAL AND INTERNATIONAL COORDINATION

The above example shows that deposit guarantee schemes cannot be viewed separately from other arrangements for the prevention and resolution of crises forming part of the financial safety net, i.e. the prudential supervisory authority and regulator, and the lender of last resort. Deposit guarantee schemes are in general only activated after a bankruptcy, while the other elements of the safety net aim to avoid that.

It is essential for these institutions to exchange information readily and promptly so that, in a crisis, they can take swift, coordinated action (IADI, 2006). The elements of the financial safety net in fact interact in various ways. First, prudential regulation and supervision limit the moral hazard inherent in the deposit guarantee scheme and the function of lender of last resort. There are also interactions between these last two elements. Thus, the deposit guarantee scheme resources may be preserved if the lender of last resort supports a struggling financial institution. Conversely, such measures may lead to an insolvent bank continuing in business, resulting in a constant decline in its capital as a percentage of its deposits[1], potentially encouraging a bank run. On the other hand, a quick failure favours prompt compensation by the guarantee fund. These examples show that uncoordinated intervention may endanger financial stability and thus entail high social costs.

The global character of the modern financial system creates additional problems. If an international financial institution gets into difficulty, numerous public authorities are involved. It is therefore vital to optimise the coordination and exchange of information between countries and between deposit guarantee schemes. However, during the crisis, it became apparent that national interests took precedence in the absence of instructions specifying what must be communicated and by whom. That led to great uncertainty for the customers of savings institutions, e.g. in the case of the Belgian branches of the Luxembourg company Kaupthing Bank Luxembourg S.A., itself a subsidiary of the failed Icelandic bank Kaupthing.

One of the problems that arises is the home/host issue. It concerns the division of powers between national authorities. In the EEA[2] (which comprises the EU, Norway, Iceland and Liechtenstein), subsidiaries of foreign banks come under the guarantee fund of the country in which they are established (host control). Conversely, the deposits in branches[3] of foreign banks are covered by the guarantee fund of the country where the bank has its head office (home control)[4].

These rules are not very transparent for depositors[5]. They make it difficult for them to choose an institution since they need to know its legal form and origin, as well as the characteristics and reliability of the associated deposit guarantee scheme.

(1) Schich (2008a) states in this connection that in exchange for the loan the lender of last resort takes good collateral from the bank, constantly reducing the good quality assets available to depositors and other creditors. However, that statement was less relevant during the recent crisis, since the collateral accepted for the provision of liquidity by the central banks was extended to include lower quality instruments, subject to deduction of a certain percentage (*haircut*).

(2) European Economic Area. For banks not in the EEA, Member States are free to devise regulations. In Belgium, all those banks (branches or subsidiaries) come under the Belgian guarantee fund.

(3) Any subsidiary of a foreign bank that is established in Belgium is regarded as a firm incorporated under Belgian law that is legally independent from the parent company, while a bank branch is not a separate legal body; it is just a normal decentralised structure of the foreign company.

(4) However, branches of foreign banks may opt for additional participation in the guarantee fund of the country where they are established, if that offers higher coverage than the guarantee scheme of their country of origin.

(5) Thus, it eventually emerged that the deposits of Belgian customers of Kaupthing were covered by the Luxembourg guarantee fund, while the deposits of customers of Kaupthing in the Netherlands were covered by the Icelandic guarantee fund, since the bank operated there as a branch of the Icelandic parent institution.

From the banks' point of view, the differences between guarantee schemes may distort competition. Thus, the banks operating under a favourable system – in regard to both contributions and coverage – can attract more deposits at lower cost. The parent institutions can also convert their branches into subsidiaries (or vice versa), to shop for the best regulation offering the most attractive guarantee at the lowest price. Conversion of a branch into a subsidiary has the effect that its deposits are immediately covered by the guarantee fund of the country in which it operates, even though it has never contributed to that fund in the past. The differences may also give rise to abuse. Banks which take high risks may take advantage of a lack of transparency and thus attract deposits via branches based in countries offering a high guarantee. Against that backdrop, they may benefit from the lack of information for local depositors who might wrongly assume that their deposits come under the favourable local guarantee system. Moreover, the policy of the parent bank is not supervised by the regulatory authorities of the country in which the branch is established. That situation may lead to inadequate information on the risk-taking behaviour of the branch.

Clear rules or harmonised systems – particularly in regard to the level of coverage and funding – are therefore necessary to prevent differences between national guarantee schemes from giving rise to distortions of competition, abuses and uncertainty, and hampering financial integration (Trichet, 2008). International cooperation is necessary here. Pending harmonisation of the national systems within the EU, or even the creation of a pan-European deposit guarantee scheme, some countries have already confirmed their collaboration in a Memorandum of Understanding (MoU) which may be concluded at bilateral or multilateral level. That cooperation concerns the exchange of information and the treatment of applications for compensation. MoUs are particularly important where branches opt for complementary participation in the guarantee scheme of the country where they are established. So far, the Belgian deposit guarantee scheme has concluded two MoUs, one with the British system (Financial Services Compensation Scheme) and the other with the Dutch system managed by the Nederlandsche Bank.

(1) Only the most important characteristics of the Belgian guarantee scheme are considered here. For more detailed information, we refer to the most recent activity report of the Deposit and Financial Instrument Protection Fund, a public institution managing the scheme.

(2) Firms allowed to draw up an abridged balance sheet are covered by the protection system guarantee. Large and medium-sized firms which have to file a full-format balance sheet are therefore excluded. In practice, these are firms which either have an annual average number of employees in excess of 100, or which exceed more than one of the following criteria: a balance sheet total of € 3,650,000, an annual turnover (excluding VAT) of € 7,300,000, and an average number of employees totalling 50 persons.

(3) This protection was primarily a response by the Belgian government to the problems facing Ethias in the context of the financial crisis. It is now also an item on the European agenda. In 2008, the European Commission conducted a consultation on this subject, and will draw up a proposal for a Directive on protection for insurance products in 2011.

3. Characteristics[1] of the system in Belgium

3.1 Coverage

3.1.1 Conditions

In accordance with the European Directives 94/19 and 97/9, two schemes have been set up in Belgium: a deposit guarantee scheme and a financial instrument protection system.

In Belgium, the deposit guarantee currently amounts to € 100,000 per depositor and per financial institution. The decision to raise the previous ceiling of € 20,000 was taken by the federal government, by a Royal Decree published in the *Moniteur belge* of 17 November 2008, in the wake of the financial crisis. As in other European countries, confidence in the financial system was shaken and the first signs of deposit withdrawal were appearing. The aim was to curb the loss of confidence.

Deposit protection applies to all credit balances denominated in an EEA currency and held by natural persons, associations and small or medium-sized firms[2] in the form of current accounts, term accounts and savings accounts with a financial institution. It also covers funds on an investor's account and debt instruments issued by credit institutions (such as savings notes and bonds) if they are registered, dematerialised or held in a securities account. Bearer savings notes are not protected.

The protection of life insurance contracts[3] only covers class 21 products offering a guaranteed return, provided they are bought from a company which has elected to join the system (membership is currently voluntary). The reason for extending coverage to these products is that, despite taking the form of an insurance contract, these products are intended to attract the same group of depositors as those interested in conventional savings products offered by credit institutions (Debremaeker, 2009). As soon as an insurance undertaking joins the system, its customers enjoy a guarantee equal to the redemption value of their life insurance contracts on the day before the date on which the insurance undertaking fails, subject to a maximum of € 100,000.

The protection of financial instruments applies to all securities (shares, bonds, UCIs) issued by a third party and held on behalf of customers with a credit institution or investment firm, if that institution is unable to deliver or return them.

Intervention by the Protection Fund will therefore be necessary only in exceptional cases in which the securities held by the failed institution have been returned to their owners, but some owners have not recovered the whole of their securities. The amount of the guarantee covering financial instruments has been kept at € 20,000 [1].

Since the protection is intended mainly for ordinary savers, some categories – generally referred to as professional players – do not qualify for intervention. This applies to governments and government agencies, financial institutions, institutional investors, large firms and persons connected in various ways with the failed institution or undertaking (executive and supervisory directors, associate companies) or persons whose behaviour has contributed to the failure.

3.1.2 Effective coverage

Various statistics are used to try to estimate the extent to which the bank deposits of Belgian households and firms are covered by the deposit guarantee. Thus, the data supplied by Febelfin – the Belgian financial sector federation – on the number of accounts held by households and firms with banks established in Belgium were combined with the statistics on the amounts of deposits held with Belgian banks, compiled by the Bank in drawing up Belgium's financial accounts. These two sources permit an estimate of the average amount of current account deposits, term deposits and savings deposits held by resident firms and households.

Households' current account deposits total an average of € 3,240, if the analysis is confined to those with a credit balance. The number of accounts comes to 11 million, representing an average of 1.1 accounts per person.

Households' term deposits have an average balance of almost € 25,000. However, the number of accounts is relatively small at just under 900,000. In other words, only one in ten residents has a term account.

Finally, households hold on average somewhat more than € 10,000 in a regulated savings account. There are over 18 million accounts of this type, a figure well in excess of the Belgian population, indicating that some savers hold more than one savings account. Apart from 'shopping around', one reason for opening multiple savings accounts is that savers want to avoid exceeding the maximum limit on interest exempt from withholding tax.

The table below offers a brief estimate of the sums involved. Various factors make it impossible to refine the results. First, the financial accounts break down the data into euros and other currencies: the other EEA currencies cannot be specifically identified. The figures presented here therefore take no account of deposits held in EEA currencies other than the euro. Also, the data include euro deposits held by individuals with branches of foreign banks for which the guarantee is provided by another Member State.

Moreover, these average values give no idea of the breakdown of the balances of the deposits among savers. The Eurosystem survey of the financial behaviour of households, first conducted in Belgium in the summer of 2010, should provide totally new information on the breakdown of the real and financial assets of savers.

(1) In July 2010, the European Commission however also put forward a proposal for a new Directive concerning compensation schemes for investors whereby the coverage would be increased to € 50,000.

TABLE 1 EURO DEPOSITS HELD BY HOUSEHOLDS WITH BANKS ESTABLISHED IN BELGIUM

	Total amount of deposits [1] (millions of euro)	Number of accounts [2] (thousands of units)	Average amount per account (euro)	Average number of accounts per person (units)	Average amount of deposits per person (euro)
Current accounts [3]	36,907	11,390	3,240	1.1	3,415
Term accounts	21,110	861	24,514	0.1	1,953
Regulated savings accounts	186,294	18,352	10,151	1.7	17,238
Total	**244,311**	**30,604**	**7,983**	**2.8**	**22,606**

Sources: DGSEI, Febelfin, NBB.
(1) As at 30 June 2010.
(2) As at 31 December 2009.
(3) With a credit balance.

Based on a survey of 2,000 households, the findings can be extrapolated to the population as a whole, but will not be available before the end of 2011.

The averages thus calculated, though imperfect, are nevertheless valuable for estimating the appropriateness of the ceiling on the deposit guarantee scheme applicable in Belgium. For ease of analysis, we shall concentrate on the assets of individuals, ignoring two categories of financial instruments: any savings notes and other fixed-income securities issued by the failed institution which, if they are not bearer instruments, are normally added to the saver's deposits, and the outstanding balance due on any loans contracted with the failed institution, which is deducted from the amount of the deposits.

On average, Belgian residents hold about € 22,500 each in bank deposits, either held with one bank or spread over a number of banks, in 1.1 current accounts, 1.7 savings accounts and 0.1 term accounts, i.e. an average of 2.8 accounts. Of course, household deposits are not evenly distributed. Some people hold less than € 22,500 in bank deposits, or even do not have a bank account, while others have accounts with a much bigger balance.

Taking account of these inequalities, a fundamental question is whether or not the distribution of the amounts of the deposits is symmetrical around the average. If it is, the median deposit per person would be equivalent to the average deposit, namely € 22,500. In that case, around 50 % of the population did not enjoy full protection against a bank failure when the old ceiling applied. However, in practice it seems that, in so far as they reflect the distribution of total assets, deposits display an asymmetric pattern. In particular, a minority of persons apparently hold substantial deposits, driving up the average. In that case, the median deposit is less than the average of € 22,500. That means that more than 50 % of people already enjoyed full protection of their deposits before the ceiling was increased. The opposite side of the coin is that a proportion of savers – under 50 %, but presumably a significant percentage – nevertheless held total bank deposits of more than € 20,000 at that time. From now on they enjoy increased protection, or even full protection in some cases, with an intervention ceiling of € 100,000.

These assumptions are consistent with the European Commission's estimate, which – on the basis of the coverage rate calculated in the Member States offering comparable protection – considers that 67 % of eligible deposits in Belgium were completely covered when the ceiling was still set at € 20,000. For the new arrangement, the Commission estimated that in July 2010 about 95 % of the eligible deposits were completely covered by a ceiling of € 100,000 (EC, 2010d).

Ultimately, only the minority of savers whose total bank deposits exceed the current ceiling will potentially incur losses if a bank fails, and then only if that ceiling is reached in the case of one and the same institution. However, some savers are likely to spread their deposits over accounts with a number of different institutions.

Where businesses are concerned, current accounts (with a credit balance) have a total balance averaging around € 50,000 each. There are almost 1 million such accounts, representing 3.2 accounts per firm. Each firm therefore has an average of € 157,000 on deposit in current accounts.

TABLE 2 EURO DEPOSITS OF FIRMS[1] HELD WITH BANKS ESTABLISHED IN BELGIUM

	Total amount of deposits[2] (millions of €)	Number of accounts[3] (thousands of units)	Average amount per account (€)	Average number of accounts per firm (units)	Average amount of deposits per firm (€)
Current accounts[4]	46,943	945	49,672	3.2	156,920
Term accounts	18,733	32	581,130	0.1	62,619
Savings accounts	12,815	375	34,180	1.3	42,837
Total	**78,490**	**1,352**	**58,046**	**4.5**	**262,376**

Sources: Febelfin, NBB.
(1) Based on the number of non-financial firms which deposit an annual account at the Central Balance Sheet Office in 2008.
(2) As at 30 June 2010.
(3) As at 31 December 2009.
(4) With a credit balance.

The term deposits of firms have an average balance of around € 580,000. As in the case of households, they are very few in number : only one in ten firms has a term account. Per firm, the average balance on term accounts comes to € 63,000.

Finally, savings accounts held by firms contain on average € 34,000. There are around 375,000 of these accounts, or 1.3 per firm. Consequently, each firm has an average of € 43,000 on a savings account.

With the provisos expressed above, each firm based in Belgium has bank deposits with one or more resident credit institutions containing a total equivalent to around € 262,000, divided among 4.5 accounts, namely 3.2 current accounts, 0.1 term accounts and 1.3 savings accounts. As in the case of households, the sums recorded are most likely divided unevenly among firms according to their size and sector of activity. In particular, it can be assumed that the deposits of small and medium-sized firms are in most cases smaller on average, while those of large firms – which represent only a small proportion of non-financial corporations (5.9 % in 2008) – are much larger.

At present, only the deposits of small and medium-sized firms which have filed accounts in the abbreviated format are covered by the Belgian deposit guarantee scheme. In the absence of data on the breakdown of the amounts of deposits by firm size, it is impossible to state exactly what amounts are guaranteed by the current deposit protection system and what proportion of SME deposits are covered. Anyway, in the future, the distinction by size of the firms will no longer be relevant as the European Commission proposes that all firms regardless of their size, will be covered by the deposit guarantee scheme.

Firms are more likely than individuals to use the services of several banks, making them less vulnerable to the failure of one individual bank. Nevertheless, the guarantee scheme will cover their assets to a lesser degree than those of households. That is certainly true in the case of large firms. Moral hazard will be less of a factor in their case, since losses remain possible. They will therefore have to take account of the risk profile of their banks. For individuals and probably SMEs, on the other hand, the coverage is virtually complete and the profile of the chosen bank will probably be disregarded.

3.2 Financing

The guarantee scheme covering deposits and financial instruments is financed *ex ante* by members' contributions.

3.2.1 Members

Membership of the protection scheme is compulsory for credit institutions, investment firms and stockbroking firms incorporated under Belgian law, and is a precondition for obtaining the approval of the Banking, Finance and Insurance Commission (CBFA). Coverage is compulsory not only for the assets of Belgian banks in Belgium but also for the assets held by their branches in the EEA.

Branches of institutions governed by the law of another EEA Member State active in Belgium come under the protection scheme established in their country of origin, in accordance with the European Directives.

Branches of credit institutions and investment firms established in Belgium and governed by the law of a country which is not a member of the EEA have to join the protection scheme if their liabilities are not covered by an equivalent protection scheme in their country of origin.

In contrast to the above institutions, which are obliged to take part in the system of protection for deposits and financial instruments, insurance companies participate on a voluntary basis in the guarantee scheme covering insurance contracts.

3.2.2 Funds

The financing of the liabilities relating to deposit protection is divided in Belgium between two funds : the Protection Fund for Deposits and Financial Instruments and the Special Protection Fund for Deposits and Life Insurance.

The Protection Fund for Deposits and Financial Instruments (hereinafter : the Protection Fund) is based on the European Union requirements concerning the protection of deposits and savings notes, and is responsible for financing the first € 50,000 tranche of each deposit and the whole of the intervention in the case of financial instruments, the latter still being capped at € 20,000. The Protection Fund is an autonomous public institution with its own legal personality. It is administered by a board of directors comprising equal numbers of representatives of the financial sector and the government.

Any intervention concerning the balance of deposits in excess of € 50,000 is the responsibility of the Special Protection Fund for Deposits and Life Insurance (hereinafter : the Special Fund), newly formed in 2008 following the extension of the guarantee. This internal financing system is neutral for depositors, who can claim the

guarantee of € 100,000 under any circumstances. As its name indicates, the Special Protection Fund for Deposits and Life Insurance also administers the new guarantee covering class 21 life insurance products. That guarantee is totally independent of the bank deposit guarantee, and is administered entirely and exclusively by the Special Fund. The Special Fund is run by the Caisse des dépôts et consignations, which comes under FPS Finance.

With effect from 1 January 2011, however, this system will undergo fundamental change. From that date, the Special Fund will provide protection for all life insurance products with guaranteed return coming under class 21, for which participation will be compulsory, up to the maximum of € 100,000. It will take on the protection of deposits up to that same ceiling once the scope for intervention by the Protection Fund has been exhausted.

3.2.3 Contributions

Up to 31 December 2010, credit institutions and investment firms are in principle required to make a contribution which is divided into four parts:

- in regard to deposits eligible for compensation:
  - a contribution of 0.175‰ payable to the Protection Fund, and
  - a contribution of 0.31‰ payable to the Special Fund;
- in regard to the protection of financial instruments:
  - a contribution of 0.7 % (capped at € 154,000) of the gross profits for the previous year excluding interest income (for the credit institutions) or the turnover (for stockbroking firms) payable to the Protection Fund, and
  - a contribution of 0.01‰ (capped at € 455,000) of the outstanding total of financial instruments held for the account of third parties, also payable to the Protection Fund.

The insurance companies wishing to join the guarantee system for life insurances must also pay financial contributions to the Special Fund:

- a one-off initial contribution of 0.25 % and
- an annual contribution of 0.50‰.

These two contributions are calculated on the total inventoried reserves of the protected life insurance contracts.

It was necessary to step up the system's financing taking into account the increase of the guarantees. At the end of 2009, the intervention resources of the Protection Fund came to € 879 million. Taking account of the € 244 billion held on household bank accounts at the end of June 2010, we can estimate that around 0.36 % of the guaranteed amounts are covered by the current financial resources of the Protection Fund, even disregarding the deposits covered for SMEs.

Therefore, as foreseen in the Programme Law of 23 December 2009, member banks and investment firms will pay in two equal instalments, one in December 2010 and the other in January 2011, a membership fee of 0.10 % of the total amount of their deposits as at 30 September 2010. Their annual contribution to the Special Fund will also be increased, from 2011, to 0.15 % of their eligible deposits valued as at 30 September in the year preceding the payment.

Similarly, insurance companies will be obliged to join the Special Fund and pay an annual contribution equivalent to 0.15 % of the value of the protected contracts (class 21 products) as at 30 September in the previous year.

3.3 Payout delay

Under the current system, payouts must be made within a maximum of three months following the date of default. That period may be extended three times by a maximum of 3 months at a time, on the decision of the CBFA and in exceptional circumstances.

4. Recommendations issued by the European Commission since the crisis and challenges ahead

Since 1994, national deposit guarantee schemes in the EU have been addressed by a European Directive (EC, 1994). Up until the crisis, the EU had opted for limited harmonisation, pursuant to Directive 94/19/EC on deposit guarantee schemes, by essentially only setting a minimum level of the guarantee (€ 20,000 [1]). Consequently, the national authorities were free to decide the form taken by their deposit guarantee scheme, taking account of their financial structure and the scope available. That led to significant fragmentation since there are currently around forty [2] deposit guarantee schemes in the EU, with differing coverage, financing and administrative rules.

(1) In 1994, the Directive set a transitional implementation period expiring on 31 December 1999, and made provision for the possibility of reviewing the amount of the coverage every five years from 2005 onwards. Although the Commission conducted an analysis on the subject in 2006, the amount of coverage remained unchanged until 2009 at EU level.

(2) In some countries, multiple systems were devised in response to the diversity of the financial landscape (e.g. commercial banks versus savings banks in Germany).

4.1 Directive 2009/14/EC as a rapid response to the crisis

The financial crisis of 2007-2008 demonstrated that some deposit guarantee schemes in the EU were unable to preserve depositors' confidence and financial stability, as is evident from the bank run on Northern Rock at the start of the crisis in September 2007 and the increased nervousness among depositors in general. The guarantees offered proved insufficient in a good many cases. Moreover, the differences between guarantee schemes sometimes led to deposits being transferred to institutions covered by a more favourable deposit guarantee scheme, causing serious disruption for both banks and depositors and negating the benefits of the single European market.

In October 2008, on the initiative of the European finance ministers, the European Commission produced a rapid response to the crisis in proposing a new Directive 2009/14/EC. However, that Directive[1], in force since 11 March 2009, was an emergency measure intended mainly to restore the confidence of depositors, and dealt only with issues that could be changed relatively quickly:

- the immediate increase in the minimum guarantee from € 20,000 to € 50,000 before July 2009 and the introduction of a fixed guaranteed amount of € 100,000 in all Member States by the end of 2010;
- the reduction in the payout delay – by no later than the end of 2010 – from three months to 20 working days, with a possible extension of no more than 10 working days under exceptional circumstances;
- the abolition of the co-insurance clauses which cause depositors to incur a loss if their financial institution fails;
- the establishment of a duty on financial institutions to provide information so that depositors know whether, and to what extent, their deposits are covered by a guarantee scheme.

However, in the long run, this Directive explicitly aimed at in-depth review of the deposit guarantee schemes once an impact analysis has been conducted. It also makes provision for examining in that connection whether the new coverage set at € 100,000 is optimal.

4.2 Proposal of 12 July 2010 for a new European Directive on deposit guarantee schemes

On 12 July 2010, after having conducted an impact analysis and consulted various interest groups (consumers, banks, deposit guarantee funds, Member States, central banks[2]), the European Commission published its proposal for new rules on deposit guarantee schemes (EC, 2010c)[3]. Note that before that proposal becomes a Directive, it has to be approved, with or without amendments, by the European Parliament and the Council.

Apart from offering better coverage for consumers, the Commission proposal essentially provides for harmonisation of the schemes in regard to both the guarantees offered and their financing, in order to create a level playing field between the Member States and thus promote financial integration in the EU. The Commission also wants to enhance the effectiveness and credibility of the schemes by simplifying their administrative rules and guaranteeing them sounder financing, which would also help to restrain any risk-taking behaviour by financial institutions.

In view of the complexity of the schemes in terms of both their economic impact and their legal ramifications, the Commission proposal provides for a very gradual transition for some measures, while others will enter into force immediately from 2013 onwards. The new rules in the proposal for a Directive apply to all banks established in the EU, and can be summarised as follows.

4.2.1 Unified coverage and scope

The proposal reiterates the increase in coverage to a fixed amount of € 100,000 in all Member States by the end of 2010.

In many cases, the introduction of this new uniform level offers consumers clearer, more effective protection and will probably contribute to the further integration of banking activities in the EU. At present, the coverage still varies widely from one Member State to another, ranging from a minimum of € 50,000 in some East European countries to € 103,000 in Italy.

In comparison with the coverage applicable before the financial crisis, the number of deposits with total cover in the EU should increase from 89 to 95 % of eligible deposits, while the amount covered will rise from 61 to 72 % of these deposits. There would probably be little advantage in higher coverage: according to the Commission, coverage of € 200,000 would boost the number of deposits with full cover by less than 2 %, and would not justify the costs (financing) and disadvantages (moral hazard) entailed in such an increase (EC, 2010d).

(1) Directive 2009/14/EC of the European Parliament and of the Council amending Directive 94/19/EC on deposit-guarantee schemes as regards the coverage level and the payout delay (EC, 2009b).
(2) For the Eurosystem's position, cf. ECB (2009).
(3) It forms part of a broader set of reforms which are also aimed at investment protection and the protection of insurance products.

The cover would apply to all individuals, all firms and all currencies. It excludes deposits by local authorities and financial institutions, debt certificates and structured investment products. For simplicity, large firms would no longer be excluded, as the costs and disadvantages associated with the identification of large firms would cause significant delays in payouts to depositors.

Although the guarantee figure of € 100,000 is a maximum, Member States may decide to provide temporary cover in excess of that limit in the case of deposits resulting from real estate transactions or specific events (such as retirement), provided that this provision remains valid for no longer than twelve months.

4.2.2 Faster payouts

According to the proposal, the payout delay should be cut to seven working days. That is considerably shorter than the payout delays seen during the crisis, which sometimes amounted to several months (as in the case of Kaupthing). A number of pre-conditions are necessary for this speedier payout.

First, the prudential supervision authorities would need to inform the deposit guarantee scheme operators promptly if a bank is likely to fail. Next, the guarantee fund would have to be able to identify quickly the deposits to be repaid on the basis of the information held by the credit institutions. More particularly, the latter must be able to supply information on the total amount of the deposits held by a depositor ("single customer view"). To guarantee this prompt payout in the event of an international institution's failure, it is specified that the deposit guarantee scheme of the country in which the bank operates (host) should act as the contact point.

By further reducing the payout delay, the Commission aims to augment the credibility of the guarantee schemes and prevent depositors' financial resources from being blocked for too long, as that would force them to cut back their consumption. However, a prompt payout also entails risks, particularly the risk of erroneous payouts, imposing particularly heavy demands on the administration of both credit institutions and guarantee funds.

4.2.3 Risk-weighted financing in a new, credible financing model

During the crisis, it became apparent that a number of systems had inadequate funding to cope with the failure of a large bank. Thus, the Icelandic guarantee fund did not have sufficient resources to recompense the depositors of the foreign branches of Landsbanki (better known as Icesave) and Kaupthing Bank in Germany, the Netherlands and the United Kingdom.

Up to now, the Member States have been free to organise the financing of the guarantee funds, which is why there are major differences between funds. However, the general principle is that the final cost of intervention is borne by the credit institutions. Traditionally, a distinction is made between *ex ante* and *ex post* financing. Under the *ex ante* system, the resources are paid into the fund in advance on a regular basis by the financial sector, while in the *ex post* system the funds do not ask for the necessary resources until a claim arises, and are paid by either the financial sector or by the government which advances the amounts for the financial sector. There are only six countries where contributions are received solely *ex post* (Austria, Italy, Luxembourg, the Netherlands, Slovenia and the United Kingdom). In most schemes, the contributions represent a fixed percentage of the amount of the eligible deposits. Only eight schemes weight the contributions according to the risks[1]. Banks with a higher risk profile have to pay more, and that helps to reduce the moral hazard in the financial sector.

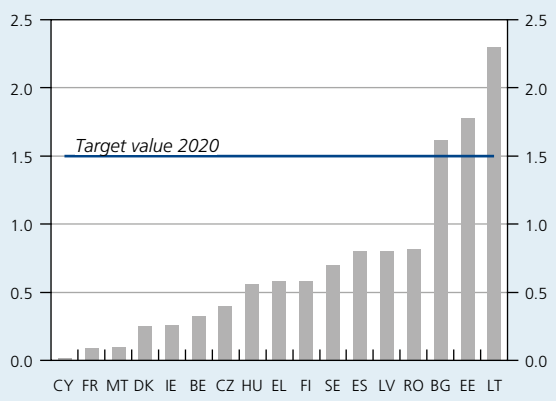
The financing of the funds is crucial to the credibility of the deposit guarantee schemes. If a fund does not have sufficient resources, it does not perform its role since depositors will consider it rational to start a bank run. However, the optimum level of funding is hard to determine, as the contributions may be viewed as a tax on the financial sector, depressing its profitability. Since the funds have to manage the sums received in a very conservative way, the yield is also low. Ideally, the resources should reflect the probability of failure on the part of a country's financial institutions. Thus, if the funding level is high, that may also suggest that the authorities are taking account of a substantial default risk, which may dent depositors' confidence. In 2007, the resources of *ex ante* systems in the EU ranged from 0.01 % (Cyprus) to 2.3 % (Lithuania) of eligible deposits. In Belgium, according to the Commission's figures, the funding ratio came to 0.33 %. Bearing in mind the lessons of the crisis, the Commission decided, in its proposal, to step up the financing of deposit guarantee schemes and to make the financial sector carry responsibility by introducing risk-based funding contributions. These provisions open the way to the establishment of a harmonised funding system, an essential pre-condition for the possible creation of a pan-European guarantee fund.

The proposal provides for improved financing of deposit guarantee schemes. First, by 2020, the *ex ante* resources

(1) For a description of these systems, cf. EC (2008).

CHART 1 FUNDING RATIO[1] OF DEPOSIT GUARANTEE SCHEMES IN THE EU[2]

(percentages, 2007)



Source: EC.

(1) *Ex ante* resources as a percentage of the total deposits eligible for the guarantee.

(2) Not available for countries without *ex ante* financing (Austria, Italy, Luxembourg, Netherlands, Slovenia and United Kingdom) or for Germany, Poland, Portugal and Slovakia.

are to represent 1.5 % of eligible deposits, implying a significant increase in funding levels. If the *ex ante* resources are insufficient to cater for the reimbursement of depositors, the guarantee funds will be able to turn to other sources of finance. Those additional sources are made up as follows:

- *ex post* resources equal to 0.5 % of eligible deposits, so that they make up a maximum of 25 % of the resources contributed by the financial sector;
- loans by other EU guarantee funds (mutual borrowing facility), amounting to a maximum of 0.5 % of the eligible deposits of the borrower system;
- alternative funding arrangements.

In contrast to previous practices, based on a fixed percentage of deposits, the *ex ante* resources would also vary partly according to the risk profile of the credit institutions. That risk profile would be based on eight indicators identifying the main risk areas which concern the capital base, asset quality, profitability and liquidity[1]. In order to give credit institutions a strong incentive to conduct internal risk management, the banks presenting the highest risks would have to contribute around three times as much as those presenting the lowest risks[2].

Since intervention by guarantee funds in the EU has tended to be an exceptional move, even during the recent crisis, it is not possible to establish whether their financing is adequate on the basis of the way in which bank failures have been handled. The proposal therefore recommends regular stress testing to determine the ability of credit institutions to honour their commitments promptly during a crisis.

4.2.4 Simplification and transparency

By harmonisation and restrictions on exceptions, the Commission aims to simplify the regulations overall. The combined deposits held by a customer with one financial institution in the EU are guaranteed up to € 100,000, and – according to the proposal – the customer must have access to the guaranteed funds within seven days of the date of failure. These rules give depositors a clearer view of the operation of the system.

In its proposal, the Commission also abolishes the convoluted rules that complicated compensation without offering any real advantages. Thus, the provision allowing net payment – i.e. after deducting account holders' debt to a bank from their savings – would be abolished. Moreover, depositors no longer need to complete any formalities if a bank fails; the payout is effected automatically by the national deposit guarantee scheme. Depositors of a branch of a cross-border bank would also be reimbursed by the guarantee fund of the country where that branch is established (host fund). However, that is a purely administrative procedure; in the end, the amounts paid come from the fund of the country of origin.

The proposal also obliges financial institutions to inform depositors of the guarantees which they enjoy, both on creation of a deposit and on the account statements. Also, the deposit guarantee scheme must be transparent and help to strengthen the system's credibility by publishing specific information on the guarantees and how they are financed.

4.3 Consequences and challenges

In general, the Commission's proposal for a Directive largely takes account of the core principles concerning an optimal system design described in section 2.2 of this article. The proposal offers depositors better and more credible protection. Regardless of which bank savers choose in the EU, their total deposits are covered by a

(1) Defining the risk profile is a complex procedure surrounded by great uncertainty. Every method has both advantages and disadvantages. The Commission opted for a method based on the balance sheet data and comprising several indicators. For a description of the various models taken into account in calculating the risk-based contributions, see EC (2009a).

(2) The risk-based contributions distinguish between financial institutions according to their relative risk profile (in comparison with other banks). It is therefore more difficult to deal with systemic risks, as an increase in the systemic risk will not necessarily result in an increase in the contribution from a particular bank, provided the latter's relative risk position remains unchanged.

guarantee of € 100,000 per institution and they are to have access to those deposits within seven days on the basis of increased financing. That enhanced credibility reduces the risk of a bank run. Apart from the advantages which deposit guarantee schemes already presented in relation to implicit guarantees intended to safeguard financial stability, the proposal takes particular account of moral hazard or the risk-taking that the guarantees could encourage. Despite the introduction of risk-based financing, prudential supervision and regulation, however, still has a vital role to play in limiting the risks because, as a result of the almost total coverage of deposits, savers are likely to respond faster to a rise in interest rates without paying attention to the risk profile of their chosen institution. Finally, the proposal also opens the way to the creation of a level playing field in the EU, so that banks are no longer confronted by distortions of competition resulting from the differences between the national guarantee schemes, and that will encourage further financial integration.

The impact of the new Directive, if adopted, and its implications must also be viewed in perspective against the broader range of measures designed to increase the resilience of the financial system. Apart from the strengthening of the deposit guarantee schemes, the prudential framework in the EU has also been modified in two ways: first, by the establishment of a new supervision set-up comprising three European Supervisory Authorities (ESAs)[1] and a European Systemic Risk Board (ESRB), and second by a proposal to tighten up banking regulations as regards capital and liquidity requirements (Basel III accords[2]). In addition, various groups of experts[3] are discussing the introduction of a tax on the financial sector, and more specifically on systemic too-big-to-fail institutions, or on financial transactions. Caution is vital here. The consequences of financial regulations are often complex. Among other things, account must be taken of the interactions between the various measures. Thus, the improved coverage offered by the guarantee fund cannot be viewed separately from tighter prudential control. The measures taken should also preferably be coordinated on an international scale so that they do not lead to competitive advantages or disadvantages which could distort capital movements. Finally, excessively strict regulation – e.g. the introduction of levies which would also concern deposit guarantee schemes – could affect the financial sector's profitability and encourage "shadow banking" activities or innovations which circumvent the regulations, thus threatening financial stability. It is therefore important to consider the cumulative effects of the reforms in the financial sector as they are not necessarily equal to the sum of the individual effects.

The proposal for a new Directive is not an end in itself. First, the Commission proposes that the new rules should be gradually phased in. Second, the Commission will assess the impact of the measures and the necessary efforts on the basis of interim reports, and consider whether it is appropriate to launch longer-term projects.

A PAN-EUROPEAN GUARANTEE FUND

The creation of a pan-European guarantee fund is just such a project. The proposal states that the Commission will submit a report on the feasibility of that project by the end of 2014.

According to the Commission, such a fund could cut the administrative costs by around € 40 million per annum and would permit improved management of bank failures (EC, 2010d), as a single failure would have less impact on a European fund than on a national fund.

However, it is complicated to set up a pan-European fund, especially in view of the legal aspects inherent in its financing. The introduction of such a system first requires full harmonisation of the national systems. The proposal for a new Directive could be viewed as a first step towards a pan-European scheme, as it harmonises the way the schemes work; it also stipulates that funding must amount to 1.5 % of eligible deposits and that the funds can make use of mutual borrowing facilities. Such a system would also be a logical development, taking account of the creation of a pan-European structure for prudential supervision.

DEPOSIT GUARANTEE SCHEMES VERSUS BANK RESOLUTION SYSTEMS

The operation of the deposit guarantee scheme must also be viewed, as described above, in the context of the package of measures intended to boost the resilience of the financial system. Special attention should focus on bank resolution systems (i.e. organising an orderly failure), aimed at the continuity of banking services so that depositors retain access to their deposits, e.g. by their transfer to another – sound – bank. A proposal for European legislation on bank resolution funds is in preparation (EC, 2010a). The literature often refers to prompt corrective action, namely the opportunity for supervisory authorities, central banks and public authorities to intervene in

(1) This concerns the European Banking Authority (EBA), the European Insurance and Occupational Pensions Authority (EIOPA) and the European Securities and Markets Authority (ESMA). The new European supervisory authority will be responsible for the supervision of deposit guarantee schemes and their mutual coordination. It will also be required to communicate information on the risk profile of financial institutions.
(2) BIS (2010).
(3) See, for example, EC (2010b) and IMF (2010).

the management of a credit institution before it actually becomes insolvent. Such measures are an alternative to deposit guarantee schemes and should be balanced against each other.

In a number of countries, deposit guarantee schemes also present the characteristics of bank resolution systems. In the United States, Canada and South Korea, in particular, guarantee funds can intervene in the management of banks, according to strict rules, and in extreme situations they can even take over the management of such institutions and proceed to repay or transfer deposits. However, such wide powers whereby these funds may also perform a prudential supervision role necessitate a proportionate increase in their resources. Early preventive measures do not always avoid the subsequent declaration of failure and the need to repay the deposits. It would not be in the public interest if the cost of transferring the deposits were to exceed the cost of repaying the depositors.

Conclusion

During the recent financial crisis, the deposit guarantee scheme in Belgium – as in other European countries – played a role in preventing bank runs and restoring confidence: to that end, the intervention ceilings were raised substantially and the scope of the scheme was extended to include certain life insurance policies. Finally, the expansion of the system's coverage had to be financed by a sharp increase in the contributions from financial institutions. First of all, that measure had a positive impact on the budget; secondly, increased contributions may also boost the credibility of the deposit guarantee system.

A recent European proposes further ambitious reforms. Besides a better consumer protection, the European deposit guarantee schemes would be largely harmonised, thus also promoting European financial integration. Risk-weighted financing of the schemes should counteract moral hazard, benefiting financial stability. However, this proposal has yet to be approved by the European Parliament and the Council. Its impact ought to be assessed in the light of the broader package of measures aimed at making the financial system more resilient, such as the new prudential supervision structure, the Basel III proposal for stricter capital and liquidity requirements, and the possible new levies on the financial sector.

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Results and financial structure of firms in 2009

David Vivet

Introduction

In the December issue of the Economic Review each year, the National Bank describes developments reflected in the annual accounts of non-financial corporations. By the autumn, the Central Balance Sheet Office does already have a representative sample of the annual accounts for the previous year. The conclusions drawn on the basis of this sample can therefore be extrapolated relatively reliably to the population as a whole.

This article is composed of four sections. The first one briefly describes the methodology and population studied. The second section presents an extrapolation of the main profit and loss account items for the 2009 financial year. Section three assesses the financial situation of companies as regards profitability and solvency. Finally, section four highlights the links between risk of failure and the distribution of financial ratios.

1. Methodology and description of the population

1.1 Methodology

The Central Balance Sheet Office has collected data on the accounts of non-financial corporations since the end of the 1970s. For that purpose, 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 in order to meet the required quality standards. So, by September, it is possible to carry out an initial analysis. However, each year, the nature of the data available for the latest financial year examined, in this case 2009, raises questions of methodology.

Owing to the fact that some firms are late in filing their annual accounts, the population relating to 2009 is incomplete. Moreover, firms that file late generally tend to be in a structurally less favourable financial position than firms which file their accounts within the allotted time. Table 1 shows, for the 2008 financial year, the significant differences between companies according to the time of filing their annual accounts: companies that submitted theirs after 31 August 2009 were significantly less profitable, less solvent and less liquid. In all probability, the data currently available for 2009 therefore give an overly optimistic view of reality.

TABLE 1 FINANCIAL SITUATION OF COMPANIES ACCORDING TO ANNUAL ACCOUNTS FILING DATE (1)

(medians, 2008 financial year)

	Annual accounts filed up to 31 August 2009 inclusive	Annual accounts filed after 31 August 2009
Net return on equity	7.8	6.3
Degree of financial independence	32.2	23.4
Liquidity in the broad sense	1.3	1.1

Source: NBB.

(1) The ratios are defined in Annex 1. Their significance is explained in section three.

TABLE 2 COMPOSITION AND REPRESENTATIVENESS OF THE CONSTANT SAMPLE 2008-2009

	Corporations in the 2008-2009 sample	All non-financial corporations in 2008	Representativeness of the sample, in %
Number of companies	**174,657**	**299,968**	**58.2**
Large firms	13,439	17,770	75.6
SMEs	161,218	282,198	57.1
Manufacturing industry	13,200	21,778	60.6
Non-manufacturing branches	161,457	278,190	58.0
Value added (€ million)(1)	**127,543**	**167,056**	**76.3**
Large firms	104,233	126,081	82.7
SMEs	23,310	40,975	56.9
Manufacturing industry	36,203	46,408	78.0
Non-manufacturing branches	91,340	120,648	75.7

Source: NBB.
(1) For firms in the constant sample, the balance sheet total taken into account is the figure for 2008.

Because of this double bias, the 2009 data are not directly comparable with those for previous years. To ensure comparability, we use the constant sample method. The sample for 2008-2009 is made up of firms that filed annual accounts for both the 2008 and the 2009 financial year and that met the following conditions:
- both sets of annual accounts relate to a financial year lasting 12 months;
- the annual accounts relating to 2008 were filed before 31 August 2009;
- the annual accounts relating to 2009 were filed before 31 August 2010.

The method involves extrapolating the 2009 results on the basis of developments observed in the constant sample: the 2009 figures are obtained by applying the rate of change of the sample to the final figures for 2008. It is therefore assumed that the trends seen in the sample are representative of those affecting the population as a whole. As verified in previous editions of this article, this assumption is largely borne out since, in the vast majority of cases, the estimates give a good indication of the direction and scale of actual movements.

Table 2 describes the composition of the constant sample for 2008-2009, which covers 174,657 companies, or almost 58 % of all annual accounts filed in 2008. The representativeness measured in terms of value added is much higher, reaching 76 %. This difference can be attributed to the fact that it is mainly small (or very small) firms that file their accounts late. As a result, the coverage rate for large companies is much higher, in terms of both the number of companies and value added.

1.2 Grouping according to size and branch of activity

The universe of non-financial companies forms a heterogeneous population within which different trends can be observed. Thus, for further analysis, overall trends must be parsed into smaller groups according to size and branch of activity. For one thing, the financing methods and, more broadly, the financial situations of companies differ according to size. Moreover, each branch of activity is subject to specific economic conditions that influence trends in the annual accounts.

Companies are sorted into size categories based on the format they use to file their accounts. According to the Company Code, small unlisted companies may use a simplified format, whereas large companies and small publicly-traded companies must use the complete format. Under the Company Code, a company is considered small if it has not exceeded one of the following limits during the past two financial years:
- average annual number of workers: 50;
- revenues (excluding VAT): € 7,300,000;
- total balance sheet: € 3,650,000;

unless the average annual number of workers exceeds 100 units.

In all other cases, companies are considered to be large[1].

In this article, in keeping with the Company Code, we define large companies as those using the full format to file their annual accounts. Other companies, that is, those using the simplified format, are considered SMEs. In 2008, as shown in table 2, the latter group represented the vast majority of the population studied (282,198 companies, or 94 % of the total). In terms of value added, however, the large companies were clearly predominant, with 75 % of the total.

Since last year, distinction between firms according to their branch of activity has been based on the European nomenclature introduced on 1 January 2008, which gave rise to the Belgian version, Nace-Bel 2008[2]. It is the 2008 nomenclature which is used in this article, instead of the Nace-Bel 2003 nomenclature. Since the data below are published at high levels of aggregation, this change does not alter the statistics to any great extent. Some of the figures are nevertheless no longer comparable with past data. For example, the new "information and communication" grouping contains activities that were not included before, such as telecommunications, publishing or computer activities.

For purposes of presentation and interpretation, the structure we use here differs slightly from the official nomenclature. Table 3 presents the breakdown of companies and their value added on this basis for financial year 2008. The corresponding Nace-Bel divisions are presented in Annex 2. Non-manufacturing companies represent the vast majority, at nearly 93 % of companies studied. The sectors with the largest number

(1) If the financial year is shorter or longer than 12 months, the revenue criterion is pro rated. If the company is linked to one or more companies, the criterion covering the average annual number of workers is calculated using the number of workers of all of the linked companies, and the revenue and balance sheet criteria are calculated on a consolidated basis. For more information, please refer to the Belgian Accounting Standards Commission opinion number CNC 2010-5 (www.cnc-cbn.be).

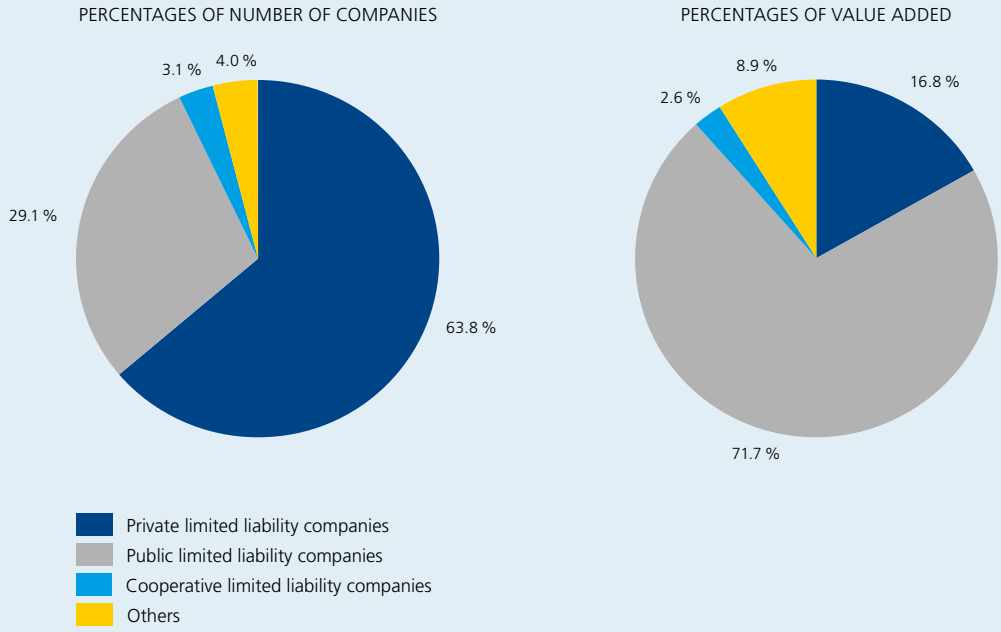
(2) See Regulation (EC) N° 1893/2006 of the European Parliament and Council of 20 December 2006. For more detailed information on the Nace-Bel 2008 classification, go to http://statbel.fgov.be.

TABLE 3 BREAKDOWN OF COMPANIES BY BRANCH OF ACTIVITY (2008)

	Number of companies	% of total	Value added (€ million)	% of total
Manufacturing industry	21,778	7.3	46,408	27.8
of which:				
Agricultural and food industries	3,770	1.3	6,579	3.9
Textiles, clothing and footwear	1,654	0.6	1,642	1.0
Wood, paper products and printing	3,796	1.3	3,248	1.9
Chemicals and pharmaceuticals	778	0.3	10,408	6.2
Metallurgy and metalworking	4,503	1.5	7,568	4.5
Metal manufactures	2,460	0.8	9,095	5.4
Non-manufacturing branches	278,190	92.7	120,648	72.2
of which:				
Wholesale and retail trade	78,642	26.2	35,890	21.5
Transportation and storage	10,894	3.6	15,522	9.3
Accommodation and food service activities	18,573	6.2	2,935	1.8
Information and communication	14,198	4.7	11,742	7.0
Real estate activities	29,364	9.8	4,561	2.7
Other service activities	64,148	21.4	23,637	14.1
Energy, water supply and waste	1,128	0.4	8,588	5.1
Construction	38,351	12.8	12,219	7.3
Total	**299,968**	**100.0**	**167,056**	**100.0**

Source: NBB.

CHART 1 BREAKDOWN OF COMPANIES BY LEGAL FORM



Source : NBB.

of companies are distribution (retail and wholesale), "other service activities" (including business services), construction and real estate. In terms of value added, the manufacturing industry's share of the national total is much more significant (27.8 %), because this sector is dominated by large companies, particularly in the fields of chemicals, pharmaceuticals, basic metals and fabricated metal products.

Annex 3 specifies the breakdown of value added by branch of activity and by size. The value added of SMEs is overwhelmingly generated by the non-manufacturing sectors, including business services, retail distribution and construction. Among large companies, manufacturing's share is significantly higher, at 32.5 %, and comes mainly from companies that belong to large international groups. We should emphasise that, in most cases, the activities of companies within a given sector tend to differ according to size. For example, in distribution activities, many SMEs are present in retail distribution, whereas large companies are more oriented towards wholesale distribution and distribution centres. Similarly, in the "information and communication" group, SMEs tend to focus on IT consulting, whereas large companies are more present in telecommunications.

Lastly, chart 1 presents the breakdown of companies by legal form. It shows that most of the population is comprised of the principal limited liability forms, i.e. private limited liability companies (SPRL, 63.8 % of companies studied), public limited liability companies (29.1 %) and cooperative companies (3.1 %). The legal forms of the remaining companies (4.0 %) include notably civil companies, ordinary limited partnerships and partnerships limited by shares, general partnerships, social-purpose companies, and state-controlled companies. In terms of value added, the proportions flip heavily in favour of public limited companies, which represent 71.7 % of the total, compared with 16.8 % for private limited liability companies, 2.6 % for cooperative companies and 8.9 % for all other legal forms.

2. Trends in the components of the operating result

In this section, we show how trends in the components of the operating result relate to trends in general conditions in 2009. For more information on overall economic conditions, please see the Bank's most recent reports.

2.1 Economic conditions

Belgium felt the full brunt of the global economic recession in 2009. Over the full year, GDP shrank by an average of 2.8 % in real terms, the most severe contraction since World War II. Between 1960 and today, GDP had only contracted three other times on an annual basis: by 1.5 % in 1975, by 0.3 % in 1981 and by 1 % in 1993.

As with most developed economies, when the financial crisis took a turn for the worse in late 2008, economic activity was already in a slowing phase due notably to the spike in commodity prices. Stemming from the extreme tensions triggered in September 2008 by the failure of US investment bank Lehman Brothers, the recession spread quickly during the final quarter of 2008 and early 2009, principally because of the paralysis of a portion of world trade and industrial production. Plunging stock markets, the tightening of lending conditions and, more generally, the highly uncertain economic outlook that prevailed at the time also heavily influenced the behaviour of Belgian consumers and companies. As a result, in addition to exports, both household consumption (consumer spending and home buying) and business consumption (via gross fixed capital formation and inventory drawdowns) weighed heavily on activity.

The recession was somewhat less severe in Belgium than elsewhere. Lacking the major structural imbalances – with respect to external accounts, private sector debt and the real estate market – that plagued certain other euro area countries, the Belgian economy proved relatively resilient. For example, the construction sector was not hit by a bursting real estate bubble, as was the case in Ireland and Spain.

As in the euro area, Belgian GDP growth returned to positive territory in the third quarter of 2009, but has remained relatively weak ever since. Just as general economic conditions were the principal factor in triggering the recession, they also contributed to the start of the recovery via a rebound in external demand and confidence, along with an easing of financial tension. Public authorities did much to create the conditions for the rebound, preventing a collapse of the financial system and taking steps to cushion the most immediately detrimental impacts of the crisis.

Whereas the recession phase ended in mid-2009, the severity of the financial crisis and the broad downturn in growth took a heavy toll on households and companies in 2009. With the exception of general government consumption and investment, every other component of end demand was a significant drag on GDP trends, while the simultaneous drop in imports led to a neutral contribution from net exports (table 4). In general, the pronounced downturn in economic activity has had significant and lasting repercussions on production capacities, the make-up of end demand, and the formation of primary income. The most recent economic developments are analysed in another article in this issue of the Economic Review.

Looking more specifically at companies, businesses faced an unprecedented drop in demand in late 2008 and early 2009, fuelled primarily by the plunge in foreign trade. Prospects remained uncertain after that, including with respect to financing conditions. Under these circumstances, companies made large-scale adjustments. Many industrial companies suspended some or even all of their production and drastically reduced their inventories. While this phenomenon subsided considerably in the second half, more than one-third of the drop in GDP in 2009 was attributable to this massive inventory reduction. Furthermore, companies substantially adjusted the level of production factors employed. As a result, gross fixed capital formation contracted by 7.5 % in real terms, in stark contrast to performances over the previous five years, during which companies increased their investment expenditure by roughly 5 % per year on average.

TABLE 4 GDP AND MAIN CATEGORIES OF EXPENDITURE

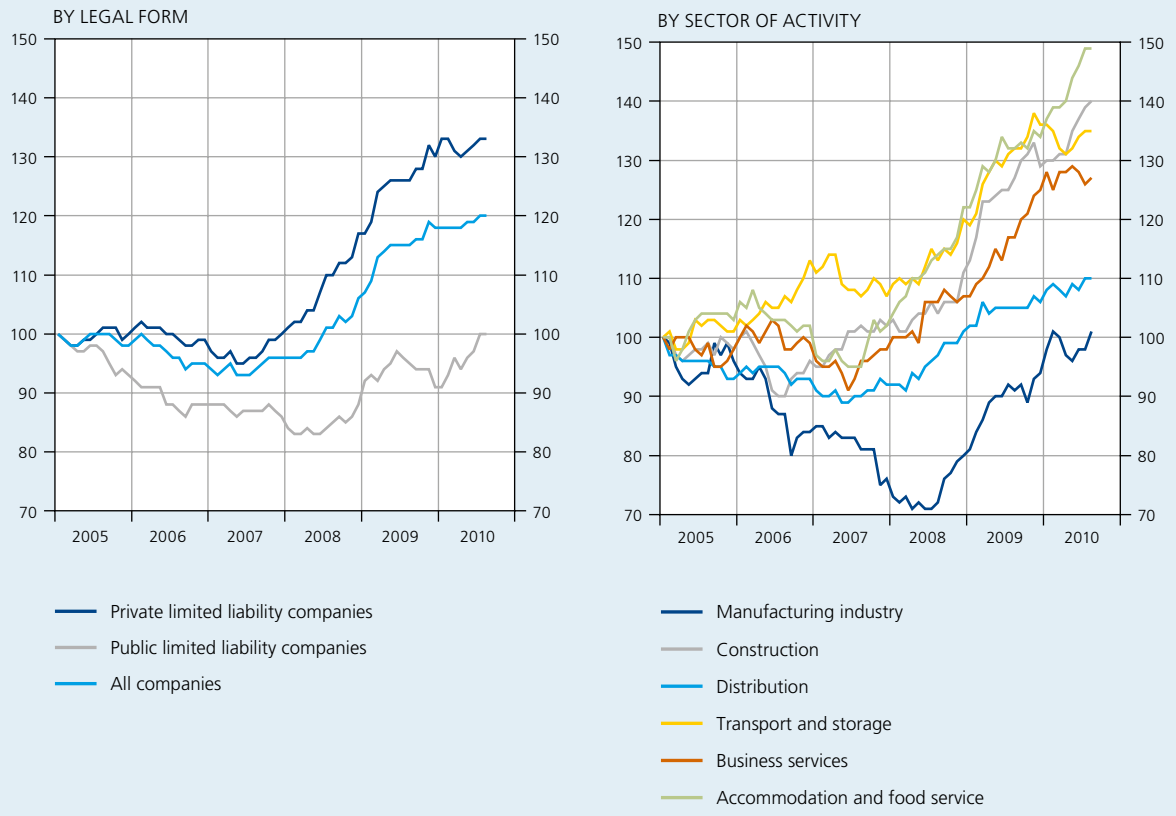
(seasonally and calendar adjusted volume data; percentage changes compared to the previous year, unless otherwise stated)

	2007	2008	2009
Household consumption expenditure (1)	1.7	1.4	–0.2
Final consumption expenditure of general government	2.1	2.5	0.4
Gross fixed capital formation	6.3	2.4	–4.9
Enterprises	7.9	3.4	–7.5
Housing	3.4	–0.6	–3.0
General government	4.2	5.5	10.3
Change in inventories (2)	0.1	0.0	–1.0
Exports of goods and services	4.3	1.4	–11.4
Imports of goods and services	4.4	2.8	–10.9
p.m. Net exports of goods and services (2)	*0.1*	*–1.0*	*–0.5*
GDP	2.8	0.8	–2.7

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

CHART 2 NUMBER OF BUSINESS BANKRUPTCIES IN BELGIUM

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



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

Lastly, general economic conditions had an impact on the vulnerability of Belgian companies, which can be gauged using the number of bankruptcies reported by the Commercial Courts to the Crossroads Bank for Enterprises (Banque-carrefour des enterprises). During the second half of 2007, when economic growth began to slow, the number of bankruptcies started to rise, and then subsequently shot up: the total number of company bankruptcies rose by 10 % in 2008 and 11 % in 2009 (chart 2). The wave of failures first affected private limited liability companies (+31 % in 2008-09), although public limited companies were not spared (+6 %). Every sector of activity was affected by the trend, particularly business services, logistics, accommodation, food service activities and construction. In industry, the trend began a few months later, but then spread vigorously once companies began having to deal with the full impact of weaker world trade.

2.2 General trends in operating result

Under these conditions, the total value added created by non-financial corporations, i.e. the difference between the proceeds of sales and the cost of goods and services purchased from suppliers, fell by 4 % in 2009 (table 5, current prices). This was the first decline for more than 15 years. The drop continued a trend that began in 2008, during which the growth in value added had already slowed substantially compared with the previous five years.

The value added that a company creates allows it to cover its operating costs and, with the surplus, generate a net operating profit. Net operating profit reflects how efficiently a company carries out its ordinary commercial activities, independent of its financing policy and any exceptional items.

Staff costs account for the largest share of operating costs: in 2009, they represented more than 59 % of value

TABLE 5 TRENDS IN THE MAIN COMPONENTS OF OPERATING RESULT
(current prices)

	Percentage changes compared to the previous year					€ million	As % of value added
	2005	2006	2007	2008	2009 e	2009 e	2009 e
Value added	**4.6**	**6.1**	**5.1**	**2.8**	**–4.0**	**160,448**	**100.0**
Staff costs (–)	3.0	4.3	5.2	5.3	–0.3	94,842	59.1
Depreciation and downward value adjustments[1] (–)	3.7	5.3	6.2	6.6	3.5	29,462	18.4
Other operating expenses (–)	6.5	12.8	–9.8	11.3	–5.0	10,406	6.5
Total operating expenses	*3.4*	*5.2*	*4.0*	*6.0*	*0.1*	*134,710*	*84.0*
Net operating result	**9.2**	**9.3**	**8.9**	**–8.8**	**–20.8**	**25,738**	**16.0**

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

added. After rising at an average annual pace of 4.1 % during the previous five years, they fell slightly in 2009, by 0.3 %, for the first time in more than ten years. This unusual movement is largely attributable to the reduction in the number of workers employed. Companies made massive and prolonged use of systems that gave them some flexibility in the use of their workforce, among which temporary lay-offs and measures adopted as part of the government's stimulus plan (such as the suspension, under certain conditions, of the labour contract for employees, or the encouragment of shorter working weeks).

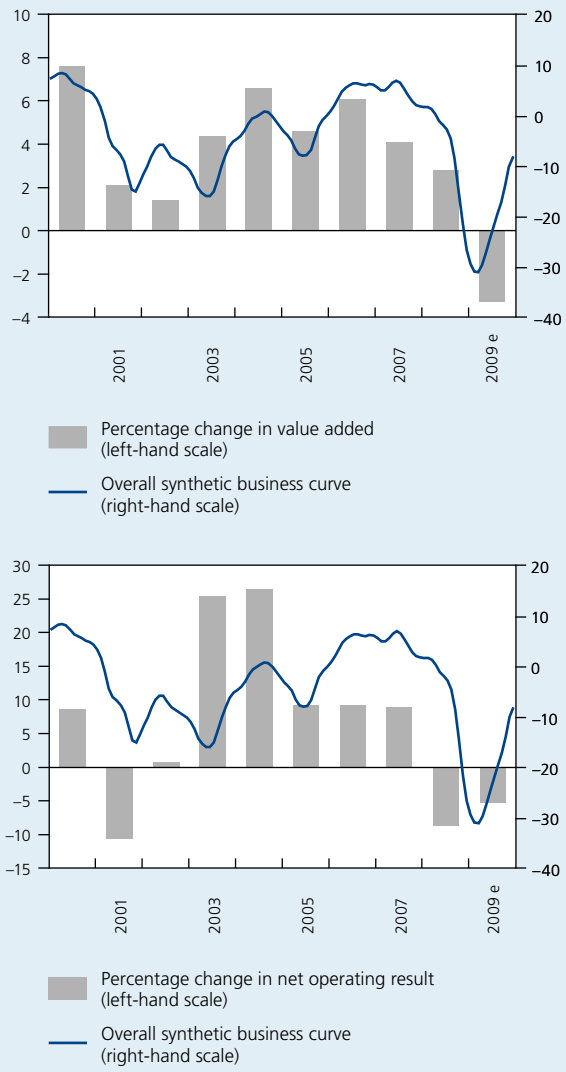
After personnel costs, depreciation of tangible and intangible fixed assets are the second-largest source of operating costs. In 2009, after three years of increasing rapidly, their growth slowed to only 3.5 % following the sharp downturn in investment. The downturn was basically attributable to the unprecedented collapse in end demand and the under-utilisation of production capacities. According to the results of the quarterly survey of the manufacturing industry, the production capacity utilisation rate fell from 82.4 % in the third quarter of 2008 to a record low of 70.1 % in the first quarter of 2009. It subsequently recovered to 74.3 % in the fourth quarter. This situation led companies to cancel or postpone planned investment.

Determined primarily by staff costs and depreciation, total operating costs thus levelled off in 2009, up just 0.1 %. For the second straight year, growth in operating costs well exceeded growth in value added, resulting in yet another particularly sizeable contraction in net operating result, by 20.8 %. Net operating result thus fell by nearly 30 % in the span of two years – a level unheard of since companies began filing their annual accounts with the Central Balance Sheet Office. Economic conditions thus took a heavy toll on companies' commercial performances. However, it is important to remember that operating profit had more than doubled between 2002 and 2007.

The movements in value added and operating results can also be compared with the Bank's business survey indicator, which measures business confidence (chart 3). The indicator fell sharply starting in September 2008, reaching an all-time low in March 2009. Survey data then show a marked recovery from summer 2009, largely attributable to more favourable business expectations for economic activity. Progress has not been as impressive with respect to assessments of current business. These trends are mirrored by movements in the value added and operating results of non-financial companies, whose trends in 2008 and 2009 were among the least flattering of the past 25 years.

Over the past ten years, growth in the value added and operating results of SMEs has been more rapid (chart 4). Given that small and medium-sized enterprises are focused more heavily on services activities than are large companies, they have been less affected by the decline of industry in the developed economies during last decades. This long-term trend held true in 2008 and 2009, when manufacturing sectors were hit particularly hard by the downturn in the global economy (see section 2.3). With

CHART 3 VALUE ADDED, NET OPERATING RESULT AND BUSINESS SURVEY INDICATOR



Source : NBB.

respect to operating profit, for example, SMEs did a much better job of containing the losses (–13 %) than large companies did (–33 %) over the two-year period.

2.3 Results by branch of activity

In the manufacturing industry, 2009 trends in value added and operating result were among the worst ever recorded (table 6). After two years of decline, value added at current prices fell yet again, by 6.8 %. Operating costs also fell, but to a lesser extent, such that operating result continued the decline begun in 2008, losing another 21 % in 2009. Over the past two years combined, manufacturing companies' operating results fell by more than 40 %.

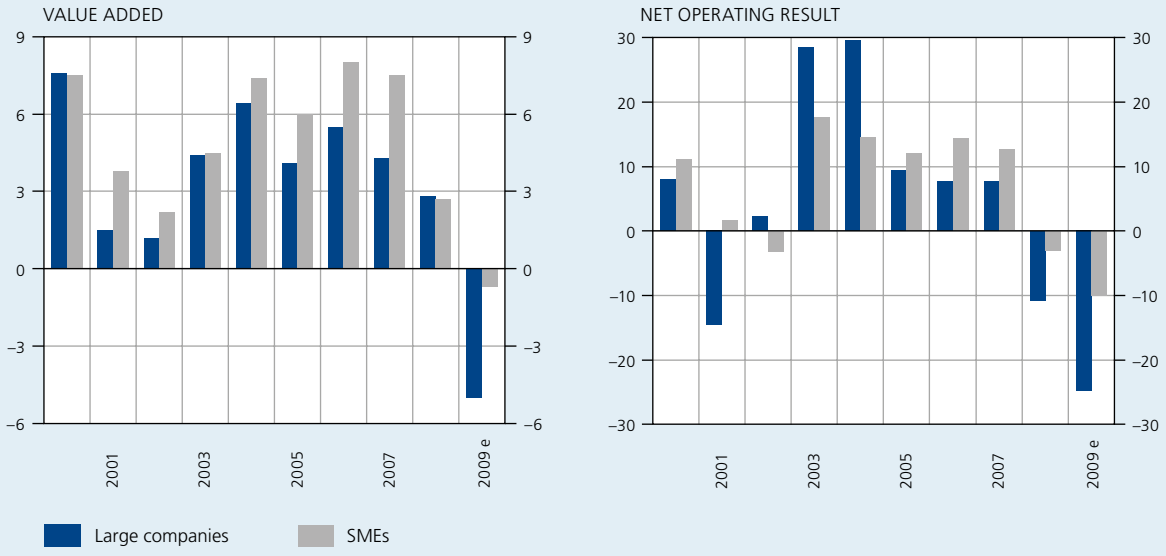
Because production processes are increasingly international and foreign markets ever more important, the collapse in world trade was felt most harshly in the manufacturing sectors. In this respect, the trends in the various industrial sectors are largely attributable to their degree of interconnectedness with the rest of the world. Chart 5 shows the relationship between trends in industrial production and openness to export markets calculated based on input-output tables. In the first half of 2009, the most pronounced decline in production was seen in industries with the greatest export focus, particularly in basic metals, fabricated metal products (transport equipment, electrical equipment, etc.) and textiles. Conversely, sectors that export little, such as energy, publishing and food production, were less sensitive to the economic slowdown. These trends are mirrored in the value added and operating result figures for the various manufacturing sectors, as drawn from the profit and loss accounts (table 6). It is in basic metals, fabricated metal products and textiles that these two aggregates fell the most sharply over the past two years. Conversely, while agriculture and food production, chemicals and pharmaceuticals were affected by the immediate impact of the recession in 2008, their performances rebounded considerably in 2009.

Value added also fell significantly in non-manufacturing sectors in 2009, by 3.0 %, continuing the contraction that began in 2008. At the same time, staff costs and depreciation continued to increase, resulting in the biggest drop in operating result for more than 15 years (–20.6 %). Economic conditions did the most damage to market-related services, most of which experienced a decline in value added, and in certain cases a sizeable decline in operating result. Logistics and transport activities, like the wholesale distribution sector, were directly hit by the contraction in industrial activity in Belgium and Europe in general, for which they are a significant input. Furthermore, business service providers – for example, IT consulting companies – had to deal with the cost-cutting measures adopted by their clients at a time of heightened economic uncertainty. Lastly, the drop in consumer spending hurt, among other sectors, retail distribution, accommodation and food service activities.

Other sectors held up better, particularly construction. The building industry's value added was virtually unchanged in 2009, while the 6.3 % decline in its operating result was minor compared with other sectors. While it did have to deal with reduced housing investment, the sector was

CHART 4 VALUE ADDED AND NET OPERATING RESULT ACCORDING TO SIZE

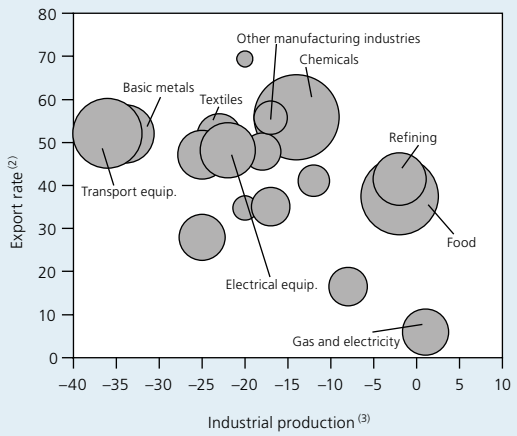
(percentage change compared with the previous year)



Source: NBB.

buoyed by public authorities' economic stimulus measures, including increased public infrastructure spending and tax incentives for new construction, renovation and energy efficiency. Furthermore, unlike other European countries, Belgium did not experience a bursting housing market bubble.

CHART 5 DEGREE OF OPENNESS TO EXPORTS AND TRENDS IN INDUSTRIAL PRODUCTION (1)



Source: NBB, Annual Report.

(1) The size of the circles is proportional to the sector's share of total industrial production, calculated based on input-output tables from 2000.
(2) The export rate is measured by the ratio between exports and total available resources. It is calculated based on input-output tables from 2000.
(3) Percentage change in first halfyear of 2009 industrial production compared with the previous year.

3. Changes in the financial situation of firms

The financial analysis that follows is based on the theory of interpretation of the annual accounts, from which several ratios have been taken. The financial ratios are presented in global form and as medians. The globalised ratios are obtained by taking the sum of the numerators for all firms 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 it.

The two measures, which respond to different concerns, are complementary. Since it takes account of each firm according to its real weight in the numerator and the denominator, the globalised ratio primarily reflects the situation of the largest firms. In contrast, by indicating the situation of the central firm, the median reflects the movement in the population in general: the median is influenced equally by each of the firms, regardless of size. As a microeconomic measure, the median is preferable

TABLE 6 VALUE ADDED AND NET OPERATING RESULT BY BRANCH OF ACTIVITY

(percentage changes compared to the previous year)

	Value added		Net operating result		*p.m. Percentage share of the branches in total value added in 2009 e*
	2008	2009 e	2008	2009 e	
Manufacturing industry	**–3.1**	**–6.4**	**–27.3**	**–21.2**	***27.1***
of which:					
Agricultural and food industries	5.2	7.5	–1.0	41.0	*4.4*
Textiles, clothing and footwear	–13.1	–9.9	–69.9	16.6	*0.9*
Wood, paper products and printing	–6.4	–5.7	–28.5	–28.4	*1.9*
Chemicals and pharmaceuticals	–2.5	1.5	–34.6	16.0	*6.6*
Metallurgy and metalworking	–8.1	–16.6	–43.1	–77.5	*3.9*
Metal manufactures	–3.2	–11.3	–20.7	–39.4	*5.0*
Non-manufacturing branches	**5.2**	**–3.0**	**–1.1**	**–20.6**	***72.9***
of which:					
Wholesale and retail trade	0.3	–6.1	–14.3	–34.4	*21.0*
Transportation and storage	9.1	–7.7	16.7	–81.7	*8.9*
Accommodation and food service activities	3.1	–1.7	–8.8	–42.4	*1.8*
Information and communication	3.0	0.0	4.6	–13.6	*7.3*
Real estate activities	13.5	–3.2	19.4	–12.4	*2.8*
Other service activities	9.0	–2.3	4.9	–10.1	*14.4*
Energy, water supply and waste	7.8	4.8	12.7	17.4	*5.6*
Construction	6.2	–0.3	1.9	–6.3	*7.6*
Total	**2.8**	**–4.0**	**–8.8**	**–20.8**	***100.0***

Source: NBB.

to a simple average, because it is barely affected by the extreme values of certain companies.

Starting last year, in order to get a better understanding of the different strata of the population, the perspective of the analysis has been widened to cover the entire distribution: in the tables in Annex 4, the median data are supplemented by the first and third quartiles (Q1 and Q3) as well as by the tenth and ninetieth percentiles (P10 and P90). The interquartile range is also given to provide an idea of the dispersion of the distribution.

3.1 Profitability

Profitability concerns firms' ability to generate profits. It can be assessed by using the net return on own funds. This figure, also referred to as return on equity, is the net profit after tax divided by equity capital. This ratio expresses the return obtained by shareholders, after deduction of all expenses and taxes. Over a sufficiently long period, the return on equity has to exceed the return on a risk-free investment in order to provide shareholders with a risk premium. Due to the volatility of exceptional results, the net profit figure used here excludes exceptional items in order to provide a more representative picture of companies' recurring performances.

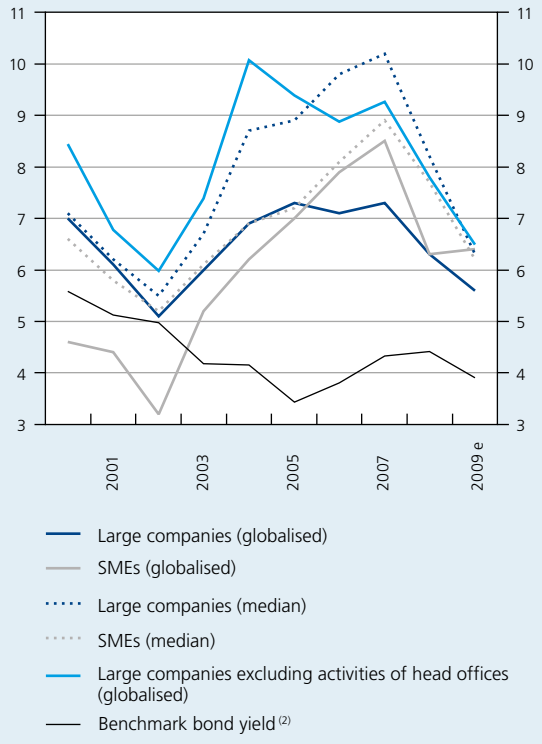
In 2009, the globalised return on equity came to 5.6 % for large companies and 6.4 % for SMEs (chart 6). Whereas the ratio fell for the second year in a row for large companies, SMEs managed to stabilise their ratio after, it must be said, a drop of more than 2 points in 2008. For the fourth consecutive year, the globalised profitability of SMEs was higher than that of large

companies, but the latter group's ratio is hindered by the weight of equity capital in the "activities of head offices" (sub-category 70.100 of the Nace-Bel 2008 classification). While more than one-third of the equity capital of the population studied is concentrated in this sector, it represents barely more than 1 % of total value added. If we exclude the few hundred companies that fall into this sector from our calculation, the large companies ratio turns out to exceed that of the SMEs over the long term.

The trend in median ratios shows that the economic downturn has affected the population as a whole. In the span of two years, median profitability fell by 3.9 points in large companies and 2.7 points among SMEs. While 2009 saw yet another significant contraction in financial performances, profitability ratios managed to stay above the lows recorded during the previous downturn, i.e. in 2002. This factor testifies to companies' resilience in the face of an exceptionally severe deterioration in economic conditions.

CHART 6 NET RETURN ON EQUITY (1) AND BENCHMARK BOND YIELD

(percentages)



Source : NBB.
(1) Excluding exceptional results.
(2) Gross yield on the benchmark bond (Belgian 10-year OLO government bonds).

Combined with ongoing economic uncertainty, the drop in profitability has also encouraged companies to be more conservative in their earnings allocation policies. The number of large companies distributing profits and the sums distributed both shrank in 2008 and 2009, breaking with the upward trend of the past decade. The same correction was seen in SMEs, but only starting in 2009 and to a lesser extent.

The spread between government bond yields and corporate profitability is an interesting measure for evaluating the risk premium available to shareholders. Whereas the spread widened steadily between 2003 and 2007, it has narrowed considerably since then, principally due to weaker company performances, as the OLO benchmark rate has not moved very much in terms of its yearly average. Over 2008 and 2009, equity investments thus lost much of their appeal relative to so-called risk-free investments. It is important to use some caution when making such a comparison, given that shares and government bonds are different financial instruments and, moreover, the vast majority of firms examined here are not listed on the stock exchange.

Annex 4 widens the angle of the analysis by presenting the detailed distribution of the net return on total assets before tax and debt servicing. This ratio is better for analysing the entire distribution because it is available for all firms, unlike the return on equity which can only be calculated in the case of positive equity capital. It has the advantage of being independent of firms' financing structure, and is therefore also referred to as economic profitability. The table shows that over the past two years, both the most profitable and the least profitable segments of the population have been affected by the weakening of profitability.

Lastly, looking at the percentage of companies experiencing a loss is a good way to evaluate companies' ability to generate revenues from their business activities. Despite a significant decline between 2002 and 2007, this percentage jumped sharply over the past two years studied, climbing from 33.2 % in 2007 to 38.4 % in 2009 (table 7). The trend reversal was evident in every sector of activity. In 2009, the accommodation, food service, textiles, wood products, transport and real estate sectors had the largest number of loss-making companies. The fewest were found in the energy, construction, business services, and basic metals sectors.

TABLE 7 PERCENTAGE OF LOSS-MAKING COMPANIES[1], BY BRANCH OF ACTIVITY
(percentages)

	2005	2006	2007	2008	2009 e
Manufacturing industry	**31.6**	**30.8**	**28.7**	**33.0**	**38.3**
of which:					
Agricultural and food industries	33.5	35.9	33.6	40.0	36.1
Textiles, clothing and footwear	39.0	37.3	36.4	43.4	47.5
Wood, paper products and printing	34.8	33.0	31.2	36.3	44.7
Chemicals and pharmaceuticals	31.2	32.1	29.1	34.2	35.2
Metallurgy and metalworking	26.5	24.1	20.6	25.0	34.4
Metal manufactures	28.8	27.3	27.0	28.6	37.3
Non-manufacturing branches	**35.7**	**34.7**	**33.6**	**35.8**	**38.4**
of which:					
Wholesale and retail trade	35.9	35.1	33.6	36.4	38.8
Transportation and storage	34.4	31.2	29.7	35.2	42.3
Accommodation and food service activities	48.9	49.2	48.3	51.0	52.9
Information and communication	35.5	33.8	31.8	31.8	36.9
Real estate activities	42.1	41.8	41.2	43.9	43.3
Other service activities	31.9	30.3	29.5	30.6	34.2
Energy, water supply and waste	28.5	27.7	26.1	30.4	34.0
Construction	29.3	27.9	27.0	29.5	32.9
Total	**35.4**	**34.4**	**33.2**	**35.6**	**38.4**

Source: NBB.
(1) Negative item 9904 (Profit or loss for the year).

3.2 Solvency

Solvency concerns the ability of firms to honour their commitments, whether short- or long-term. This article analyses it on the basis of three concepts: the degree of financial independence, the extent to which borrowings are covered by the cash flow, and interest expense on financial debt.

The degree of financial independence is equal to the ratio between equity capital and total liabilities. If the ratio is high, the firm is independent of borrowings, which has two beneficial effects: first of all, financial expenses are low and therefore do not weigh heavily on profits; in addition, if necessary, the firm can easily contract new debts on favourable terms. The degree of financial independence can also be interpreted as a measure of the firm's financial risk, since the remuneration of third parties is fixed, unlike the firm's results, which fluctuate over time. Section four of this article examines the relationship between financial independence and the risk of bankruptcy.

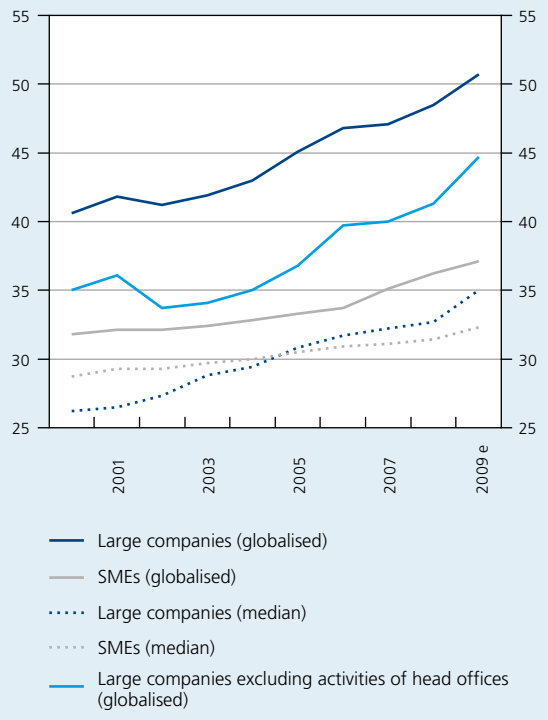
In 2009, the globalised financial independence ratio reached 50.7 % for large firms and 37.1 % in the case of SMEs (chart 7). The upward trend of recent years continued: over the past ten years, the ratio for large firms has gained 10.1 points, and that for SMEs 5.3 points. Since 2005, this upward trend has been stimulated by the new tax allowance for risk capital ("notional interest"). This measure has attracted massive inflows of foreign capital into Belgium with the acquisition of equity stakes in Belgian companies. The foreign counterparties in these deals are generally affiliated companies or companies with capital ties to the target company. If we exclude the "activities of head offices" sector (Nace-Bel 70.100), for which these inflows have been particularly significant, the large company ratio looses 6 points. However, annual changes remain roughly the same.

The trend of improving solvency cuts across the entire population, as shown by the median ratios. In ten years, these ratios have risen by 8.8 points for large companies and 3.6 points for SMEs. While chart 7 gives a picture of constantly improving solvency, an examination of the entire distribution, presented in Annex 4, shows that the trend has principally benefited the most solvent segments of the population. As a result, interquartile ranges have gradually widened over the past decade, from 41.5 % to 49.1 % for large companies and from 48.0 % to 55.3 % for SMEs. With respect to SMEs, the declines in the first quartile and the tenth percentile show a sizeable portion of the population moving against the general trend. It is also significant to note that the percentage of companies with negative equity capital has risen over the past ten years, from 14.7 % in 2000 to 16.8 % in 2009.

The degree of financial independence and its reciprocal, the degree of indebtedness, provide a picture of the general balance of assets and liabilities. While this yardstick is necessary to diagnose solvency, it is insufficient in that it does not allow us to measure companies' ability to repay their debts or the level of cost that those debts entail.

CHART 7 DEGREE OF FINANCIAL INDEPENDENCE

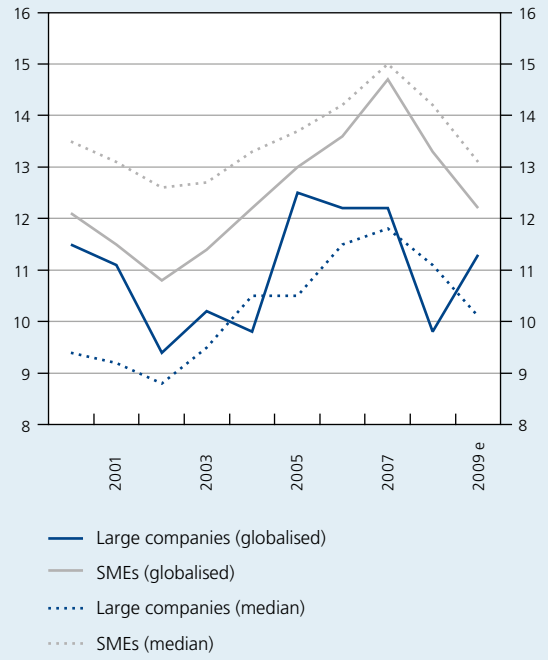
(percentages)



Source : NBB.

CHART 8 DEGREE TO WHICH BORROWINGS ARE COVERED BY CASH FLOW

(percentages)



Source : NBB.

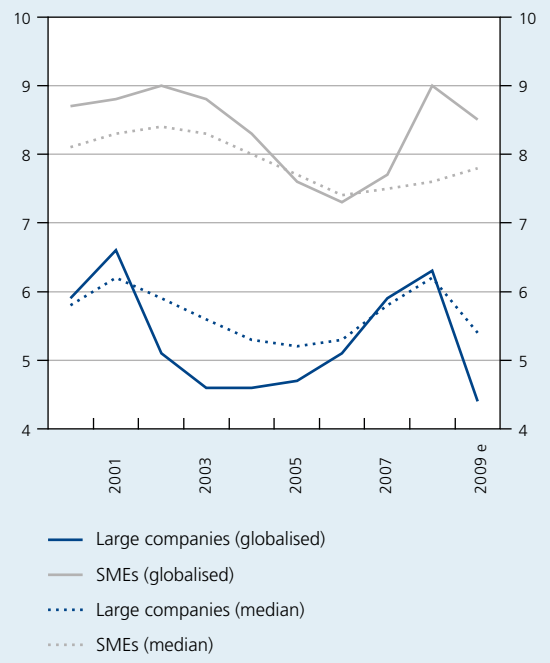
The degree to which borrowings are covered by cash flow, which measures the proportion of debts that the firm could repay by allocating the whole of the year's cash flow to paying them back, indicates the firm's repayment capability [1]. The converse of that ratio indicates the number of years which it would take to repay all the debts at a constant cash flow. The information supplied by this ratio supplements that provided by the ratio of financial independence, as a high level of indebtedness may very well be mitigated by a substantial repayment capability, and vice versa.

In 2009, the cash flow coverage ratio generally continued the downward trend it began in 2008 (chart 8). Only the globalised ratio for large companies recovered, bouncing back to 11.3 %, due principally to significant capital gains on the sale of fixed assets in the agriculture and food industry. The globalised ratio for SMEs fell again under the combined impact of weaker cash flow

(1) Cash flow is the net flow of cash generated by the company, i.e. the difference between income received and expenditures paid. As a result, cash flow, which represents the company's ability to finance its operations, is fundamental to the company's development, as it can be used to finance new investments, repay debts or distribute profits.

CHART 9 AVERAGE INTEREST EXPENSES ON FINANCIAL DEBT

(percentages)



Source : NBB.

and higher debts. The median ratios for both categories of companies lost ground, as did the distribution as a whole (see Annex 4). This deterioration in companies' ability to repay their debts takes some of the shine off the gains made over the same period in terms of financial independence.

The level of average interest expense on financial debt is a way to measure the cost of using external financing sources. In 2009, after increasing for several years, the ratio fell considerably, particularly among large companies. This trend reflects the lower interest rates applied to new bank loans, which began in November 2008 and continued throughout 2009 as a result of rapid monetary policy easing in the euro area. It is important to underline that at the same time, however, companies faced a tightening of other lending conditions on the part of financial institutions. Against a backdrop of economic downturn and increased risk for lenders, and given the ongoing reorganisation of the financial sector, banks frequently require greater guarantees, as well as making smaller loans and charging more in fees.

4. Financial ratios and risk of failure

The Bank is currently developing a financial health indicator for companies that file their annual accounts with the Central Balance Sheet Office. The indicator is conceived as a weighted combination of variables. This combination is achieved through a logistic regression which discriminates between failing companies and non-failing companies. This section presents some of the early results from this effort, in particular the relationship between the risk of failure and the distribution of financial ratios.

The definition of failure is based on a legal criterion : a company is considered to have failed if it has faced bankruptcy or judicial administration. While there is no set definition of a troubled company, the concepts of bankruptcy and judicial administration can be considered close approximations, in light of their legal basis. Bankruptcy assumes that a company has ceased payments and is uncreditworthy [1]. The status of judicial administration, which was replaced by new procedures in 2009, was intended for companies temporarily unable to repay their debts [2]. In this respect, and given the span of financial years being studied (1995-2008), past judicial administration proceedings are considered to be a failure event. Bankruptcies represent more than 95 % of these events.

The Law of 31 January 2009 on business continuity puts greater emphasis on prevention and creates new procedures to replace judicial administration [3]. When the analysis was being conducted, the Crossroads Bank for Enterprises didn't identify yet companies employing these procedures, so it was impossible to evaluate the impact of the law. However, this does not diminish the result, given that the primary goal was to arrive at an objective notion of financial health.

In this section, a company is considered to have failed if it has been involved in bankruptcy or judicial administration proceedings within 1,095 days (i.e. 3 × 365 days) following the closing date of its annual accounts. Other companies are considered as non-failing. The date of failure used is the date upon which the company's legal status changed (to one of bankruptcy or judicial administration) at the Crossroads Bank for Enterprises.

(1) Law of 8 August 1997 on bankruptcies, amended by the Law of 4 September 2002. Article 2 : A tradesman is in a state of bankruptcy if two conditions are met : he must have durably ceased payments and he must be uncreditworthy.

(2) Law of 17 July 1997 on judicial administration. Article 9 §1 : Judicial administration can be opened for any debtor tradesman who cannot settle his debts in due time or if relatively short-term difficulties that oblige him to suspend payments threaten the survival of his business.

(3) The law contains two principal options. The first has to do with confidential amicable agreements that troubled companies may reach with one or more of their creditors. The second has to do with judicial reorganisation, which is split into three procedures : amicable agreements prior to proceedings, judicial reorganisation by collective agreement, and transfer of the company under judicial supervision.

On this basis, it is possible to examine the relationship between financial situation and risk of failure. The population studied refers to the 2006 financial year and includes 213,468 companies, which is a large enough number to draw material conclusions. The distributions presented below use a division in regions of financial ratios. These regions correspond to equal intervals of ratios and, to neutralise the influence of extreme values on the distribution range, the division does not take into account values lower than the 1st percentile or higher than the 99th percentile.

As a result, in chart 10, the first region corresponds to values for degree of financial independence of less than –120.5. Subsequent regions correspond to ratio intervals of 4.5:

- the region 2 corresponds to values greater than or equal to –120.5 and less than –116;
- the region 3 corresponds to values greater than or equal to –116 and less than –111.5;
- ...
- the region 49 corresponds to values greater than or equal to 90.2 and less than 94.7;
- the region 50 corresponds to values greater than or equal to 94.7.

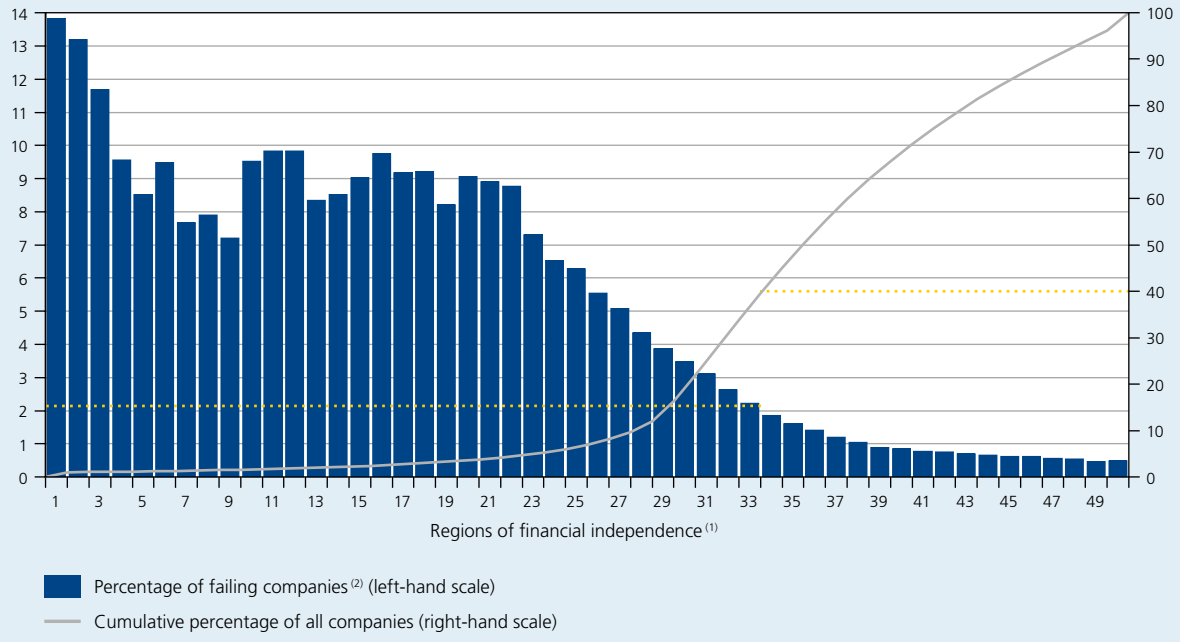
Chart 10 presents the three-year failure rate, alongside with the cumulative frequency curve of companies studied, for each of the 50 regions of the financial independence ratio. In the case of region 33, for example, the chart shows: i) that the region comprises 2.2 % of failing companies (histogram, left-hand scale); and ii) that 40 % of the companies are located in regions 1 to 33 (cumulative frequency curve, right-hand scale), which means they have a financial independence ratio of under 23 %.

The histogram illustrates the clearly negative relationship between financial independence and risk of failure: the three-year rate of failure drops from nearly 14 % in region 1 to less than 0.5 % in region 50. The relationship is not linear and is notably characterised by a plateau between regions 4 and 21. But overall, the lower the degree of financial independence, the higher the risk of failure. This relationship is just what we would expect to find, given how intimately the notion of solvency is tied up with the issue of bankruptcy.

Chart 10 also shows that the distribution of the ratio is heavily asymmetric. A minority of companies are concentrated in the regions with low financial independence:

CHART 10 FAILURE RATE AND CUMULATIVE FREQUENCY BY REGION OF FINANCIAL INDEPENDENCE

(2006 financial year, 213,468 companies)



Source: NBB.

(1) The regions correspond to 4.5 % intervals of the financial independence ratio, between the 1st percentile and the 99th percentile: region 1 = -∞; –120.5[; region 2 = [–120.5; –116[; region 3 = [–116; –111.5[; ...; region 49 = [90.2;94.7[; region 50 = [94.7; +∞.

(2) Average centred on three regions.

the cumulative frequency curve indicates, for example, that the first 20 regions (i.e. those with highly negative financial independence) contain less than 4 % of the companies studied.

Chart 11 is created along the same lines as chart 10, but deals with the level of short-term indebtedness. This ratio divides debts payable within one year (item 42/48 of the annual accounts) by total liabilities (item 10/49), multiplied by 100. In univariable logistic regressions, the degree of short-term indebtedness proved to be the most discriminating of the ratios studied.

Chart 11 allows us to see that there is a clearly positive relationship between short-term indebtedness and risk of failure: when indebtedness increases, so does the risk of failure. This relationship is also what we would expect to find, as heavily indebted companies are naturally more vulnerable.

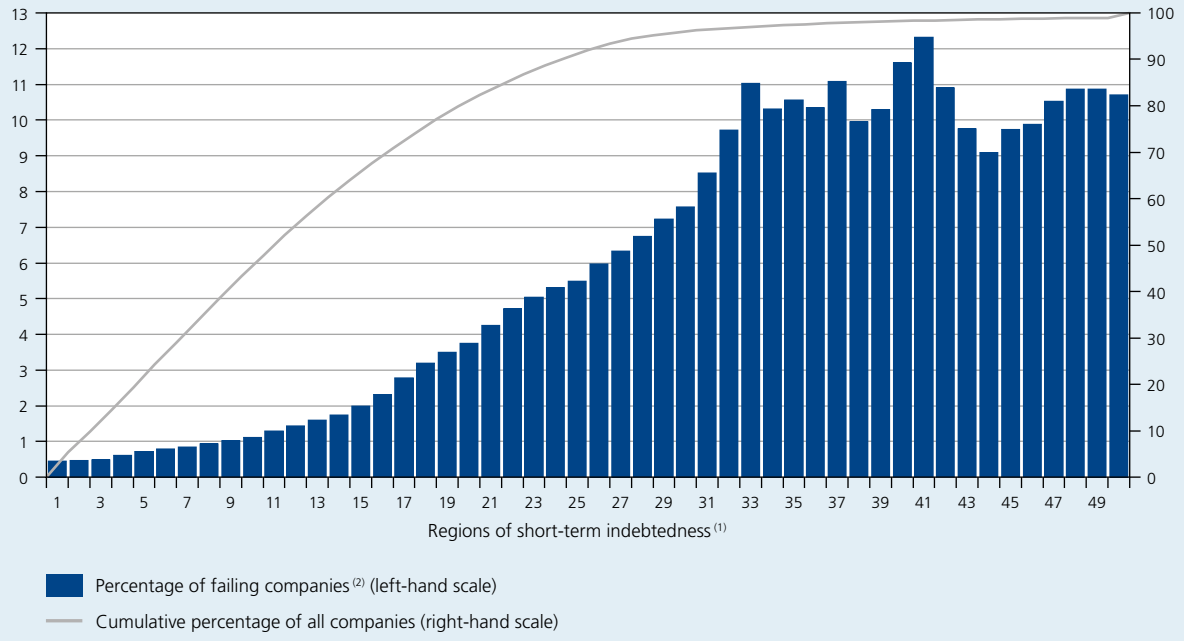
As with the degree of financial independence, the relationship is not linear and is characterised by a plateau beyond region 33, i.e. once short-term indebtedness rises above 119.1 %. This plateau suggests that, from a certain level onwards, indebtedness no longer has an effect on the risk of failure: the companies in region 50 (i.e. those with short-term indebtedness of over 176.7 %) are very nearly as likely to fail as the companies in region 33 (i.e. those with short-term indebtedness of between 115.5 % and 119.1 %).

Chart 12 is yet another example, this one dealing with the net profitability of total assets. It shows that there is a negative relationship between profitability and the risk of failure. The rate of failure falls from 13.3 % in region 1 (net profitability less than –40.8 %) to 3.1 % in region 50 (net profitability above 62.4 %).

As with the other two ratios, the relationship is not linear and is characterised by a slight but steady increase in the rate beyond region 27, i.e. for companies that are very profitable (profitability above 15.1 %). This counterintuitive increase is almost entirely attributable to the smallest companies, for which the small denominator (total assets) makes the ratio more volatile and, thus, less meaningful. Furthermore, the cumulative frequency curve shows that this upswing in the rate of failure is due to a minority of

CHART 11 FAILURE RATE AND CUMULATIVE FREQUENCY, BY REGION OF SHORT-TERM INDEBTEDNESS

(2006 financial year, 213,468 companies)



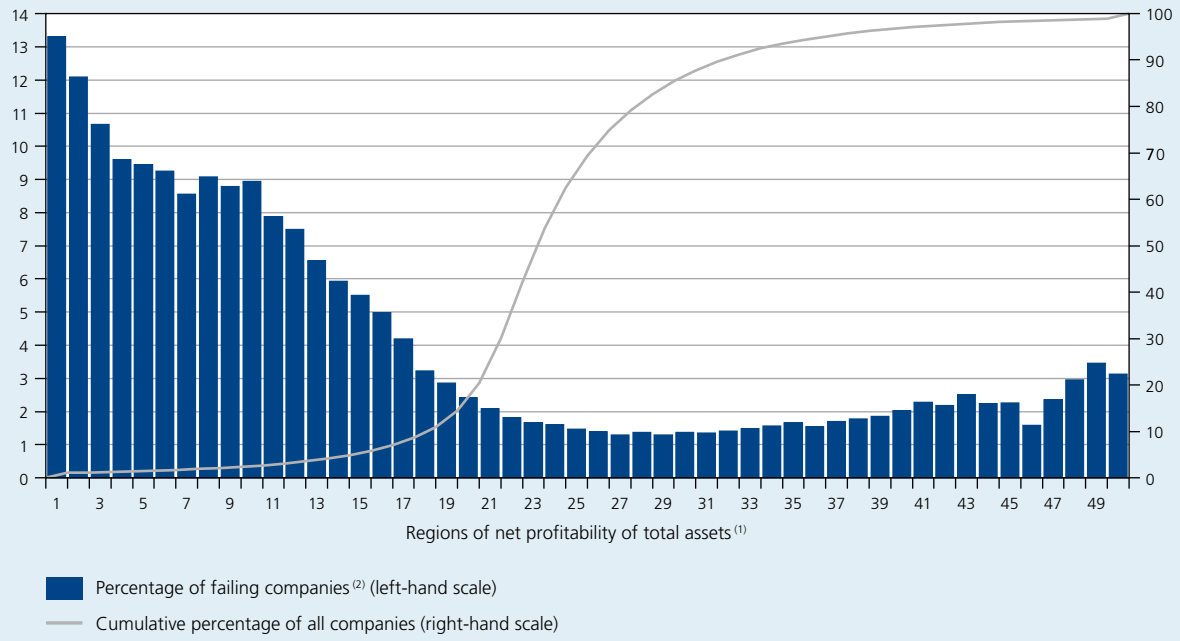
Source: NBB.

(1) The regions correspond to 3.6 % intervals of short-term indebtedness ratios, between the 1st percentile and the 99th percentile: region 1 = [0 ; 4.0[; region 2 = [4.0 ; 7.6[; region 3 = [7.6 ; 11.2[; ... ; region 49 = [173.1 ; 176.7[; region 50 = [176.7 ; +∞.

(2) Average centred on three regions.

CHART 12 FAILURE RATE AND CUMULATIVE FREQUENCY, BY REGION OF PROFITABILITY

(2006 financial year, 213,468 companies)



Source: NBB.

(1) The regions correspond to 2.15 % intervals of profitability ratios, between the 1st percentile and the 99th percentile: region 1 = -∞; –40.8[; region 2 = [–40.8; –38.6[; region 3 = [–38.6; –36.5[; ...; region 49 = [60.3; 62.4[; region 50 = [62.4; +∞.

(2) Average centred on three regions.

companies. It also shows that the distribution of profitability is much more symmetrical than that of financial independence: the extreme regions at both ends comprise a very small percentage of companies.

We also studied the financial trajectory of failure events. To this end, we identified each annual account with respect to its proximity in time to the failure. For a given annual account, the time until failure is defined as the difference between the failure date and the closing date of the financial year. Each annual account was assigned one of the following codes:

- DEF01: if time to failure ≤ 365 days;
- DEF02: if 365 days < time to failure ≤ 730 days;
- DEF03: if 730 days < time to failure ≤ 1,095 days;
- ...
- DEF10: if 3,285 < time to failure ≤ 3,650 days;
- NODEF: if the annual account was filed by a company with no failure within the 3,650 days following the closing date of the financial year.

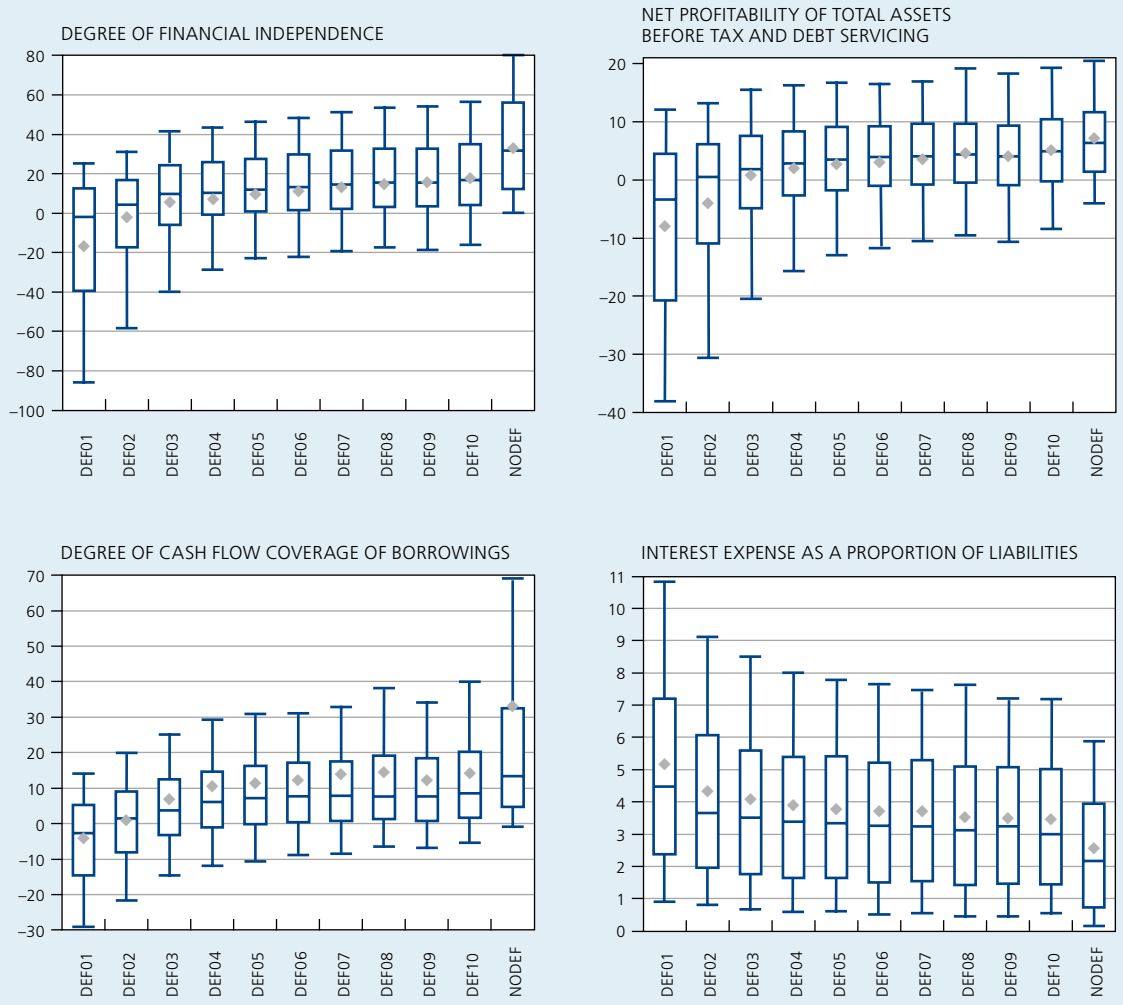
This classification allows us to verify the intuition that a company's financial situation becomes less favourable as the failure event approaches. Chart 13 illustrates this observation in the form of box plots for four ratios: degree of financial independence, net profitability of assets, cash flow coverage of borrowings, and interest charges as a proportion of liabilities. An explanation of box plots is provided in the inset on p. 133.

Chart 13 shows regular trajectories as we move from the NODEF group (companies with no failure over a 10-year period) to the DEF01 group (companies with a failure within one year): the more imminent the failure, the worse the decline in financial situation. In the vast majority of cases, this deterioration affects the entire distribution, from the 10th to the 90th percentile. This observation holds particularly true in the final years preceding a failure, i.e. for companies in categories DEF01, DEF02 and DEF03.

The distribution of most of these ratios tends to be disperse, what visually diminishes the gaps between the various groups of companies. However, the differences are no less significant. With respect to financial independence, for example, the 90th percentile of the DEF01 group (26.5) is lower than the median of the NODEF group (30.1).

CHART 13 BOX PLOTS AS A FUNCTION OF TIME UNTIL FAILURE

(1997, 1998 and 1999 financial years, percentages)



Source : NBB.

In the case of interest charges as a proportion of liabilities, the first quartile of the DEF01 group (2.4) is higher than the median of the NODEF group (2.1).

Conclusion

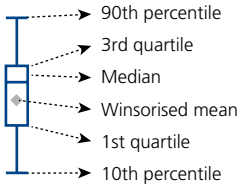
In 2009, Belgium felt the full brunt of the global economic recession. Over the full year, GDP experienced its most severe contraction since World War II. As in the euro zone as a whole, Belgian GDP growth returned to positive territory in the third quarter of 2009, but has remained relatively weak ever since. Whereas the recession phase thus ended midway through the year, the severity of the financial crisis and the broad downturn in growth took a heavy toll on households and companies. Businesses faced an unprecedented drop in demand in late 2008 and early 2009, fuelled primarily by the plunge in foreign trade. Prospects remained uncertain after that, including with respect to financing conditions. Under these circumstances, companies made large-scale adjustments. Many industrial companies suspended some or even all of their production, drastically drew down their inventories, and significantly reduced their gross fixed capital formation. Vulnerability also increased : the total number of company failures rose by 10 % in 2008 and 11 % in 2009.

These conditions weighed heavily on the operating performances of non-financial companies. Their total value

Box plots

Box plots (also known as box-and-whisker plots) are a visual representation tool introduced by US statistician John W. Tukey in 1977 (1). They offer a way to visualise differences in distribution between populations, including dispersion and asymmetry. The box plots presented in this article correspond to the following characteristics:

- the top end of the upper whisker corresponds to the 90th percentile;
- the top of the box corresponds to the third quartile;
- the line in the box corresponds to the median;
- the bottom of the box corresponds to the first quartile;
- the bottom end of the lower whisker corresponds to the 10th percentile;
- the grey point corresponds to the winsorised mean (2).



(1) See Tukey J. (1977), *Exploratory Data Analysis*, Addison-Wesley, Reading.
(2) Mean calculated using a distribution winsorised at the 1st and 99th percentiles: for each fiscal year, values below the 1st percentile are assigned the value of the 1st percentile, whereas values above the 99th percentile are assigned the value of the 99th percentile. This transformation makes it possible to neutralise the impact of extreme values when calculating the mean.

added at current prices fell by 4 % in 2009. This was the first decline in more than 15 years. The drop continued a trend that began in 2008, during which the growth in value added had already slowed compared with the previous 5 years. At the same time, personnel costs fell slightly, by 0.3 %, due to a reduction in the number of workers employed as staff and companies' use of systems allowing a certain amount of flexibility in workforce scheduling. As for depreciation, after three years of brisk increase, this growth slowed in 2009 in the wake of a sharp downturn in investment. As a result, total operating costs, determined primarily by staff costs and depreciation, levelled off in 2009, up just 0.1 %.

For the second straight year, growth in operating costs well exceeded growth in value added, resulting in yet another particularly sizeable contraction in the net operating result, by 20.8 %. In the space of two years, it fell by nearly 30 % – a level unheard of since companies began filing their annual accounts with the Central Balance Sheet Office. While economic conditions did take a heavy toll on companies' commercial performance, it is important to remember that operating profit had more than doubled between 2002 and 2007.

Because the production process is increasingly international and foreign markets ever more important, the collapse in world trade was felt most harshly in the manufacturing sector. In this respect, the trends in the various industrial branches of activity are largely attributable to their degree of interconnectedness with the rest of the world: the most pronounced decline in production was seen in industries with the greatest export focus.

In 2009, the globalised return on equity for large companies fell for the second year in a row, whereas SMEs managed to stabilise their ratio after, it must be said, a drop of more than 2 points in 2008. The trend in median ratios shows that the economic downturn affected the entire population: in the span of two years, median profitability fell by 3.9 points at large companies and 2.7 points at SMEs. A study of the entire distribution shows that both the most profitable and the least profitable segments of the population have been affected by the weakening of profitability. Combined with ongoing economic uncertainty, the drop in profitability has also encouraged companies to be more conservative in their earnings allocation policies. The number of large companies distributing profits and the sums distributed both shrank in 2008 and 2009, breaking with the upward trend of the past decade. The same correction was seen at SMEs, but only starting in 2009 and to a lesser extent.

Globalised and median financial independence improved yet again in 2009, building on the upward trend of the past 15 years. Since 2005, this upward trend has continued as

a result of the new tax allowance for risk capital (notional interest), which has generated substantial increases in equity capital. An examination of the entire distribution, however, shows that the trend has principally benefited the most solvent segments of the population, and that a sizeable portion of SMEs has not participated in the gains.

The final section of the article highlights the links between the risk of failure and the distribution of financial ratios. It emerges that there is a highly negative relationship between financial independence and the risk of failure: the greater the financial independence, the lower the risk of failure. The same type of relationship can be derived for other ratios, including profitability and indebtedness. Statistical analysis also shows that the more imminent the failure, the worse the decline in financial situation, and in the vast majority of cases, this deterioration affects the entire distribution, from the 10th to the 90th percentile.

Annex 1

DEFINITION OF THE RATIOS

	Item numbers allocated	
	full format	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. Degree of short-term indebtedness		
Numerator (N)	42/48	42/48
Denominator (D)	10/49	10/49
Ratio = N/D × 100		
7. Interest expense as a proportion of liabilities		
Numerator (N)	650	65
Denominator (D)	10/49	10/49
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 2

SECTORAL GROUPINGS

	NACE-BEL 2008 divisions
Manufacturing industry	**10-33**
of which:	
Agricultural and 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:	
Wholesale and retail 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

BREAKDOWN OF VALUE ADDED BY SIZE AND BY BRANCH OF ACTIVITY (2008)

	Large companies		SME	
	Value added (€ millions)	% of total	Value added (€ millions)	% of total
Manufacturing industry	**40,964**	**32.5**	**5,444**	**13.3**
of which:				
Agricultural and food industries	5,809	4.6	770	1.9
Textiles, clothing and footwear	1,325	1.1	317	0.8
Wood, paper products and printing	2,439	1.9	809	2.0
Chemicals and pharmaceuticals	10,291	8.2	117	0.3
Metallurgy and metalworking	6,046	4.8	1,521	3.7
Metal manufactures	8,383	6.6	712	1.7
Non-manufacturing branches	**85,117**	**67.5**	**35,531**	**86.7**
of which:				
Wholesale and retail trade	25,749	20.4	10,141	24.7
Transportation and storage	12,732	10.1	2,789	6.8
Accommodation and food service activities	1,226	1.0	1,709	4.2
Information and communication	10,214	8.1	1,528	3.7
Real estate activities	2,078	1.6	2,483	6.1
Other service activities	16,212	12.9	7,424	18.1
Energy, water supply and waste	8,348	6.6	240	0.6
Construction	5,522	4.4	6,696	16.3
Total	**126,081**	**100.0**	**40,975**	**100.0**

Source: NBB.

Annex 4

TABLE 1 DISTRIBUTION OF NET RETURN ON TOTAL ASSETS BEFORE TAX AND DEBT SERVICING

(percentages)

	2000	2005	2006	2007	2008	2009 e
Large companies						
90th percentile	19.7	23.2	23.9	24.3	23.1	20.5
3rd quartile	10.0	11.9	12.6	12.9	12.0	10.2
Median	4.3	4.7	5.1	5.5	4.9	3.8
2nd quartile	0.8	1.0	1.3	1.5	1.0	0.0
10th percentile	–6.4	–5.6	–4.6	–4.7	–5.9	–9.7
Interquartile range	*9.1*	*10.9*	*11.3*	*11.4*	*11.0*	*10.2*
SME						
90th percentile	24.6	25.8	26.4	27.8	27.8	25.5
3rd quartile	12.6	12.9	13.3	14.0	13.5	12.3
Median	5.3	5.1	5.3	5.7	5.3	4.6
2nd quartile	0.1	–0.4	–0.2	0.0	–0.4	–1.0
10th percentile	–10.1	–13.0	–12.5	–11.9	–13.4	–15.9
Interquartile range	*12.5*	*13.3*	*13.5*	*14.0*	*14.0*	*13.3*

Source: NBB.

TABLE 2 DISTRIBUTION OF DEGREE OF FINANCIAL INDEPENDENCE

(percentages)

	2000	2005	2006	2007	2008	2009 e
Large companies						
90th percentile	79.0	83.3	84.5	85.8	86.0	88.4
3rd quartile	51.5	57.0	58.4	59.7	60.9	63.9
Median	26.2	30.8	31.7	32.2	32.7	35.1
2nd quartile	10.0	12.4	13.5	13.6	13.7	14.8
10th percentile	0.4	0.1	0.5	0.4	0.2	0.2
Interquartile range	*41.5*	*44.6*	*44.8*	*46.1*	*47.3*	*49.1*
SME						
90th percentile	83.4	84.6	85.1	85.6	86.3	88.0
3rd quartile	57.0	59.7	60.0	60.8	61.5	63.7
Median	28.7	30.5	30.9	31.1	31.4	32.5
2nd quartile	9.1	8.8	8.7	8.8	8.5	8.4
10th percentile	–14.9	–20.7	–20.9	–20.6	–20.9	–25.8
Interquartile range	*48.0*	*50.9*	*51.3*	*52.0*	*52.9*	*55.3*

Source: NBB.

TABLE 3 DISTRIBUTION OF DEGREE TO WHICH BORROWINGS ARE COVERED BY CASH FLOW

(percentages)

	2000	2005	2006	2007	2008	2009 e
Large companies						
90th percentile	52.0	61.4	69.6	73.5	75.4	74.6
3rd quartile	23.8	26.5	29.0	30.5	30.2	29.1
Median	9.4	10.5	11.5	11.8	11.1	10.1
2nd quartile	2.0	2.0	2.5	2.6	1.9	1.2
10th percentile	–4.8	–4.9	–4.2	–4.5	–5.7	–9.9
Interquartile range	*21.8*	*24.5*	*26.5*	*28.0*	*28.4*	*27.9*
SME						
90th percentile	76.8	85.9	90.0	96.4	96.7	97.6
3rd quartile	33.2	35.7	37.1	39.4	38.7	37.3
Median	13.5	13.7	14.2	15.0	14.2	13.1
2nd quartile	3.3	2.6	2.9	3.2	2.4	1.8
10th percentile	–7.2	–9.8	–9.2	–8.6	–10.3	–14.1
Interquartile range	*29.8*	*33.1*	*34.2*	*36.2*	*36.3*	*35.5*

Source : NBB.

The 2009 social balance sheet

P. Heuse
H. Zimmer

Introduction

The information contained in the social balance sheet can be used to analyse the trend in workforces, working time and staff costs, as well as staff movements during the course of the year and the efforts made by firms to provide their workers with training.

This article discusses the results of the social balance sheets filed for 2009, a year which felt the full force of the economic and financial crisis that had begun during 2008. The analysis consequently focuses on the way firms have responded to the economic downturn.

The findings commented below are drawn from a reduced population [1] of firms that covers 42,099 companies, or 51 % of the firms in the total population in 2008 [2]. Firms in the reduced population filed social balance sheets for both 2009 and 2008, which enables a valid calculation of changes in a set of variables between both financial years. Using a constant population nevertheless has its limitations. Newly established firms and those which ceased trading are automatically excluded, which can lead to some discrepancies between the changes observed in the reduced population and those recorded for the total population. This is particularly true in the context of a recession, when a lot of companies are lost (notably as a result of bankruptcies). However, following this approach is justified in view of the considerable length of time required to obtain information for all firms, and the safeguards offered by the representativeness of the reduced population in terms of jobs. As the constant population has proportionally more large firms than the total population, the 1,425,932 persons employed by firms in the reduced population accounted for 73 % of workers in the total population.

This article is split into four parts. The first section describes the trend in employment between 2008 and 2009. The second analyses the methods used by firms to adjust the volume of labour to falling demand : by adapting working time, working arrangements, staff numbers, or using of agency work. The third and fourth parts are devoted respectively to staff costs and training.

1. General characteristics of employment developments

1.1 General trend

The effects of the economic recession on the labour market are well reflected in the trends in employment and the volume of work drawn from the social balance sheets filed for the year 2009. As an annual average, total employment dropped by 0.5 % in the 42,099 firms making up the reduced population, which corresponds to 7,185 fewer workers than in the previous year. The year-end situation reflects a further deterioration in employment during the course of 2009. Compared with 31 December 2008, the workforce actually shrank by 1.2 %, which is more than double the annual average decline.

(1) In view of the time firms are allowed to meet their reporting requirements and the time needed to check the data, the full set of social balance sheets closed on 31 December 2009 was not available on 15 September 2010, the date on which the figures needed for the analysis were extracted.

(2) Annex 1 summarises the methodological principles governing the construction of these populations and the regional distribution of the firms. The breakdown by branch of activity is based on the sections and divisions of the NACE-Bel nomenclature (2003 version) reproduced in Annex 2. Annexes 3 to 10 contain a series of detailed indicators per branch of activity. Given the marginal importance of agriculture and the fact that it is not very representative, this sector does not appear in the tables and charts within this article ; it nevertheless is included in these annexes. Annexes 11 to 13 break down a range of indicators according to the region to which the firms belong.

TABLE 1 EMPLOYMENT TRENDS BETWEEN 2008 AND 2009
(reduced population)

	Full-time		Part-time		Total	
	Units	Percentages	Units	Percentages	Units	Percentages
Annual average						
Total	**–25,992**	**–2.5**	**18,808**	**4.7**	**–7,185**	**–0.5**
As at 31 December						
Total	**–37,824**	**–3.7**	**20,686**	**5.2**	**–17,138**	**–1.2**
Men	–28,760	–3.8	9,252	10.1	–19,508	–2.3
Women	–9,064	–3.3	11,434	3.7	2,370	0.4
Managerial and supervisory staff	–518	–2.9	295	22.0	–223	–1.2
Clerical workers	–15,943	–2.9	13,554	5.5	–2,389	–0.3
Manual workers	–19,419	–4.3	7,070	4.8	–12,349	–2.1
Other[1]	–1,944	–23.1	–233	–8.1	–2,177	–19.3
Permanent contracts	–30,847	–3.1	20,576	5.7	–10,271	–0.8
Temporary contracts[2]	–6,977	–15.0	110	0.3	–6,867	–8.2

Source: NBB (social balance sheets).
(1) Residual heading, which includes notably trainees and apprentices.
(2) Fixed-term contracts, substitution contracts or contracts concluded for a specific project.

Employment usually reacts to economic growth trends with a time lag of two to three quarters. There have been signs of a deterioration in Belgium since the third quarter of 2008. Thanks to various systems of working time organisation, such as reducing overtime and using temporary lay-off schemes for economic reasons, or to changes in working arrangements, firms can adjust their production capacity without necessarily having to make staff redundant. There was evidence of the flexibility instruments being used during the recent recession, backed up by the introduction of crisis measures.

The reduction in the overall workforce conceals opposing trends between full-time and part-time workers. These shifts obviously gained momentum during the course of the year, since the number of people in full-time employment by 31 December 2009, had dropped by 3.7 %, compared with 2.5 % as an annual average, while the increase in the number of part-time workers had risen from 4.7 to 5.2 % if the year-end situation is taken into consideration.

(1) For the financial years closing after 1 December 2008, the social balance sheet also enables staff numbers to be broken down by educational level. Nevertheless, the data for the year 2008 were incomplete for a whole series of firms, so the trend in staff numbers by educational level between 2008 and 2009 is biased. Consequently, they are not mentioned in this article.

1.2 Employment trends broken down by workers' characteristics

Information submitted about the number of workers at the end of the financial year enables the employment situation to be broken down by various characteristics such as gender, status or type of work contract[1].

Overall, the contraction in employment can be explained by male workforce trends. By 31 December 2009, their numbers had fallen by 2.3 % over a year, while the number of women in employment rose by 0.4 %. This difference can be explained by a branch-specific effect, since men work primarily in industry, which sustained the biggest net job losses, and women are more widely employed in services which, in 2009, were relatively spared from the economic slowdown. The decline in the number of men in full-time employment from one year's end to the next exceeded that for women and the number of men employed on a part-time basis rose by 10.1 %, compared with 3.7 % on the women's side of the equation. This gender gap arises from a base-population effect, but the economic crisis may have accentuated the shifts between full-time and part-time work regimes, and more so for men than for women.

Workers have been affected by the recession in different ways depending on their status. Managerial and supervisory staff numbers fell back by 1.2 %, owing to the reduction in staff employed on a full-time basis. The number of managers employed on a part-time basis increased by 22 %. However, these variations concern only small numbers (18,995 persons in the reduced population in 2009) and the share of part-time working remains marginal in this category of staff. Among clerical workers, the drop in employment was relatively small, at 0.3 %. The significant decline in the number of full-time workers was partly offset by the increase in staff numbers employed on a part-time basis, which would suggest a shift from one type of working arrangement to the other. As a result, one in every three white-collar workers was employed on a part-time basis at the end of 2009. If the residual category of other workers is excluded (it is mostly trainees and apprentices that come under this heading and only a small number of workers are included), it is the manual workers who were more affected by the impact of the recession on the labour market as their numbers dropped by 2.1 % between the end of 2008 and the end of 2009. Wider use of part-time working arrangements was not enough to compensate for this downward movement.

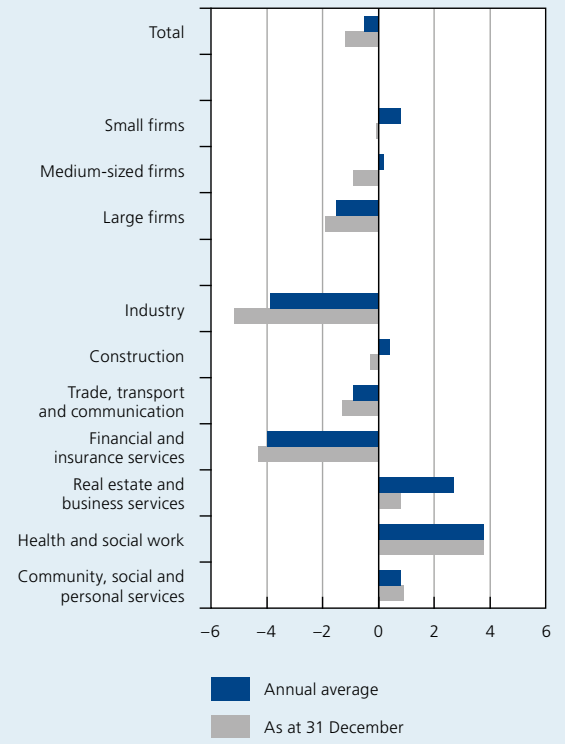
As had been expected, during the crisis period, it was the number of workers employed under temporary contracts (fixed-term, substitution contracts or those concluded for a specific project) that suffered the biggest drop in relative terms, namely 8.2 % – driven by full-time working arrangements –, compared with a 0.8 % decline among those employed under permanent contracts. The increase in part-time work for these employees made it possible to avoid an even bigger fall in staff numbers. The share of temporary contracts shrank between 2008 and 2009 to reach 5.4 % of employment in the reduced population. This fall puts an end to the upward trend seen since 2005. The share of permanent contracts consequently grew to reach 94.6 % of total employment in the reduced population.

1.3 Employment trends broken down by firms' characteristics

As an annual average, employment only fell in large firms during 2009. The situation at the end of the year nevertheless points to a deterioration during the course of the year in all categories of firms defined according to their size[1], albeit in varying proportions. The reduction in the number of employees compared with 31 December 2008 was more pronounced in large enterprises (–1.9 %), whereas it was only half as small in medium-sized enterprises (–0.9 %) and very minor in small firms (–0.1 %).

CHART 1 CHANGE IN EMPLOYMENT BETWEEN 2008 AND 2009: BREAKDOWN BY SIZE AND BRANCH OF ACTIVITY[1]

(percentages, reduced population)



Source: NBB (social balance sheets).

(1) The "other services" branch has been broken down into "health and social work" and "community, social and personal services"; that of "financial, real estate and business services" into "financial and insurance services" on the one hand and "real estate and business services" on the other.

A worsening employment situation during the course of 2009 was observed in most branches of activity. However, in some branches, the workforce continued to expand. This growth was even quite strong in the health and social work branch, which includes activities that are widely subsidised by the public authorities. Staff numbers in this branch thus grew by 3.8 % on average in 2009, a pace that showed no signs of slowing down over the year. In the community, social and personal services branch, employment increased by 0.9 % between 31 December 2008 and the end of 2009. While still positive, employment growth in real estate and business services slowed down sharply during the course of the year. Among the branches affected the most is, unsurprisingly, industry – and the manufacturing industry in particular – where

(1) Small firms were those with no more than 50 FTE workers in 2008; medium-sized firms employed more than 50 and up to 250 FTEs and large firms more than 250 FTEs.

net job losses were the most significant, with a decline in the workforce of as much as 3.9 % as an annual average and 5.2 % at year-end. Financial and insurance services, hit especially hard by the recession, registered a 4.3 % reduction in the workforce from 31 December 2008 to the end of 2009. The decline in the number of people working in firms in the trade, transport and communication branch accelerated slightly during the course of the year 2009, to reach 1.3 % by the year's end. While average employment was still rising marginally in the construction branch in 2009, jobs were lost from one year's end to the next, a reduction of 0.3 %, which is less than in the other branches that shed staff over the year.

2. How firms have reacted to the economic crisis

Even though firms were already expecting a slowdown in the economy during the course of 2008, the extent of the economic and financial crisis and the speed at which it spread caught many by surprise. Against this backdrop, the Belgian government, like its foreign counterparts, put an economic recovery plan in place from the end of 2008 and adopted a series of measures to enable firms to respond to the economic downturn with more flexibility. These measures came on top of existing provisions, principally for manual workers, in order to extend the opportunities that firms are given to reduce working time among (part of) their workforce. They have certainly helped to avoid much bigger staff cuts.

2.1 Adapting the volume of labour

Generally speaking, in periods of economic slowdown, the more rapid adjustment of hours worked than employment itself reflects the business practice of initially adapting workforces by first cutting back on overtime, but above all by using temporary lay-offs for economic reasons. While this arrangement enables the execution of workers' employment contracts to be suspended temporarily, and therefore the number of hours worked to be reduced, the workers affected remain on their employer's staff register. In 2009, this principle was also in force for the crisis measures, such as suspended implementation of white-collar workers' employment contracts and the crisis time-credit schemes (individual and temporary cuts in the hours of workers employed on a full-time basis). The temporary adjustment to working time in a crisis – which consists of a collective reduction in working time that applies across the board to all workers or to a specific category of workers in a firm – is another way of adjusting the volume of labour.

Whatever the crisis measure used by the firm, the working arrangements of the staff concerned remains in principle unchanged in the eyes of the NSSO, so as to guarantee the workers' social security rights. However, there is no accounting rule governing the way in which firms should record workers affected by these measures in the social balance sheets. In particular, those concerned by a crisis time-credit scheme can just as well continue to be registered among full-time workers, on the grounds that their rights are still guaranteed by the NSSO, or be recorded with the part-time workers, by analogy with the ordinary time-credit scheme.

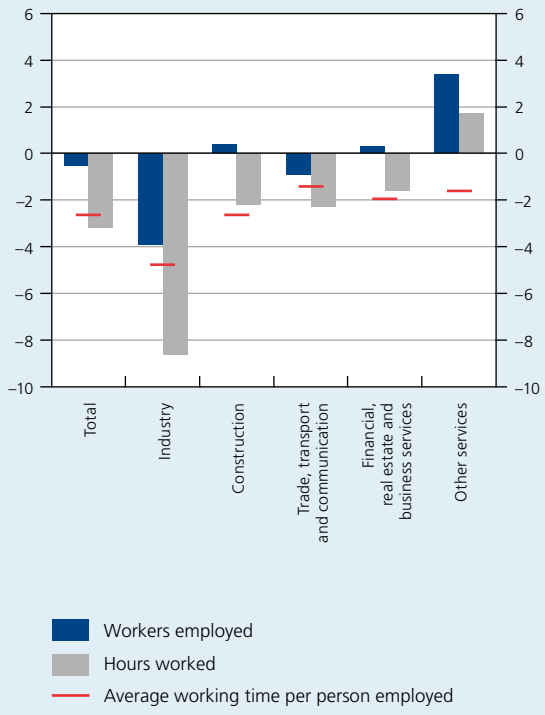
Quite independently of the way in which firms have broken down their workers between full-time and part-time, these measures have had an undeniable effect on reducing the volume of labour, which can be seen from the number of hours worked as recorded in the social balance sheets. Hours worked have dropped at a very fast rate of 3.2 %. Taking account of employment developments, the average working time of employees has fallen back by 2.7 %, which works out at a drop of almost 37 hours, equivalent to a whole week's work.

In 2009, the fall in the number of hours worked exceeded that of the number of people employed in most of the business-cycle-sensitive branches of activity, especially in industry. The average time worked per person employed thus fell by 4.8 % in the latter. One explanation lies in the widespread use of temporary lay-offs made by firms in the manufacturing industry. In some business areas like manufacture of machinery and equipment, the motor or metal-working industry, the contraction in average working time was close to or more than the 10 % mark.

The number of workers employed in the construction industry rose slightly in 2009, while the volume of work contracted: hours worked per person fell by 2.6 %. There were similar trends in terms of both persons and hours as in the previous branch in financial, real estate and business services, albeit to a lesser extent, so that average hours worked were cut by 1.9 %. In the trade, transport and communication branch, the reduction in the volume of work expressed in hours exceeded that for employment in terms of persons; consequently, the average working time of those remaining in employment in firms in this branch dropped by as much as 1.4 %. By contrast, the other services branch saw a rise in employment combined with a 1.6 % fall in average hours worked per person. This trend was largely influenced by firms in the health and social work branch, where the total volume of labour expressed in terms of hours did not increase in the same proportion as that given in number of persons.

CHART 2 CHANGE IN EMPLOYMENT AND THE VOLUME OF WORK BETWEEN 2008 AND 2009: BREAKDOWN BY BRANCH OF ACTIVITY

(percentages, annual averages, reduced population)



Source: NBB (social balance sheets).

2.2 Shifts between working arrangements

During the crisis period, there was a sharp increase in part-time employment: the proportion of workers on shorter hours in total employment came to 29.7 % in 2009, against 27.9 % in 2008. The upward trend observed over the last few years has thus continued and affected all staff categories. Part-time work is still largely a female prerogative; in 2009, 54.4 % of women were employed under this kind of arrangement, compared with 12.3 % of men. The gap points up the strong sensitivity of female employment to family commitments and the accompanying household tasks.

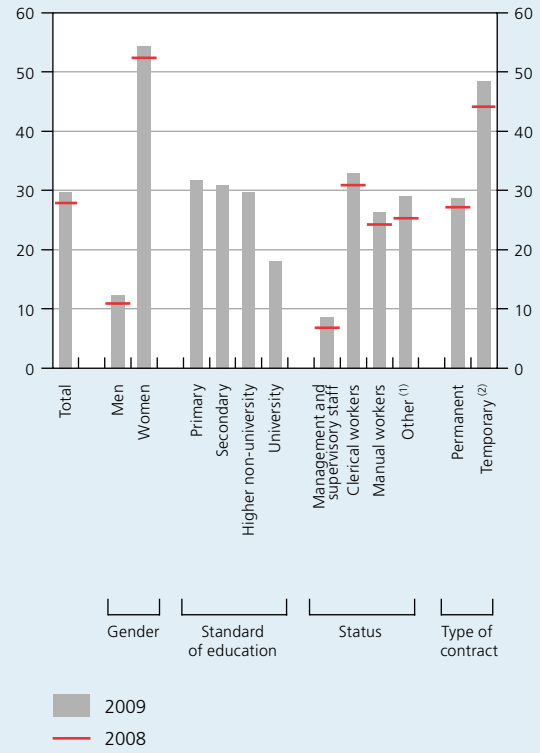
A breakdown of staff numbers according to various other characteristics reveals some specific features of part-time working arrangements. The part-time working rate does not vary much according to the level of education, except as regards workers with university qualifications. On average, roughly 31 % of those with primary, secondary or higher non-university qualifications were working part-time in 2009, compared with just 18 % of university graduates.

Moreover, part-time work is quite rare among employees with management functions, many of whom have very probably completed university-level studies: less than 9 % of them worked shorter hours in 2009. On the other hand, one-third of clerical workers were not employed on a full-time basis, against 26.3 % of manual workers. Among other workers, 29 % were employed on a part-time basis. The different types of employment contract show marked disparities as far as working arrangements are concerned. Only 28.7 % of those employed under permanent contracts were working shorter hours, compared with almost half of those taken on under a temporary contract.

The expansion of part-time work is not so much a result of a massive wave of recruitments of workers under this arrangement as a shift of full-time work arrangements to shorter hours. Developments of this sort have been observed in the analysis of social balance sheets for some

CHART 3 CHANGES IN PART-TIME WORK BETWEEN 2008 AND 2009: BREAKDOWN BY WORKERS' CHARACTERISTICS

(percentages of corresponding employment as at 31 December, reduced population)



Source: NBB (social balance sheets).

(1) Residual heading, which includes notably trainees and apprentices.

(2) Fixed-term contracts, substitution contracts or contracts concluded for a specific project.

NB: The figures for standard of education are incomplete for 2008, so the data for this year are biased. Consequently, they are not mentioned in this chart.

years now and are a reflection of the success of measures for reconciling work and private life. Individual reduction of working time is actually encouraged by various formulas, such as part-time time-credit. During the recession, there was no drop in the number of beneficiaries and use of this scheme was even encouraged with the introduction of crisis time-credit measures targeted on full-time workers in the private sector. According to NEO statistics, in 2009, an average of 127,746 private-sector workers took time-credit, which is 7.5 % more than the previous year. This includes crisis time-credit schemes, from which around 2,000 people on average benefited in the second half of the year.

The social balance sheet includes, on the one hand, recruitment of workers during the course of the financial year, i.e. when they are added to the firm's staff register, and on the other hand, departures, when employment contracts are terminated. By providing a comparison of recruitment and departures of staff per working arrangement and year-end movements in part-time and full-time staff, the social balance sheets make it possible to assess the contribution of in-house movements to changes in relative shares of different working arrangements in total employment.

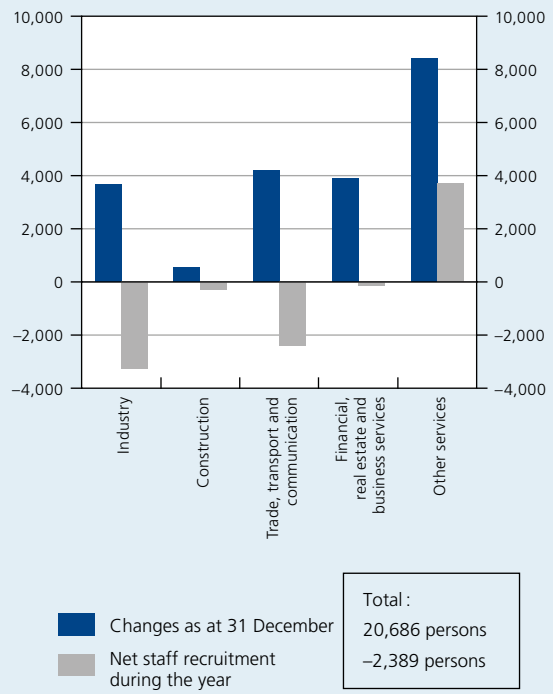
In most branches of activity, it seems that there have been large internal shifts of staff previously employed on a full-time basis over to a part-time arrangement. While net departures of part-time workers were recorded in 2009, part-time staff numbers actually increased from one year's end to the next.

This trend was more pronounced in industry and the trade, transport and communication branch, where net departures of respectively 3,266 and 2,412 part-time workers were observed, while the number of people employed on a part-time basis rose by respectively 3,650 and 4,189 units from one year-end to another. Financial, real estate and business services saw their part-time staff numbers increase during the course of the year (+3,883) but net departures were a lot smaller in this branch than in the above-mentioned branches. It was nevertheless in real estate and business services that the trend was most marked; here, the rise in the number of part-time workers between 31 December 2008 and the end of 2009 is three times more than net recruitments, which reached 1,472 units.

A full picture of these changes in working arrangements in mid-year is not possible without taking into consideration movements of full-time workers in the opposite direction. Net recruitment of these workers dipped under the impact of the recession, but the overall number of workers had fallen back even further by 31 December 2009, by 37,824 units in all. The use that has been made of

CHART 4 MOVEMENTS OF PART-TIME STAFF IN THE YEAR 2009: BREAKDOWN BY BRANCH OF ACTIVITY

(number of persons, reduced population)



Source : NBB (social balance sheets).

the various measures for adjusting the volume of labour among those already in work has certainly played a role here. These developments are evident for all business-cycle-sensitive branches of activity, but in the other services branch, which is relatively immune to the impact of the recession, net recruitment of full-time staff have remained positive. Firms in this branch have also recorded net recruitment of part-time staff, but internal movements were observed as well during the course of the year, in view of the changes in staff numbers from one year's end to the next.

2.3 Reduction in staff numbers

2.3.1 Staff recruitment and departures in all firms

Apart from the changes in working arrangements, the adjustment of employment to deteriorating economic growth involves more of a reduction in recruitment than laying staff off, not just because of the cost of doing this, but also taking account of the time and expense needed to take on skilled workers when the economic situation

improves again. In Belgium, these constraints play an important role because the labour market is characterised by problems of structural mismatches between supply and demand of work.

Owing to the economic downturn, net recruitment of staff turned negative in 2009, with exits having exceeded entries by 17,554 units[1]. This trend was driven by adjustments in the number of workers employed on a full-time basis, made through drastic cut-backs in recruitment – which were down 61,095 units or roughly 17 % –, and a smaller reduction in the number of departures. This latter development is notably explained by a decline in voluntary departures from companies. As regards workers employed on a part-time basis, an increase in both entries and exits can be observed between 2008 and 2009, but, overall, net departures of 2,389 units were recorded.

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

2.3.2 Staff recruitment and departures in firms filing full-format accounts

Companies that file full-format accounts are required to supply more detailed information about staff recruitment and departures. Apart from the working arrangements (a detail that is also provided in the abbreviated format), this information covers the type of employment contract and, if necessary, the reason for terminating the contract. Companies required to submit a full-format social balance sheet accounted for 22.1 % of the total number of firms in the reduced population in 2009, but as much as 79.9 % of the average workforce.

The net departures recorded in 2009 come from firms filing full-format accounts. The bulk of these external movements affected full-time workers and stem from the drop in recruitment, combined with a much smaller decline in staff departures. There were far fewer net departures of part-time workers.

TABLE 2 STAFF RECRUITMENT AND DEPARTURES: BREAKDOWN BY WORKING ARRANGEMENT AND TYPE OF CONTRACT

(units, in brackets: percentage change, reduced population)

	Recruitment		Departures		Net recruitment	
	2008	2009	2008	2009	2008	2009
Total for all formats						
Total	**584,260**	**536,612 (–8.2)**	**554,557**	**554,166 (–0.1)**	**29,703**	**–17,554**
Full-time	365,701	304,606 (–16.7)	340,126	319,771 (–6.0)	25,575	–15,165
Part-time	218,559	232,006 (6.2)	214,431	234,395 (9.3)	4,128	–2,389
Full-format accounts						
Total	**345,249**	**301,471 (–12.7)**	**326,901**	**321,128 (–1.8)**	**18,348**	**–19,657**
Breakdown by working management						
Full-time workers	210,621	160,295 (–23.9)	191,871	175,778 (–8.4)	18,750	–15,483
Part-time workers	134,628	141,176 (4.9)	135,030	145,350 (7.6)	–402	–4,174
Breakdown by type of contract						
Permanent contracts	164,864	120,904 (–26.7)	158,530	145,885 (–8.0)	6,334	–24,981
Temporary contracts[1]	180,385	180,567 (0.1)	168,371	175,243 (4.1)	12,014	5,324

Source: NBB (social balance sheets).

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

A breakdown by employment contract type of the recruitment and departures drawn from full-format statements shows that adjustments to the number of people in employment were made mainly at the point of permanent staff recruitment, which plummeted by 27 %. Combined with more stable numbers of staff leaving, net departures of workers on a permanent contract came to 24,981 units. This rather limited mobility of permanent staff was not unexpected, considering the phenomenon of labour hoarding of the existing workforce during the economic downturn.

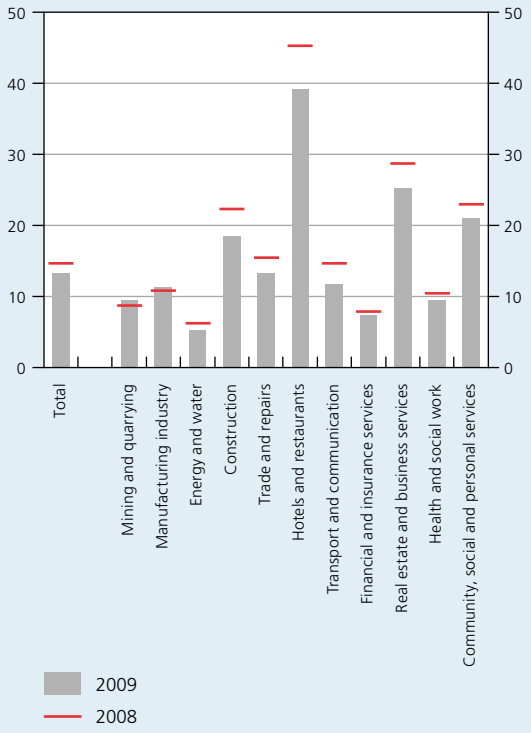
There is nevertheless some mobility among staff working under open-ended contracts, due to natural departures or because of one of the parties wanting to terminate the contract. The turnover rate among workers gives some indication of this external mobility: it is calculated by comparing departures of staff recorded during a given year with the staff numbers noted at the beginning of the same year. The economic climate has put a brake on the external mobility of staff, as is evident from the drop in the turnover rate, which was down to 13.3 % in 2009, compared with 14.7 % a year earlier. This means that, in 2009, slightly less than one permanent employee in eight was replaced in the firms covered by the reduced population.

This percentage varies considerably according to the size and branch of activity of the firms. It is in small firms that the turnover rate is highest, reaching 22 %, compared with 16 % in medium-sized enterprises and 11 % in large firms. These differences, which appear every year, can be largely explained by greater opportunities for internal mobility in large firms and by a better planned pay raise scale.

Divergences in turnover rates between branches of activity can also be seen, and the hierarchy that can be established on this level has barely fluctuated during the economic crisis. In order to understand this, it should be borne in mind that a higher proportion of large enterprises tends to be concentrated in some branches. This is the case for health and social work, financial and insurance services, industry and transport and communication, where the staff turnover rate is well below the average. On the other hand, the hotels and restaurants branch, with an annual rate of remplacement of two in every five workers in 2009, and, to a lesser extent, real estate and business services, with one in every four, community, social and personal services and construction, with roughly one in five, are set apart for their difficulty in generating loyalty among their workers. These are of course branches comprising firms of more varied size, but less favourable working conditions and lower pay also help to explain the scale of staff turnover. All branches recorded a drop in the rate of turnover of their permanent staff, except the mining and quarrying as well as the manufacturing industry. It was the hotels and restaurants branch that had the biggest decline in the staff replacement rate and the financial and insurance services branch where the drop was smallest.

CHART 5 RATE OF TURNOVER (1) FOR WORKERS UNDER PERMANENT CONTRACTS IN 2008 AND 2009: BREAKDOWN BY BRANCH OF ACTIVITY

(percentages, reduced population, full-format accounts)



Source: NBB (social balance sheets).

(1) Ratio between the departures recorded in t and the workforce at the end of t minus recruitment and plus departures recorded in t.

2.3.3 Reasons for leaving in firms filing full-format accounts

When recording staff departures, firms filing full-format accounts are required to specify the reason for contract termination. The trends that emerge from this information reflect the change in business climate between 2008 and 2009. Departures following the expiry of a temporary contract, which were already the main reason for leaving jobs in 2008, became even more frequent (+4.1 % or 6,872 units). In 2009, they accounted for 54.6 % of gross departures. Reflecting the depressed labour market,

contract terminations attributable to voluntary departures fell by 18.7 % or 17,014 units between 2008 and 2009. In fact, the ratio of voluntary departures is higher in years of cyclical upswing, as workers have more chance of finding employment elsewhere. So, 23.1 % of contracts that ended in 2009 were attributable to this type of departure, which was a smaller proportion than in the previous year. The number of redundancies rose by 8.7 %, reflecting the entirely relative nature of protection that workers under permanent contracts enjoyed at the height of the recession. The share in the total of this reason for leaving thus came to 16.9 %. When compared with staff departures, personnel taking early retirement or normal retirement amounted to respectively 2.8 and 2.7 % of the total, proportions which were comparable with those observed in 2008. Departures for early retirement fell back slightly in 2009. Contrary to what might have been expected from previous bouts of recession, no increase in early retirement from the labour market was therefore observed during the period under review.

The fall in the number of departures observed in 2009 is entirely attributable to the reduction of more than 8 % in departures of full-time workers. For this category, only the number of redundancies rose, by more than 16 %. On the other hand, the number of departures of part-time workers increased considerably. Overall, 45 % of departures concerned workers on shorter hours, a proportion way above their share in employment, namely 29 % for firms filing full-format accounts. The imbalance is patently clear for temporary contract expiries, which are proportionally higher in the case of part-time workers (56 % of the total) than for full-time workers. The same goes for redundancies (39 %), while among the other reasons for leaving, the breakdown between full-time and part-time workers is similar to that observed for total employment.

A decline in staff departures was observed in all branches of activity between 2008 and 2009, except in other services, where departures rose by 4.3 %, or the equivalent of more than 3,600 units. The number of temporary contract expiries increased sharply in this branch. It is possible that firms did less switching than before of expiring temporary contracts into permanent contracts, which is common practice at the end of the trial period. Departures resulting from the expiry of a temporary contract also rose sharply in the trade, transport and communication branch, but this movement was largely offset by a drop in voluntary departures and, to a lesser extent, in early retirements. This latter decline stems from the petering out of the wave of restructuring observed in postal services and telecommunications, which led to early retirement of more than 1,200 people in 2008.

Higher redundancies were observed in all branches of activity, but they were the most pronounced in industry. The number of workers fired rose by 40 % between 2008 and 2009, so this reason for leaving accounted for almost one quarter of departures in 2009, compared with only 16 % in 2008. The number of retirements and early retirements also rose in this branch, by respectively 6 and 14 %. The fall in the total number of departures seen in the construction branch is mainly explained by the drop in voluntary departures of workers. This was also the case in the financial, real estate and business services branch. In the latter, there was an increase in redundancies, most of which were attributable to restructuring in the financial and insurance services branch, where the number

TABLE 3 GROSS DEPARTURES OF STAFF: BREAKDOWN BY REASON FOR LEAVING
(reduced population, full-format accounts)

	As percentage of the total		Units		Changes between 2008 and 2009	
	2008	2009	2008	2009	Units	Percentages
Retirement	2.5	2.7	8,206	8,595	389	4.7
Early retirement	2.8	2.8	9,284	8,949	–335	–3.6
Redundancy	15.3	16.9	49,857	54,172	4,315	8.7
Termination of temporary contract (1)	51.5	54.6	168,371	175,243	6,872	4.1
Other reasons (2)	27.9	23.1	91,183	74,169	–17,014	–18.7
Total	**100.0**	**100.0**	**326,901**	**321,128**	**–5,773**	**–1.8**

Source: NBB (social balance sheets).
(1) Fixed-term contract, substitution contract or contract concluded for a specific project.
(2) Voluntary departures, deaths in service.

TABLE 4 GROSS DEPARTURES OF STAFF IN 2009: BREAKDOWN BY WORKING ARRANGEMENT AND BRANCH OF ACTIVITY

(reduced population, full-format accounts)

	Shares		Changes between 2008 and 2009				
	in employment as at 31 December 2009	in departures in 2009	Total	of which, owing to:			
				(Early) retirement	Redundancy	Termination of temporary contract[1]	Other reasons[2]
Total	**100.0**	**100.0**	**–5,773**	**54**	**4,315**	**6,872**	**–17,014**
Breakdown by working arrangement							
Full-time workers	71.1	54.7	**–16,093**	–49	4,666	–2,158	–18,552
Part-time workers	28.9	45.3	**10,320**	103	–351	9,030	1,538
Breakdown by branch of activity							
Industry	26.6	14.6	**–1,665**	786	3,143	–2,335	–3,259
Construction	4.9	3.8	**–2,061**	49	190	–240	–2,060
Trade, transport and communication	29.2	33.2	**–2,573**	–950	640	5,024	–7,287
Financial, real estate and business services	18.2	21.1	**–2,855**	282	219	99	–3,455
Other services	20.9	27.0	**3,609**	–120	376	4,486	–1,133

Source: NBB (social balance sheets).

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

(2) Voluntary departures, deaths in service.

of workers laid off rose by almost 25 %. Workers made redundant thus accounted for 12 % of staff departures in this branch of activity in 2009, compared with only 2 % in 2008.

2.4 Adapting the use of agency workers[1]

Only firms filing full-format accounts are required to provide additional information[2] on agency workforce and staff seconded by another firm. Workers can thus be broken down according to employment contract, but only on the basis of the concept of employment expressed in FTE. In the 9,285 firms filing full-format accounts, the numbers recorded in the staff register, which reached 1,038,621 FTEs at the end of 2008, fell by more than 23,563 units in 2009, or by 2.3 %, while at the same time, the 32,814 enterprises filing abbreviated accounts recorded a moderate increase in employment expressed in FTE (0.4 %).

Staff employed under permanent contracts, who represent more than nine in every ten workers, declined by 1.6 %, or more than 16,000 FTEs. Staff recruited under a temporary contract shrank by 7,313 FTEs, accounting for a 14.3 % drop. Among these workers, those under fixed-term contracts, the most numerous in volume terms, were affected the most.

Outside workers employed by firms filing full-format accounts were not immune from the measures restricting the volume of labour in 2009. The number of agency workers shrank by 12,324 FTEs and only accounted for 70 % of that recorded in 2008. The number of seconded workers, which only represents a very small fraction of FTE employment, also contracted.

In all, firms in the reduced population filing full-format accounts only employed 29,900 FTE agency workers in 2009, the equivalent of 2.8 % of FTE employment, compared with 3.9 % a year earlier. The significant contraction observed between 2008 and 2009 follows a moderate but already marked slowdown between 2007 and 2008, after five years of continuous increase.

In terms of numbers, there are more agency workers in medium-sized and large enterprises, in each case accounting for around 40 % of the total staff of agency workers.

(1) In terms of hours worked, the volume of agency work stated in the social balance sheets for 2009 represented over 40 % of that recorded by Federgon, the federation of firms supplying agency workers. The conclusions which may be drawn from the social balance sheet therefore appear to be representative.

(2) Average number of persons employed, in FTEs; actual number of hours worked; costs for the firm.

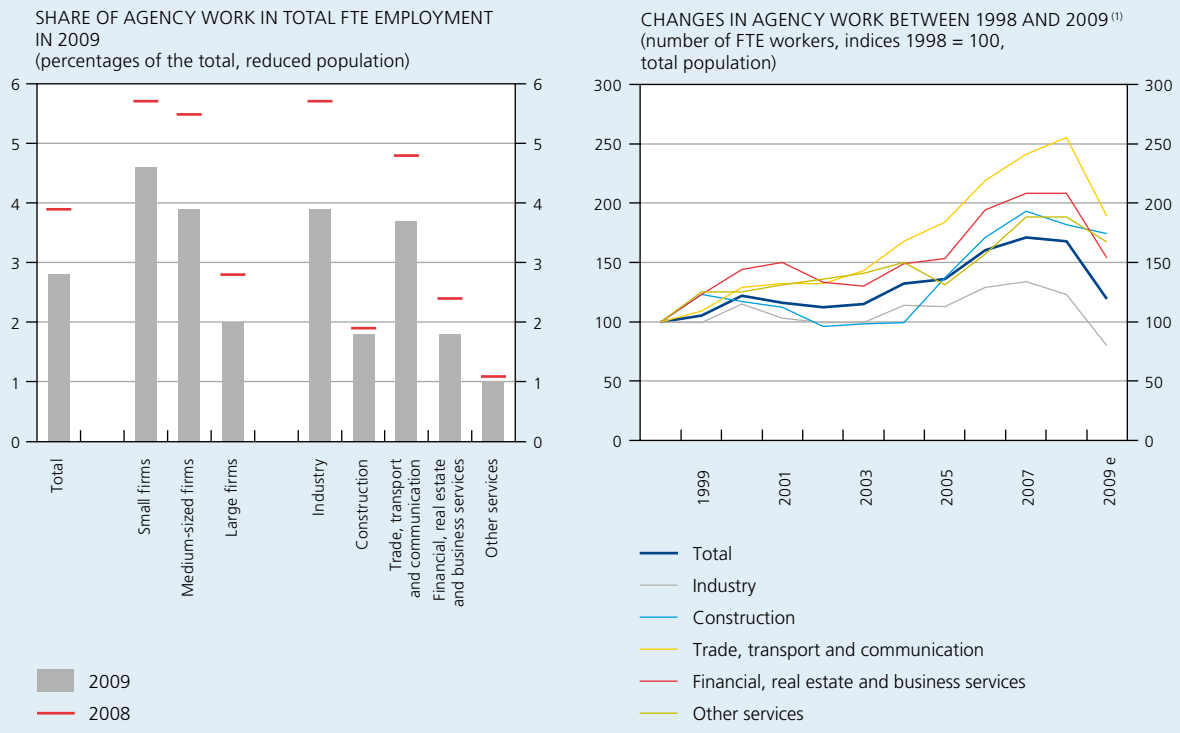
TABLE 5 CHANGES IN EMPLOYMENT EXPRESSED IN FTE IN FIRMS FILING FULL-FORMAT ACCOUNTS
(reduced population)

	Employment in 2009		Changes between 2008 and 2009	
	Units	Percentages of the total	Units	Percentages
Workers recorded in the staff register[1]	1,015,058	96.6	–23,563	–2.3
Permanent contracts	971,183	92.4	–16,250	–1.6
Temporary contracts[2]	43,875	4.2	–7,313	–14.3
Agency workers	29,900	2.8	–12,324	–29.2
Workers seconded to the firm	6,067	0.6	–307	–4.8
Total	**1,051,025**	**100.0**	**–36,194**	**–3.3**

Source: NBB (social balance sheets).
(1) Data as at 31 December.
(2) Fixed-term contracts, substitution contracts or contracts concluded for a specific project.

It is in these two groups that the drop in staff numbers, of around 30 %, was the most pronounced, while in small firms, the decline was no more than 20 %. All in all, agency workers accounted for 4.6 % of FTE staff numbers in small enterprises in 2009, 3.9 % in medium-sized enterprises and 2 % in large firms.

CHART 6 AGENCY WORK IN FIRMS FILING FULL-FORMAT ACCOUNTS



Source: NBB (social balance sheets).
(1) The results for 2009 were obtained by applying the change recorded between 2008 and 2009 for the reduced population to the value observed in 2008 for the total population.

Two agency workers in every five are employed in industry, where their numbers plummeted by 36 % between 2008 and 2009 to account for less than 4 % of FTE employment in 2009, compared with 5.8 % one year earlier. The decline was still more pronounced in the mining and quarrying industry, while on the other hand, wider recourse to agency work was recorded in energy. Two agency workers in every five are also active in firms in the trade, transport and communication branch. In the latter, the contraction of agency employment was less severe, but it nonetheless affected one in every four workers, and the proportion of agency workers fell from 4.8 to 3.7 % of FTE employment between 2008 and 2009. A similar sized decline was observed in financial, real estate and business services, where the share of agency workers in the total was no more than 1.8 % in 2009. In the construction industry, agency workers are less widespread and the contraction was smaller than 10 %. A similar decline was noted in the other services branch.

Following employment trends, the volume of hours worked by agency workers fell by almost 30 %, so that the average annual duration of work remained more or less stable and amounted to 1,880 hours in 2009. Such stability contrasts strongly with changes in the average duration of work among workers recorded in the staff register of firms filing full-format accounts, which declined by 2.3 %. This just goes to show the difference in attitude amongst employers towards their registered staff, who are relatively well protected, whose working time has been cut back to avoid lay-offs, and the agency staff, whose numbers have been slashed to reduce the volume of activity. The average hourly cost of an agency worker has risen from € 24.9 to € 25.1, up by only 0.8 %. By way of comparison, the increase in the hourly wage of workers recorded in the staff register of firms filing full-format accounts reached 3.8 %. Overall, in 2009, 2.4 % of staff costs were made up by costs related to the use of agency work, compared with 3.3 % a year earlier.

TABLE 6 AGENCY WORK IN FIRMS FILING FULL-FORMAT ACCOUNTS
(reduced population)

	2008	2009
As percentage of the total		
Number of FTEs	3.9	2.8
Hours worked	4.8	3.6
Staff costs	3.3	2.4
Units		
Number of FTEs	42,224	29,900
Hours worked (thousands)	79,204	56,211
Hours worked per FTE	1,876	1,880
Staff costs per hour worked (in €)	24.9	25.1
p.m. As percentage of agency work recorded by Federgon		
Hours worked	*43.8*	*39.9*

Sources: Federgon, NBB (social balance sheets).

3. Staff costs

The staff costs featured in the social balance sheets include costs related to workers recorded in the staff register borne by employers[1]. This heading therefore covers wages and direct social advantages, employers' social security contributions and extra-legal insurance premiums to be paid by the employer, as well as other staff costs (luncheon vouchers and eco-vouchers, for example, and premiums for insurance against accidents at work or occupational illnesses). Financial compensation for workers affected by temporary lay-offs or other crisis measures – intended to help make up for their loss of purchasing power – also fall under staff costs.

In the firms covered by the reduced population, staff costs rose by a mere 0.5 % between 2008 and 2009. A 3.8 % increase in staff costs per hour worked was observed, with the hourly cost therefore reaching € 35.9 on average in 2009. The rise was a bit faster for full-time workers (4 %) than for part-timers (3.7 %). In 2009, hourly wages averaged € 36.7 for a full-time worker and € 32.5 for someone employed on a part-time basis.

In order to keep as many workers in their jobs as possible, employers have cut back their staff members' working time, either collectively or individually, notably through the use of crisis measures, so that the volume of working hours has fallen more than the number of workers employed. As a result, the rise in staff costs per worker remained more restrained than the increase in hourly costs, at just 1 %.

Changes in staff costs are generally less stable for part-time workers, notably because of changes in the structure of the workforce that the wider use of this working arrangement implies. Gender, standard of education, seniority and the branch of activity are all factors influencing

(1) They therefore differ from the concept of labour costs used in the national accounts, because they neither include payments made to retired staff – who are no longer recorded in the staff register – nor certain restructuring-related costs that firms can enter into their balance sheet as exceptional expenses.

TABLE 7 STAFF COSTS FOR WORKERS RECORDED IN THE STAFF REGISTER

(in €, unless otherwise stated; annual averages; reduced population)

	2008	2009	Percentage change between 2008 and 2009
Per hour worked	34.6	35.9	3.8
Full-time workers	35.3	36.7	4.0
Part-time workers	31.4	32.5	3.7
Per worker employed	47,382	47,866	1.0

Source: NBB (social balance sheets).

both the level and the change in staff costs. It should also be noted that the breakdown of hours worked and costs between full-time and part-time workers is all the more complex when there are many changes in working arrangements, which was the case during the year 2009. Any errors in this breakdown affect the ratios for part-time work more than those for full-time work, whose volume is markedly larger.

In large firms, the rise in staff costs per hour worked has been more moderate (3.5 %) than among SMEs, where it reached around 4.5 % in 2009. In small firms, the rise in hourly costs was higher for part-time workers (5.6 %) than for full-time workers (4.4 %), while the opposite was observed in medium-sized entreprises (respectively 4.5 and 4.9 %). The finding for large firms results from a lower rise in hourly costs for part-time workers (3.1 %) than for full-time workers (3.9 %).

Extremely heterogeneous trends between branches of activity are observed, especially at the finer level. More particularly, the average hourly wage fell back by 2.6 % in the energy branch of activity, a drop that affected both full-time and part-time workers. This trend is largely explained by the results recorded in three of the biggest firms in this branch of activity, where a sharp drop in hourly staff costs has been noted. Hourly wages rose at below the average rate in the financial services and insurance branch (2.5 %) and in the real estate and business services branch (3.7 %). At the opposite end of the scale, a relatively marked rise was observed in small branches of activity, as hotels and restaurants (7.5 %), mining and quarrying (5.5 %) and agriculture (5.2 %). The increase in hourly costs was also substantial in the manufacturing industry (4.8 %) and transport and communication (4.7 %). Elsewhere, the rise was between 4 and 4.5 %.

4. Training

The table relative to training has been enlarged considerably for the years ended from 1 December 2008 onwards. The training initiatives in question currently break down into three sections. Two of them are to do with continuing vocational training of workers, which covers initiatives planned in advance to widen the knowledge of or improve the skills of workers. The first of these two sections is devoted to formal training (lessons and training courses designed by trainers), the second to informal or less formal training (other initiatives planned according to the learner's precise needs, including on-the-job training). The third section concerns initial vocational training provided to workers employed under schemes alternating training and practical experience within the firm [1].

4.1 Firms providing training

While the changes that have been made enable better account to be taken of training efforts, they have also caused new problems for firms, by requiring them to develop specific measurement instruments. Thanks to the media coverage given to the changes introduced, as well as the mobilisation of (inter)professional federations and social partners, the number of firms providing information on their training policy increased substantially in 2008 compared with previous years. In all, nearly 19 % of the 82,000 firms in the total population had recorded one or the other training initiative in 2008. Almost 14 % had provided formal training for their workers, about twice as much as in previous years.

The reduced population contains proportionally more large firms, which include relatively more companies providing training. So, the share of firms providing training (21 %) – just like the level of training indicators – is higher when it is calculated on the basis of the reduced population.

Overall, the proportion of firms providing training increased slightly between 2008 and 2009. There are varying trends according to the type of training. There was a rise in the share of firms mentioning formal and informal training initiatives, from 16.7 to 17.5 % in the first case, and from 7.6 to 8.1 % in the second. On the other hand,

(1) For a precise definition of the different types of training and information required, see section 5 of the article on the 2008 social balance sheet that appeared in the December 2009 Economic Review and is available on the National Bank of Belgium's website (www.nbb.be). See also the explanatory note compiled jointly by the Central Balance Sheet Office, the Central Economic Council and the National Labour Council on the information on training activities included in the social balance sheets at the following address: www.nbb.be/DOC/BA/SocialBalance/Notice_Formations_FR_4%20avril%202008.pdf (only available in French or Dutch).

TABLE 8 FIRMS PROVIDING TRAINING OR NO TRAINING
(reduced population)

	Units		As percentage of the total	
	2008	2009	2008	2009
Total	**42,099**	**42,099**	**100.0**	**100.0**
Firms providing training activities[1]	8,712	8,814	20.7	20.9
of which:				
Firms which organise:				
Formal training	7,033	7,377	16.7	17.5
Informal training	3,194	3,396	7.6	8.1
Initial training	1,656	1,558	3.9	3.7
Firms combining different types of training	2,791	3,099	6.6	7.4
Firms providing no training activities	33,387	33,285	79.3	79.1

Source: NBB (social balance sheets).
(1) A firm is counted as providing training if the net cost of training is not zero. A firm may therefore be regarded as providing training even if the workers it employs have not taken part in any training activity during the year. When a firm combines different types of training, it is recorded as a company providing training for each of these headings, which implies that the three different percentages of firms providing training cannot be added up to calculate the total share of firms providing training.

a slight drop in the number of companies mentioning initial training initiatives can be observed, so they now only account for 3.7 % of the total in 2009, compared with 3.9 % a year earlier. Part of this decline could be explained by the correction of errors of classification of some training initiatives. In 2008, it was noted that many firms had recorded training intended for their newly appointed workers in the section devoted to initial training, while only those employed under long-term schemes (at least six months) alternating training and practical experience within the firm could be mentioned.

There were more firms combining several different types of training in 2009 (7.4 % of the total) than in 2008. By far the most common combination is mixing formal and informal training activities.

4.2 Training indicators

Although the number of firms providing training has grown, the net budgets devoted to continuous training of workers have shrunk, by 4 % in the case of formal training and by 9 % for informal training. When companies have to cut costs, it is quite commonplace for them to drop or postpone some investments (new software, new machines, etc.) which require updating the skills of workers using them. They can also choose to turn to less expensive operators or to diversify workers' know-how by resorting to basic training, which is less costly than specialised training. Training costs are effectively recorded as an expense and not as an investment, which explains their cyclical nature. This cyclicality is also due to fluctuations in the volume of recruitments and, in turn, training of new staff.

The number of workers having taken part in formal training initiatives continued to rise between 2008 and 2009: these workers therefore benefited from cheaper and shorter training courses on average, since the number of hours devoted to formal training stagnated between 2008 and 2009. By contrast, the number of hours devoted to informal training initiatives declined in the same proportion as costs, and the number of workers concerned by these – albeit cheaper – initiatives fell by 5 %.

The headings related to initial training show rather heterogeneous trends: costs incurred rose by 11 %, while at the same time, the volume of hours spent on training dropped by 5 %. The number of workers concerned by this type of training grew by 43 %.

4.2.1 Participation in training activities

The participation rate compares the number of trained workers with the total workforce. At the Conference on Employment in 2003, it had been stipulated that, by the year 2010, one in every two workers in Belgium would have access to training. The statistics that can be compiled from the social balance sheets do not enable a global participation rate to be established. In fact, one worker who attends several training events under the

TABLE 9 PARTICIPATION IN TRAINING ACTIVITIES IN 2009: BREAKDOWN OF FIRMS BY SIZE AND BRANCH OF ACTIVITY

(number of trained workers, as percentage of average employment, unless otherwise stated, reduced population)

	Formal training		Informal training	
	2009	Percentage change between 2008 and 2009	2009	Percentage change between 2008 and 2009
Total	**38.2**	**1.6**	**21.3**	**–0.9**
Breakdown of firms by size				
Small firms	9.7	0.8	5.2	0.6
Medium-sized firms	33.1	1.0	18.5	0.8
Large firms	55.9	2.8	31.4	–2.4
Breakdown of firms by branch of activity				
Industry	43.5	1.6	22.9	0.7
Construction	24.6	1.7	7.5	0.0
Trade, transport and communication	35.6	1.2	17.3	–3.1
Financial, real estate and business services	37.3	0.2	24.5	0.1
Other services	41.2	3.8	27.1	–1.2

Source: NBB (social balance sheets).

different categories (formal, informal or initial training) will be recorded in each of these sections of the social balance sheet. Adding together the participants in all these various training activities therefore generates double or even triple counting.

In 2009, 38.2 % of all workers took part in one or more formal training initiatives, a rise of 1.6 percentage points compared with the previous year; 21.3 % of all employees were involved in informal training, a drop of 0.9 percentage point on the 2008 rate, while the participation rate in initial training reached 1.3 % (+0.4 percentage point).

The participation rate in formal training rose in all firms regardless of their size or branch of activity. Large firms enjoyed the most pronounced increase (+2.8 percentage points), but it was also apparent in SMEs.

A significant rise in the level of worker participation in formal training was observed in all branches of activity, except in financial, real estate and business services, where this ratio rose by only 0.2 percentage point. A finer breakdown by activity points up more marked differences. The participation rate went up sharply in the energy branch (+12.8 percentage points), even though the ratio was already very high there (almost 71 % in 2008). The increase was also substantial in the mining and quarrying industry, in the community, social and personal services branch, in trade, and in the health and social work branch. The level of participation rose very slightly in the manufacturing industry and remained stable in financial and insurance services, the two branches that saw the biggest contraction in employment between 2008 and 2009. By contrast, a fall in the participation rate in formal training was observed in the transport and communication branch and in hotels and restaurants (respectively –1.6 and –0.9 percentage points), and yet these are branches where the rate was already low.

The drop in the level of participation in informal training activities is entirely attributable to large firms, where it fell back from 33.7 to 31.4 %. Several branches recorded a drop in this indicator, including transport and communication and health and social work, where the rate nevertheless remains well above the average, as well as the trade branch. By contrast, there was a rise in industry, which was particularly strong in the mining and quarrying industry and the energy branch.

4.2.2 Training costs

In the field of training, the social partners have agreed on two financial targets, which have featured in successive central agreements. The first one, dating from 1990, imposes a compulsory contribution of 0.1 % of gross wages for employment and training of vulnerable groups on the labour market. In 1998, a macroeconomic target was added to that with the aim of setting Belgium on the

TABLE 10 TRAINING COSTS IN 2009
(reduced population)

	Formal training	Informal training	Initial training	Total
As a percentage of staff costs				
Net training costs[1]	1.16	0.42	0.06	**1.63**
p.m. In 2008	*1.21*	*0.46*	*0.05*	***1.72***
Gross training costs	1.19			
Contributions and payments to collective funds (+)	0.06	–	–	–
Subsidies and other financial benefits received (–)	0.09	–	–	–
p.m. Subsidies, as a percentage of gross costs	*7.4*	–	–	–
In €				
Net cost per hour of training	51.9	36.5	11.1	**40.5**
Net cost per participant	1,381	939	2,054	–

Source: NBB (social balance sheets).
(1) Net costs of training are obtained by deducting subsidies and other financial benefits received from the gross costs. Net costs of formal training also comprise contributions paid and payments made to collective funds.

same path as its main trading partners: expenditure on training was supposed to have accounted for 1.9 % of the wage bill in 2004. Then, in 2005, provision was made for a sanctions mechanism if this target was not met. A scoreboard enabling trends in the training indicators to be followed is published each year in the Central Economic Council's technical report.

Among the firms in the reduced population, taking all types of training into account, expenses incurred by firms represented 1.63 % of staff cost in 2009, a slight drop of 0.09 percentage point on the previous year. A decline was observed for both the formal training indicator, which fell from 1.21 to 1.16 %, and the indicator for informal training, which reached 0.42 % of staff costs in 2009, against 0.46 % a year earlier. The indicator for initial training was the only one on an upward trend.

In the case of continuing informal training and initial training, firms are only required to declare the net costs incurred. For continuing formal training, on the other hand, the social balance sheet provides for net costs to be broken down into separate items, between gross training costs, contributions paid and payments made to collective funds, and subsidies and other financial benefits received. Firms are thus supposed to take better account of the different elements of training costs.

The gross costs associated with formal training initiatives accounted for 1.19 % of staff costs in 2009, down slightly on 2008. To these costs must be added compulsory payments by way of social contributions (employment and training of vulnerable groups, training leave) or payments to collective training funds. Despite being compulsory[1], contributions and payments recorded in the social balance sheet in 2009 accounted for only 0.06 % of staff costs, while the Central Economic Council has calculated that total contributions should have come to 0.18 % of the wage bill, which tends to suggest that firms are not filling in this particular heading correctly. Wider use was made of training subsidy schemes (for example, in the form of training cheques or allowances paid to firms or workers by the sectoral funds) between 2008 and 2009: the ratio of subsidies and other financial benefits received to staff costs widened by 13 %, to reach 0.09 % of total staff costs. Overall, subsidies accounted for 7.4 % of gross costs associated with training in 2009, compared with 6.4 % the year before.

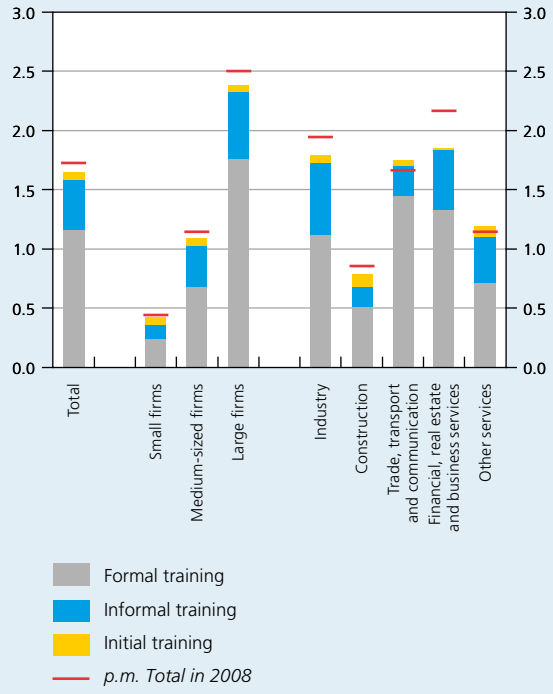
The social partners' training target is set at the macroeconomic level and not at the individual or sectoral level so as to take account of the differing needs among firms in this field, such as firm size, technologies used, age and skills of the staff, or whether there are any critical occupations, all of which are factors influencing training policy.

In 2009, small firms mobilised an overall training budget equivalent to 0.42 % of their staff costs on average. The total effort is almost three times higher (1.10 %)

(1) Even if they do not organise formal training activities for the benefit of their workers, companies are in principle required to fill in the section "contributions paid and payments made to collective funds", which are compulsory sums payable under social legislation or joint agreements entered into at the inter-sector, sector or firm level.

CHART 7 NET COSTS OF TRAINING IN 2009 (1): BREAKDOWN OF FIRMS BY SIZE AND BRANCH OF ACTIVITY

(percentages of staff costs, reduced population)



Source: NBB (social balance sheets).

(1) Net costs of training are obtained by deducting subsidies and other financial benefits received from the gross costs. Net costs of formal training also comprise contributions paid and payments made to collective funds.

in medium-sized enterprises and almost six times more (2.39 %) in large firms. Although a decline in the financial indicator has been noted in SMEs (respectively –0.02 and –0.04 percentage point), it is still quite small compared with that observed in large firms (–0.12 percentage point).

Among the branches, the biggest drop was in financial, real estate and business services, owing to a particularly sharp decline in financial and insurance services (–0.5 percentage point). Expenditure on training, which accounted for 2.77 % of staff costs in 2009, was nevertheless still higher there than in most other branches. A drop in the financial indicator was also observed in the construction branch, where spending on training is traditionally lower than elsewhere, and in industry, despite the increase recorded in the mining and quarrying industry and the energy branch. In the trade, transport and communication branch, the rise in the indicator was due to the particularly large increase (+0.2 percentage point) registered in transport and communication, so that expenditure on training in 2009 accounted for more than 2.7 % of staff costs in this branch, a proportion falling just short of that seen in the financial and insurance services branch.

In 2009, the hourly cost of training came to € 52 on average in the case of formal training and € 37 for informal training, which is associated with much lower fixed costs. An hour of initial training cost an average of € 11. The difference can be partly explained by accounting for the remuneration level of the persons receiving training in the indicator; that of trainees or apprentices is markedly lower than the average.

Firms providing training spent an average of € 1,381 for each worker benefiting from formal training, compared to € 939 for informal training. The costs per trained worker are very high in the case of initial training (more than € 2,000). It must be borne in mind, however, that the bulk of the time spent by trainees and apprentices within the firm is devoted to training, so that the indicator relating costs to training participants is less significant than that relating costs to training hours.

4.2.3 Duration of training

As a whole, the firms in the reduced population devoted 1.4 % of the volume of work to training measures in 2009, a proportion that was virtually unchanged from 2008. Formal training accounts for the lion's share, with nearly 57 % of the total, while informal training represents 29 % of training hours and initial training 13 %.

Just as they tend to spend less in this area, small firms devote on average a lot less time to training than medium-sized and large enterprises. The total number of hours of work given over to training in small firms fell back slightly during the period under review, to just 0.54 % of the volume of work in 2009. This is mainly explained by the fall in the number of hours spent on initial training. In medium-sized and large enterprises, the total volume of hours spent on training scarcely increased to reach respectively 1.12 and 2.03 % of working time, the increase in the duration of formal training activities having been completely offset by the drop in hours spent on informal training.

In most branches, a levelling out or slight rise in this indicator could be observed. In the construction branch where training activities are already relatively limited, the indicator fell sharply (–0.19 percentage point). The decline was even more marked in financial and insurance services, where the total number of hours of training expressed as a percentage of working time dropped by 0.41 percentage point to 2.08 %, which is nevertheless still amongst the highest levels.

TABLE 11 HOURS DEVOTED TO TRAINING ACTIVITIES IN 2008 AND 2009
(reduced population)

	Formal training	Informal training	Initial training	Total
Hours devoted to training activities (as a percentage of hours worked, unless otherwise stated)				
2008	0.78	0.44	0.19	**1.40**
2009	0.80	0.41	0.19	**1.40**
Percentage change	2.9	–6.0	–2.3	**–0.6**
Duration of training per participant (hours, unless otherwise stated)				
2008	29.2	26.9	279.4	–
2009	28.0	25.7	184.5	–
Percentage change	–4.1	–4.5	–34.0	–

Source: NBB (social balance sheets).

Those taking part in formal training initiatives benefited from an average 28 hours of training during the year 2009, compared with over 29 hours the year before. A decline in the average time spent on training per participant was also observed for informal training, down from almost 27 to less than 26 hours. Workers in initial training schemes were given an average of almost 185 hours of training, a reduction of one-third compared with the time spent on training registered for the previous year.

Conclusions

The effects of the economic crisis on employment are reflected in the information drawn from social balance sheets filed in 2009. In terms of the number of people employed in the firms in the reduced population, the deterioration of employment during the course of the year is evident: compared with 31 December 2008, staff numbers had fallen by 1.2 %, which is more than double the annual average decline. Part-time employment expanded at the expense of full-time jobs. This trend is not so much a result of a massive wave of recruitments of workers on shorter hours as a shift in full-time work arrangements to part-time ones, which indicates that firms have been making use of the flexibility instruments on offer to reduce the volume of labour.

Job losses affected men to a greater extent than women, due to a sectoral effect. Manual workers were hit harder than clerical or managerial and supervisory staff. And, in relative terms, workers employed under temporary contracts saw their numbers fall more sharply than those with a permanent contract.

Large enterprises had to face bigger staff cuts than SMEs. Among the various branches of activity, it was in industry (–5.2 %) and in financial and insurance services (–4.3 %) that job losses were the heaviest. Net job creations have nevertheless still been observed in some branches, including the health and social work branch, which covers activities that are widely subsidised by the public authorities.

Workers affected by temporary lay-offs for economic reasons and by the crisis measures remain on their employer's staff register. On the other hand, the volume of hours worked is directly influenced by these measures. It contracted significantly in 2009. The annual duration of work per person employed declined by 37 hours on average. A decrease was observed in all branches of activity, but it has been particularly pronounced in industry.

Net departures of staff recorded in 2009 are attributable to firms filing a full-format balance sheet and stem mainly from the fall in recruitment of full-time staff, together with a much weaker decrease in the number of departures. Net departures of part-time workers were much smaller. While gross staff departures fell back between 2008 and 2009, this was mainly due to the fall in the number of employees leaving on a voluntary basis. By contrast, the number of redundancies rose by nearly 9 %, with the bulk of this increase being recorded in industry.

In firms that filed a full-format balance sheet, the volume of labour was also adapted by making less use of agency workers, whose numbers declined by almost 30 %.

The average hourly cost of labour rose by 3.8 % between 2008 and 2009. Combined with the sharp drop in hours

worked, this upward trend led to an increase in staff costs of barely 0.5 %.

Despite a rise in the number of firms providing training, budgets for both formal and informal training were revised downwards in 2009. Expenses associated with initial training were the only costs to show a rise. Overall, firms devoted 1.63 % of their staff costs to training their workers, compared with 1.72 % a year earlier, a reduction which reflects the pro-cyclical nature of this expenditure. The number of hours spent on training also declined, but in a similar proportion to the drop in hours worked, so working time actually given over to training decreased only very slightly. The participation rate of workers increased, except in the case of informal training.

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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 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).

It should be remembered that only the social balance sheets of firms which meet certain criteria relating to homogeneity, consistency and quality are taken into account. In particular, the financial year must comprise 12 months and must end on 31 December; the 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 hours worked are eliminated, while any anomalies found in regard to training and the use of agency workers are neutralised.

The use of these methodological principles is justified by the desire for reliable, consistent data. However, it does mean that the number of social balance sheets used to carry out the analysis in this article is significantly smaller, for each year, than the total number of social balance sheets filed at the Central Balance Sheet Office.

Following the selection process, the total population for the year 2008 comprised 82,000 firms and 1,963,538 employees. In addition, the analysis of the results of the social balance sheets filed for 2009 is conducted on a constant[4] reduced[5] population, which further limits the coverage of the analysis population in relation to the balance sheets filed at the Central Balance Sheet Office. The results presented in this article therefore reflect the changes recorded in a population which remained stable between 2008 and 2009, and may differ from the changes which, following final closure, will be observed on the basis of the total population of firms filing a social balance sheet[6].

The constant reduced population covers 42,099 firms which together employed 1,425,932 workers in 2008, corresponding to 73 % of the persons active in the firms from the total population, although the number of firms included in the reduced population accounts for only 51 % of these firms. Moreover, workers employed in firms in the reduced population amount to 52 % of the private sector salaried employment recorded in the national accounts.

(1) Private sector employment is defined as employment recorded in the total economy (S1), less employment in the public sector (S13) and in the household sector (S14). In addition, are also excluded firms in NACE-Bel divisions 75 (public administration and defence; compulsory social security), 80 (education) and 95 (activities of households as employers of domestic staff), which are not taken into account in full in the social balance sheets, as well as temporary employment agencies (NACE-Bel 74.502).

(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) Firms which did not file a social balance sheet for one of the two years are in fact excluded from the reduced population.

(5) Firms have seven months starting from the date of the end of the financial year to file their social balance sheets at the Central Balance Sheet Office. In view of the time needed to check the data, the full set of social balance sheets relating to 2009 was not available on 15 September 2010 when the data were extracted.

(6) 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 2008

	Number of workers			Representativeness of the reduced population	
	In the national accounts[1]	In the social balance sheets[2]		As percentage of private sector salaried employment[1]	As percentage of the total population
		Total population	Reduced population		
	(1)	(2)	(3)	(4) = (3) / (1)	(5) = (3) / (2)
According to the employment criterion	**2,767,570**	**1,963,583**	**1,425,932**	**51.5**	**72.6**
Agriculture	18,775	10,088	5,228	27.8	51.8
Industry	584,830	460,794	358,985	61.4	77.9
Mining and quarrying industry	2,965	2,899	2,267	76.5	78.2
Manufacturing industry	555,312	434,319	341,328	61.5	78.6
Energy and water	26,553	23,576	15,390	58.0	65.3
Construction	196,737	143,242	92,817	47.2	64.8
Trade, transport and communication	816,948	582,339	430,304	52.7	73.9
Trade and repairs	486,953	318,604	233,389	47.9	73.3
Hotels and restaurants	92,514	60,445	25,497	27.6	42.2
Transport and communication	237,481	203,290	171,418	72.2	84.3
Financial, real estate and business services	621,497	350,890	256,868	41.3	73.2
Financial and insurance services	124,985	114,951	92,346	73.9	80.3
Real estate and business services[3]	496,512	235,939	164,522	33.1	69.7
Other services	528,783	416,230	281,731	53.3	67.7
Health and social work	419,260	359,421	242,858	57.9	67.6
Community, social and personal services	109,523	56,808	38,873	35.5	68.4
According to the criterion concerning the number of firms	**n.**	**82,000**	**42,099**	**n.**	**51.3**

Sources: NAI, NBB (social balance sheets).

(1) The concept of private sector salaried employment is defined as employment in the total economy (S1), less employment in the public sector (S13) and the household sector (S14). Moreover, are also excluded employees in NACE-Bel divisions 75 (public administration and defence, compulsory social security), 80 (education) and 95 (private households with employed persons), which are not taken into account in full in the social balance sheets.

(2) Sum of items 1001 (full-time workers) and 1002 (part-time workers).

(3) Excluding temporary employment agencies in the case of the social balance sheets.

Representativeness according to the employment criterion varies according to the branch of activity. Expressed as a percentage of the number of workers employed in firms in the total population, it is lower in the branches where small firms – whose annual accounts are filed and/or processed later – are many. This applies in particular to hotels and restaurants and to agriculture.

Furthermore, some firms or jobs are not represented in the analysis population. Examples include NPIs employing fewer than 20 persons, which are not required to submit a social balance sheet, and temporary employment agencies, which were omitted for the sake of the consistency and quality of the analysis populations. Similarly, paid staff working for employers not incorporated as a company are excluded since only companies are required to file a social balance sheet. Consequently, representativeness expressed as a percentage of the salaried employment recorded in the national accounts is particularly low in the branches containing a large proportion of such enterprises or workers, notably the community, social and personal services branch, the real estate and business services branch, agriculture, and hotels and restaurants.

TABLE 2 CHARACTERISTICS OF THE TOTAL AND REDUCED POPULATIONS IN 2008

(percentages 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	*82,000*	*1,963,583*	*42,099*	*1,425,932*
Breakdown by branch of activity				
Agriculture	1.8	0.5	1.6	0.4
Industry	12.4	23.5	14.1	25.2
Construction	14.8	7.3	13.6	6.5
Trade, transport and communication	41.1	29.7	40.0	30.2
Financial, real estate and business services	20.8	17.9	21.3	18.0
Other services	9.0	21.2	9.5	19.8
Breakdown by size of firm[2]				
Small firms (up to 50 FTEs)	94.4	33.9	91.4	26.4
Medium-sized firms (over 50 to 250 FTEs)	4.6	21.3	7.0	23.5
Large firms (over 250 FTEs)	1.0	44.8	1.6	50.1

Source: NBB (social balance sheets).
(1) Sum of items 1001 (full-time workers) and 1002 (part-time workers).
(2) Determined according to the value of item 1003 (FTEs) in 2008.

In the analysis population, firms are broken down by branch of activity on the basis of the NACE-Bel sections and divisions that appear in Annex 2. Altogether, workers employed in the trade, transport and communication branch account for roughly 30 % of the workforce in the reduced population and those working in industry account for 25 %. The other branches are relatively less important, i.e. 20 % in the case of the other services branch (which includes, inter alia, hospitals), 18 % in the case of financial, real estate and business services, and just under 7 % for construction. Agriculture is still very marginal, which is why it does not appear systematically in the tables and charts in this article.

The classification by size of firm is based on the average number of workers expressed in full-time equivalents (FTEs) observed in 2008. Small firms with no more than 50 FTEs, or 91 % of firms in the reduced population, employed around 26 % of that population's workforce, well below the figure of 34 % recorded for the total population. Medium-sized firms, employing 50 to 250 FTEs, account for 24 % of the workforce in the reduced population, a proportion just above that for the total population. Large firms, with over 250 FTEs, employ half of the workforce in firms in the reduced population, compared to 45 % for the total population. The trends outlined using the reduced population are therefore influenced by the over-representation of large firms.

2. Methodology governing the regional breakdown of the social balance sheets

The analysis of the social balance sheets is not conducted from a regional angle in this article. Nevertheless, Annexes 11 to 13 contain a series of regional indicators identical with those published in the December 2007, 2008 and 2009 issues of the Economic Review.

The regional breakdown of firms applies only to the total populations obtained on the basis of the methodological principles described in section 1, for the years 1998 to 2008. The methodology governing the regional breakdown is similar to that used in 2004 [1].

Single-region firms are those whose registered office and place(s) of business are located in a single region. In 2008, these single-region firms numbered 80,853, or almost 99 % of the total firms filing a social balance sheet which met the quality criteria for that year. These companies are generally fairly small : on average, they employ 18 workers.

TABLE 3 REGIONAL BREAKDOWN OF FIRMS FILING A SOCIAL BALANCE SHEET IN 2008
(total population)

	Number of firms		Number of workers [1]	
	Units	Percentages of the total	Units	Percentages of the total
Single-region firms	80,853	98,6	1,453,481	74.0
Brussels	9,431	11,5	156,254	8.0
Flanders	49,665	60,6	924,036	47.1
Wallonia	21,757	26,5	373,191	19.0
Multi-region firms	1,147	1,4	510,101	26.0
Total	**82,000**	**100,0**	**1,963,583**	**100.0**

Source : NBB (social balance sheets).
(1) Sum of items 1001 (full-time workers) and 1002 (part-time workers).

The remaining 1,147 multi-region firms are established in more than one region. On average, they employ 445 workers.

In the case of firms established in more than one region, there are two ways of producing the regional breakdown. The first consists in attributing the whole of the amounts entered in the social balance sheet items of these firms to the region in which the firm records the largest number of jobs. In this so-called majority allocation approach, each firm is attached to a single region each year, but that region may differ from one year to the next according to the changes in employment at its places of business. This majority allocation method introduces distortions in the employment breakdown because some of the firms active throughout Belgium are attributed to Flanders, which covers 44 % of the country but contained almost 58 % of its residents as at 1 January 2009, while others are allocated to Brussels owing to the location of their registered office, where many services and hence workers are concentrated.

The proportional allocation approach consists in dividing all the social balance sheet items of multi-region firms among the regions where their registered office and their places of business are located. Such a formula can be calculated for employment or wages on the basis of the data per establishment collected by the NSSO, as is done by the NAI for compiling the regional accounts. Conversely, it is not possible to define such an allocation formula appropriate to all the headings in the social balance sheet. That is the case, for example, for training and for agency work. On these subjects, corporate behaviour may vary according to the activity, organisation and location of the various places of business, and possibly the training or the agency work available.

(1) See the article "The 2003 social balance sheet", published in the Economic Review in the fourth quarter of 2004.

Neither the majority allocation approach (which attributes all the social balance sheet items of each firm to the region in which it employs the largest number of workers) nor the proportional allocation approach (which breaks down the social balance sheet items between the various regions where the enterprise is active according to the employment recorded there) was considered satisfactory. The group of multi-region firms was therefore not divided among the regions.

It must be pointed out that the breakdown by branch of activity differs considerably between multi-region and single-region firms. Within the latter group, there are divergences in specialisation between firms based in Brussels and those established in Flanders or Wallonia. This heterogeneity is part of the reason for the differences in results recorded for the regional indicators in Annexes 11 to 13.

TABLE 4 REGIONAL STRUCTURE OF EMPLOYMENT IN 2008
(percentages of the total, total population)

	Single-region firms				Multi-region firms	Total
	Brussels	Flanders	Wallonia	Total		
Agriculture	0.1	0.8	0.7	0.7	0.0	**0.5**
Industry	9.4	27.3	24.9	24.8	19.8	**23.5**
Construction	5.3	9.1	11.1	9.2	1.9	**7.3**
Trade, transport and communication	27.1	26.9	23.5	26.1	39.9	**29.7**
Financial, real estate and business services	33.1	13.0	9.8	14.4	27.9	**17.9**
Other services	25.0	22.9	29.9	24.9	10.6	**21.2**

Source: NBB (social balance sheets)

Annex 2

Classification of firms by branch of activity

The classification of the firms by branch is based on the activity code given in the directory of firms drawn up by the National Bank for the compilation of the national accounts, and containing a range of administrative data on firms active during any year. The directory for the year 2008 was chosen as the reference to determine the institutional sector and the branch of activity to which firms should be allocated for the whole period from 1998 to 2009. It is based on the 2003 NACE-Bel nomenclature. Firms not listed in the 2008 directory retain the activity code attributed in previous directories, or failing that, the code allocated to them by the Central Balance Sheet Office.

The descriptions in the body of the text are based on a breakdown into six or twelve branches, according to requirements. These two breakdowns appear systematically in Annexes 3 to 10.

CLASSIFICATION USED FOR THE ANALYSIS OF THE SOCIAL BALANCE SHEETS
AND LIST OF SECTIONS AND DIVISIONS IN THE NACE-BEL NOMENCLATURE OF ACTIVITIES

Heading	Section	Division
Agriculture	A-B	01-05
Industry		
Mining and quarrying	C	10-14
Manufacturing	D	15-37
Energy and water	E	40-41
Construction	F	45
Trade, transport and communication		
Trade and repairs	G	50-52
Hotels and restaurants	H	55
Transport and communication	I	60-64
Financial, real estate and business services		
Financial and insurance services	J	65-67
Real estate and business services[1]	K	70-74
Other services		
Health and social work	N	85
Community, social and personal services	O	90-93

(1) Excluding temporary employment agencies (NACE-Bel code 74.502).

Annex 3

CHANGE IN THE NUMBER OF WORKERS RECORDED IN THE STAFF REGISTER BETWEEN 2008 AND 2009 IN FIRMS IN THE REDUCED POPULATION

	Full-time equivalents			Number of persons						
	Average employment		Employment as at 31 Dec.	Average employment						Employment as at 31 Dec.
				Full-time		Part-time		Total		
	(units)	(%)	(%)	(units)	(%)	(units)	(%)	(units)	(%)	(%)
Agriculture	43	0.9	–0.8	19	0.5	70	5.6	89	1.7	–0.6
Industry	–14,985	–4.3	–5.6	–17,764	–5.6	3,603	8.8	–14,160	–3.9	–5.2
Mining and quarrying	–1	0.0	–0.8	–26	–1.2	28	26.2	2	0.1	–0.4
Manufacturing	–15,387	–4.7	–6.1	–18,177	–6.0	3,582	9.1	–14,594	–4.3	–5.6
Energy and water	402	2.7	3.7	439	3.2	–7	–0.5	432	2.8	3.7
Construction	274	0.3	–0.4	–185	–0.2	595	10.7	410	0.4	–0.3
Trade, transport and communication	–4,756	–1.2	–1.6	–7,149	–2.3	3,272	2.7	–3,877	–0.9	–1.3
Trade and repairs	–645	–0.3	–0.5	–1,922	–1.2	1,815	2.5	–108	0.0	–0.3
Hotels and restaurants	–328	–1.8	–2.5	–453	–3.8	285	2.1	–168	–0.7	–1.3
Transport and communication	–3,783	–2.4	–3.0	–4,774	–3.5	1,173	3.2	–3,601	–2.1	–2.6
Financial, real estate and business services	–698	–0.3	–1.7	–2,969	–1.7	3,684	4.6	716	0.3	–1.0
Financial and insurance services	–3,420	–4.1	–4.6	–2,921	–4.4	–783	–3.0	–3,704	–4.0	–4.3
Real estate and business services[1]	2,721	1.9	0.0	–48	0.0	4,467	8.3	4,420	2.7	0.8
Other services	7,664	3.4	3.1	2,055	1.5	7,583	5.1	9,638	3.4	3.4
Health and social work	7,353	3.9	3.6	2,142	2.0	7,197	5.3	9,339	3.8	3.8
Community, social and personal services	311	0.9	0.3	–87	–0.3	386	3.4	299	0.8	0.9
Total	**–12,460**	**–1.0**	**–1.8**	**–25,992**	**–2.5**	**18,808**	**4.7**	**–7,185**	**–0.5**	**–1.2**

Source: NBB (social balance sheets).
(1) Excluding temporary employment agencies.

Annex 4

HOURS WORKED BY WORKERS RECORDED IN THE STAFF REGISTER

	Units, per year (total population)									*Percentage change between 2008 and 2009 (reduced population)*		
	2002	2003	2004	2005	2006	2007	2008					
	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	1,545	1,533	1,556	1,525	1,548	1,566	1,569	1,565	856	*–1.9*	*–2.6*	*–0.7*
Industry	1,506	1,508	1,532	1,516	1,520	1,521	1,513	1,515	1,015	*–4.4*	*–4.6*	*–1.6*
Mining and quarrying	1,487	1,497	1,490	1,463	1,479	1,501	1,507	1,506	983	*–4.3*	*–4.4*	*3.7*
Manufacturing	1,510	1,511	1,539	1,520	1,525	1,525	1,516	1,518	1,013	*–4.7*	*–4.8*	*–1.8*
Energy and water	1,426	1,425	1,410	1,445	1,434	1,448	1,467	1,466	1,050	*0.6*	*0.1*	*5.1*
Construction	1,427	1,433	1,464	1,442	1,442	1,445	1,461	1,457	976	*–2.5*	*–2.6*	*0.2*
Trade, transport and communication	1,626	1,616	1,605	1,578	1,576	1,574	1,573	1,582	900	*–1.1*	*–1.2*	*–0.1*
Trade and repairs	1,609	1,599	1,609	1,597	1,589	1,589	1,590	1,601	962	*–1.0*	*–1.2*	*–0.1*
Hotels and restaurants	1,589	1,567	1,562	1,561	1,564	1,557	1,555	1,537	650	*–2.1*	*–2.6*	*–1.5*
Transport and communication	1,656	1,648	1,608	1,554	1,560	1,556	1,551	1,561	971	*–1.1*	*–1.2*	*0.1*
Financial, real estate and business services	1,551	1,541	1,551	1,536	1,540	1,543	1,549	1,569	935	*–1.3*	*–1.4*	*–0.8*
Financial and insurance services	1,428	1,426	1,436	1,422	1,417	1,434	1,433	1,470	885	*–1.1*	*–1.4*	*0.6*
Real estate and business services[1]	1,645	1,624	1,630	1,608	1,610	1,603	1,608	1,621	955	*–1.7*	*–1.6*	*–1.7*
Other services	1,531	1,538	1,533	1,511	1,496	1,506	1,502	1,485	928	*–1.6*	*–1.4*	*–1.0*
Health and social work	1,524	1,530	1,525	1,498	1,483	1,491	1,487	1,464	935	*–1.8*	*–1.7*	*–1.2*
Community, social and personal services	1,582	1,596	1,585	1,593	1,585	1,597	1,585	1,577	854	*–0.4*	*–0.2*	*1.9*
Total	**1,547**	**1,545**	**1,552**	**1,532**	**1,530**	**1,532**	**1,531**	**1,534**	**930**	***–2.2***	***–2.4***	***–0.7***

Source: NBB (social balance sheets).
(1) Excluding temporary employment agencies.

Annex 5

BREAKDOWN OF THE NUMBER OF WORKERS RECORDED IN THE STAFF REGISTER BY EMPLOYMENT CONTRACT AND BY GENDER

(percentages of the total workers recorded in the staff register as at 31 December)

	2002	2003	2004	2005	2006	2007	2008	*2008*	*2009*
	(total population)							*(reduced population)*	
By type of contract									
Permanent contract	93.8	93.9	93.9	93.8	93.5	93.4	93.4	*94.2*	*94.6*
Fixed-term contract	4.9	5.0	5.0	5.2	5.4	5.4	5.5	*4.8*	*4.4*
Agriculture	5.2	6.1	6.2	6.4	6.3	10.3	9.4	*6.0*	*6.6*
Industry	3.8	3.5	3.8	3.9	4.4	4.7	4.4	*4.0*	*2.5*
Mining and quarrying	5.8	6.0	6.1	6.3	8.2	6.9	6.2	*6.8*	*3.8*
Manufacturing	3.7	3.4	3.7	3.7	4.2	4.6	4.4	*3.9*	*2.4*
Energy and water	6.3	6.4	6.0	6.4	6.6	6.0	5.0	*4.4*	*4.0*
Construction	2.7	2.7	2.7	2.9	3.2	3.3	3.6	*2.2*	*2.2*
Trade, transport and communication	5.2	5.7	5.5	6.0	5.9	5.8	6.4	*5.3*	*5.3*
Trade and repairs	5.6	6.0	5.7	6.1	5.8	5.8	6.5	*6.0*	*5.8*
Hotels and restaurants	9.7	11.4	12.6	15.0	15.4	14.7	15.7	*12.4*	*14.0*
Transport and communication	3.7	3.7	3.2	3.3	3.3	3.4	3.4	*3.3*	*3.2*
Financial, real estate and business services	4.1	4.2	4.1	4.4	4.3	4.3	3.3	*2.5*	*2.5*
Financial and insurance services	3.5	2.9	3.0	2.9	2.9	2.6	2.1	*1.9*	*2.1*
Real estate and business services[1]	4.5	5.1	4.7	5.2	5.0	5.2	3.9	*2.9*	*2.7*
Other services	7.6	7.6	7.7	7.5	7.7	7.5	7.9	*7.7*	*7.5*
Health and social work	7.5	7.4	7.6	7.4	7.6	7.5	7.8	*7.8*	*7.5*
Community, social and personal services	8.8	8.6	7.9	8.4	8.4	7.3	8.4	*7.3*	*7.3*
Substitution contract	1.1	1.0	0.9	0.8	0.9	0.9	0.9	*1.0*	*1.0*
Contract concluded for a specific project	0.2	0.2	0.2	0.2	0.2	0.2	0.2	*0.1*	*0.1*
By gender									
Men	61.0	60.7	60.6	60.8	59.1	58.7	57.9	*59.1*	*58.4*
Women	39.0	39.3	39.4	39.2	40.9	41.3	42.1	*40.9*	*41.6*

Source: NBB (social balance sheets).

(1) Excluding temporary employment agencies.

Annex 6

BREAKDOWN OF EMPLOYMENT ACCORDING TO THE STATUS OF WORKERS IN FIRMS FILING FULL-FORMAT ACCOUNTS

(percentages of average employment in FTEs)

	2002	2003	2004	2005	2006	2007	2008	*2008*	*2009*
	(total population)							*(reduced population)*	
Workers recorded in the staff register	**96.6**	**96.4**	**95.8**	**95.6**	**93.7**	**93.5**	**93.8**	***95.5***	***96.6***
Agency workers	**2.6**	**2.7**	**3.1**	**3.3**	**3.7**	**3.9**	**3.7**	***3.9***	***2.8***
Agriculture	5.4	5.4	6.7	4.5	7.3	8.2	8.8	*7.8*	*6.3*
Industry	4.1	4.3	5.0	5.1	5.8	6.0	5.5	*5.7*	*3.9*
Mining and quarrying	3.7	3.1	2.3	2.6	2.8	3.1	3.4	*2.8*	*1.6*
Manufacturing	4.3	4.5	5.2	5.3	6.1	6.3	5.8	*5.9*	*4.0*
Energy and water	0.9	1.0	1.1	2.1	1.3	1.4	1.2	*1.3*	*1.3*
Construction	1.1	1.1	1.2	1.6	2.0	2.2	2.0	*1.9*	*1.8*
Trade, transport and communication	2.7	2.9	3.4	3.7	4.2	4.6	4.7	*4.8*	*3.7*
Trade and repairs	3.3	3.5	3.9	4.0	4.6	4.8	4.6	*4.6*	*3.8*
Hotels and restaurants	4.6	4.0	4.0	4.3	6.0	7.7	7.3	*6.3*	*5.9*
Transport and communication	2.0	2.3	2.9	3.4	3.8	4.3	4.6	*5.0*	*3.4*
Financial, real estate and business services	1.8	1.7	2.0	2.1	2.6	2.7	2.5	*2.4*	*1.8*
Financial and insurance services	0.8	0.7	0.6	0.7	0.8	0.9	0.9	*0.6*	*0.4*
Real estate and business services (1)	2.7	2.7	3.2	3.2	3.8	3.9	3.5	*3.6*	*2.7*
Other services	0.8	0.8	1.0	0.9	0.9	1.1	1.0	*1.1*	*1.0*
Health and social work	0.4	0.4	0.5	0.4	0.5	0.5	0.5	*0.4*	*0.3*
Community, social and personal services	5.1	5.1	5.2	5.3	5.8	6.6	6.1	*6.2*	*5.7*
Workers seconded to the firm (2)	**0.8**	**0.8**	**1.1**	**1.1**	**2.6**	**2.6**	**2.5**	***0.6***	***0.6***

Source: NBB (social balance sheets).

(1) Excluding temporary employment 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 2008 and 2009 (reduced population)*
	2002	2003	2004	2005	2006	2007	2008	
Agriculture	28,417	28,750	29,772	29,826	29,908	30,621	31,376	*3.1*
Industry	48,692	49,684	51,589	52,669	54,559	56,430	58,671	*0.0*
Mining and quarrying	43,941	45,628	46,147	46,671	47,957	50,575	52,384	*1.0*
Manufacturing	47,283	48,620	50,285	51,348	53,240	54,998	57,092	*0.0*
Energy and water	77,576	74,853	77,810	79,151	80,898	82,984	88,159	*–2.0*
Construction	35,604	36,575	37,710	37,875	39,008	39,997	42,144	*1.6*
Trade, transport and communication	40,493	41,228	42,369	43,539	44,833	46,062	48,113	*3.4*
Trade and repairs	41,112	41,538	42,415	43,463	44,750	46,251	48,197	*3.3*
Hotels and restaurants	26,517	27,510	28,230	28,675	29,534	30,083	31,733	*5.3*
Transport and communication	41,975	43,215	44,919	46,461	47,926	48,953	51,418	*3.5*
Financial, real estate and business services	56,152	56,883	57,497	58,090	58,926	59,999	62,091	*1.2*
Financial and insurance services	64,293	65,667	67,277	68,907	70,837	72,804	76,913	*1.4*
Real estate and business services[2]	49,989	50,585	50,808	51,232	52,164	52,992	54,515	*2.0*
Other services	37,181	38,704	39,351	40,038	40,513	42,440	43,475	*2.7*
Health and social work	37,204	38,770	39,454	40,059	40,339	42,355	43,171	*2.4*
Community, social and personal services	37,008	38,209	38,638	39,913	41,671	42,946	45,260	*4.2*
Total	**44,435**	**45,299**	**46,489**	**47,498**	**48,513**	**49,945**	**51,838**	***1.5***

Source: NBB (social balance sheets).
(1) Item 1023 / item 1003.
(2) Excluding temporary employment agencies.

Annex 8

STAFF COSTS PER HOUR WORKED[1]

	In € (total population)							*Percentage change between 2008 and 2009 (reduced population)*
	2002	2003	2004	2005	2006	2007	2008	
Agriculture	18.4	18.8	19.1	19.6	19.3	19.6	20.0	*5.2*
Industry	32.3	33.0	33.7	34.7	35.9	37.1	38.8	*4.6*
Mining and quarrying	29.6	30.5	31.0	31.9	32.4	33.7	34.8	*5.5*
Manufacturing	31.3	32.2	32.7	33.8	34.9	36.1	37.7	*4.8*
Energy and water	54.4	52.6	55.2	54.8	56.4	57.3	60.1	*-2.6*
Construction	24.9	25.5	25.8	26.3	27.1	27.7	28.8	*4.3*
Trade, transport and communication	24.9	25.5	26.4	27.6	28.4	29.3	30.6	*4.6*
Trade and repairs	25.5	26.0	26.4	27.2	28.2	29.1	30.3	*4.4*
Hotels and restaurants	16.7	17.6	18.1	18.4	18.9	19.3	20.4	*7.5*
Transport and communication	25.4	26.2	27.9	29.9	30.7	31.5	33.2	*4.7*
Financial, real estate and business services	36.2	36.9	37.1	37.8	38.3	38.9	40.1	*2.5*
Financial and insurance services	45.0	46.1	46.8	48.5	50.0	50.8	53.7	*2.5*
Real estate and business services[2]	30.4	31.1	31.2	31.9	32.4	33.1	33.9	*3.7*
Other services	24.3	25.2	25.7	26.5	27.1	28.2	29.0	*4.4*
Health and social work	24.4	25.3	25.9	26.7	27.2	28.4	29.0	*4.3*
Community, social and personal services	23.4	23.9	24.4	25.1	26.3	26.9	28.6	*4.5*
Total	**28.7**	**29.3**	**29.9**	**31.0**	**31.7**	**32.6**	**33.9**	***3.8***

Source: NBB (social balance sheets).
(1) Item 1023 / item 1013.
(2) Excluding temporary employment agencies.

Annex 9

TRAINING ACTIVITIES IN 2009 IN FIRMS FROM THE REDUCED POPULATION[1]

	Number of participants in training activities[2] (as percentage of average employment)			Hours devoted to training activities (as percentage of hours worked)				Net training costs[3] (as percentage of staff costs)			
	Formal[4]	Informal[5]	Initial[6]	Formal[4]	Informal[5]	Initial[6]	Total	Formal[4]	Informal[5]	Initial[6]	Total
Agriculture	7.4	5.5	0.5	0.1	0.2	0.3	0.6	0.13	0.27	0.07	0.46
Industry	43.5	22.9	2.1	0.8	0.6	0.1	1.6	1.12	0.60	0.07	1.79
Mining and quarrying	36.0	25.0	0.3	0.6	1.1	0.1	1.8	0.88	1.17	0.05	2.11
Manufacturing	41.6	22.7	2.2	0.8	0.6	0.1	1.5	1.00	0.60	0.08	1.69
Energy and water	83.7	26.5	0.7	1.9	0.4	0.0	2.4	2.81	0.44	0.01	3.26
Construction	24.6	7.5	1.8	0.4	0.2	0.5	1.1	0.51	0.17	0.10	0.78
Trade, transport and communication	35.6	17.3	1.3	0.9	0.2	0.2	1.4	1.45	0.25	0.05	1.74
Trade and repairs	28.7	12.9	1.7	0.4	0.3	0.3	1.0	0.66	0.30	0.07	1.03
Hotels and restaurants	15.7	2.0	2.1	0.2	0.1	0.4	0.8	0.31	0.06	0.19	0.56
Transport and communication	48.2	25.8	0.6	1.8	0.2	0.0	2.0	2.53	0.19	0.01	2.74
Financial, real estate and business services	37.3	24.5	0.5	0.8	0.5	0.0	1.3	1.33	0.51	0.01	1.86
Financial and insurance services	58.1	36.2	0.2	1.2	0.9	0.0	2.1	2.04	0.72	0.00	2.77
Real estate and business services[7]	26.4	18.4	0.7	0.6	0.3	0.1	1.0	0.77	0.34	0.02	1.13
Other services	41.2	27.1	1.1	0.7	0.4	0.2	1.3	0.72	0.38	0.09	1.19
Health and social work	43.0	29.3	1.0	0.7	0.5	0.2	1.4	0.76	0.42	0.09	1.27
Community, social and personal services	29.5	13.4	1.6	0.4	0.2	0.3	0.9	0.50	0.16	0.10	0.76
Total	**38.2**	**21.3**	**1.3**	**0.8**	**0.4**	**0.2**	**1.4**	**1.16**	**0.42**	**0.06**	**1.63**

Source: NBB (social balance sheets).

(1) The items concerning initial training are mentioned separately, even though for some firms it is actually found that the information given here concerns formal or informal training.

(2) Owing to double counting linked to the fact that the same person may have followed more than one type of training, no total is calculated here.

(3) Gross costs, from which are deducted subsidies and other financial advantages received. Net costs of formal training also comprise contributions paid and payments made to collective funds.

(4) Courses and practical classes designed by training staff who are responsible for their organisation and content, intended for a group of learners, in premises outside the workplace.

(5) Other apprenticeship activities, of which organisation and content are largely determined by the learner according to his or her own needs, in direct relation to the work or workplace. These activities also involve participation in conferences or trade fairs as part of the learning process.

(6) Training of a minimum duration of six months given to workers under schemes alternating training and practical experience within the firm, with a view to acquiring a diploma.

(7) Excluding temporary employment agencies.

Annex 10

TRAINING ACTIVITIES IN 2009 IN FIRMS FROM THE REDUCED POPULATION OFFERING TRAINING[1]

	Hours devoted to training activities (average per participant, in hours)			Net training costs[2] (average per participant, in €)		
	Formal[3]	Informal[4]	Initial[5]	Formal[3]	Informal[4]	Initial[5]
Agriculture	20	49	682	26.4	30.3	5.7
Industry	26	38	82	54.7	38.2	24.1
Mining and quarrying	24	65	366	53.5	38.1	26.2
Manufacturing	25	39	83	51.9	37.7	24.0
Energy and water	33	24	21	76.9	52.3	47.4
Construction	24	30	419	39.2	34.0	5.7
Trade, transport and communication	37	19	229	50.9	34.0	7.4
Trade and repairs	20	31	257	53.6	34.1	6.7
Hotels and restaurants	17	41	235	29.1	18.4	9.6
Transport and communication	51	11	104	50.4	34.6	11.5
Financial, real estate and business services	29	27	125	70.4	43.8	11.9
Financial and insurance services	27	30	63	94.9	48.2	22.1
Real estate and business services[6]	31	24	135	45.6	38.1	11.1
Other services	20	18	234	31.3	27.3	12.2
Health and social work	20	18	234	30.4	27.6	12.3
Community, social and personal services	19	22	233	39.4	23.3	11.8
Total	**28**	**26**	**185**	**51.9**	**36.5**	**11.1**

Source: NBB (social balance sheets).

(1) The items concerning initial training are mentioned separately, even though for some firms it is actually found that the information given here concerns formal or informal training.

(2) Gross costs, from which are deducted subsidies and other financial advantages received. Net costs of formal training also comprise contributions paid and payments made to collective funds.

(3) Courses and practical classes designed by training staff who are responsible for their organisation and content, intended for a group of learners, in premises outside the workplace.

(4) Other apprenticeship activities, of which organisation and content are largely determined by the learner according to his or her own needs, in direct relation to the work or workplace. These activities also involve participation in 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 experience within the firm, with a view to acquiring a diploma.

(6) Excluding temporary employment agencies.

Annex 11

TYPE AND STRUCTURE OF EMPLOYMENT CONTRACTS, BY REGION

(total population)

	2002	2003	2004	2005	2006	2007	2008
Part-time employment (as percentage of employment as at 31 December)							
Single-region firms	23.5	24.4	25.0	25.4	26.7	27.2	27.9
Brussels	22.9	23.1	23.9	25.0	24.0	24.9	25.0
Flanders	23.3	24.5	25.3	25.6	27.3	27.6	28.4
Wallonia	24.3	24.7	24.9	25.1	26.6	27.3	27.7
Multi-region firms	23.0	25.4	26.3	28.2	29.7	29.9	31.3
Total	**23.3**	**24.6**	**25.4**	**26.1**	**27.5**	**27.9**	**28.8**
Temporary work [1] (as percentage of employment as at 31 December)							
Single-region firms	6.2	6.2	6.2	6.4	6.8	6.9	7.0
Brussels	6.6	7.4	7.5	7.2	6.9	8.6	6.7
Flanders	4.9	4.9	4.8	5.1	5.7	5.5	5.5
Wallonia	9.5	9.1	9.0	9.1	9.7	9.7	10.7
Multi-region firms	6.4	5.9	5.7	5.7	5.7	5.5	5.6
Total	**6.2**	**6.1**	**6.1**	**6.2**	**6.5**	**6.6**	**6.6**
Agency work in firms filing full-format accounts (as percentage of average FTE employment)							
Single-region firms	3.1	3.1	3.6	3.8	4.4	4.7	4.2
Brussels	2.4	2.3	2.5	2.6	2.6	3.2	2.5
Flanders	3.2	3.2	3.8	4.1	4.8	4.9	4.5
Wallonia	3.4	3.3	3.6	3.8	4.4	4.6	4.4
Multi-region firms	1.7	2.0	2.2	2.3	2.4	2.7	2.7
Total	**2.6**	**2.7**	**3.1**	**3.3**	**3.7**	**3.9**	**3.7**

Source: NBB (social balance sheets).

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

Annex 12

HOURS WORKED AND LABOUR COSTS, BY REGION

(total population)

	2002	2003	2004	2005	2006	2007	2008
Hours worked per FTE (units, per year)							
Single-region firms	1,557	1,552	1,566	1,549	1,547	1,549	1,546
Brussels	1,604	1,586	1,598	1,579	1,578	1,596	1,588
Flanders	1,554	1,554	1,573	1,553	1,553	1,551	1,547
Wallonia	1,539	1,530	1,533	1,525	1,520	1,522	1,525
Multi-region firms	1,522	1,528	1,513	1,485	1,483	1,485	1,490
Total	**1,547**	**1,545**	**1,552**	**1,532**	**1,530**	**1,532**	**1,531**
Staff costs per FTE (in €, per year)							
Single-region firms	41,958	42,743	44,033	45,015	45,791	47,420	49,117
Brussels	51,133	50,864	52,509	53,420	53,647	55,984	59,015
Flanders	41,670	42,770	43,951	45,022	45,906	47,627	49,198
Wallonia	37,809	38,675	40,188	41,158	42,102	43,247	44,737
Multi-region firms	50,757	51,790	53,560	54,432	56,029	57,144	59,496
Total	**44,435**	**45,299**	**46,489**	**47,498**	**48,513**	**49,945**	**51,838**
Staff costs per hour worked (in €)							
Single-region firms	27.0	27.5	28.1	29.1	29.6	30.6	31.8
Brussels	31.9	32.1	32.9	33.8	34.0	35.1	37.2
Flanders	26.8	27.5	27.9	29.0	29.6	30.7	31.8
Wallonia	24.6	25.3	26.2	27.0	27.7	28.4	29.3
Multi-region firms	33.3	33.9	35.4	36.7	37.8	38.5	39.9
Total	**28.7**	**29.3**	**29.9**	**31.0**	**31.7**	**32.6**	**33.9**

Source: NBB (social balance sheets).

Annex 13

FORMAL TRAINING IN FIRMS, BY REGION[1]

(total population)

	2002	2003	2004	2005	2006	2007	2008
Participants in training activities (as percentage of average employment)							
Single-region firms	27,0	26,5	27,1	27,4	27,1	27,2	26,0
Brussels	29,4	27,2	28,3	27,0	26,7	27,0	26,0
Flanders	29,1	29,0	29,2	29,5	28,8	29,4	27,2
Wallonia	19,8	19,7	21,0	22,1	22,8	22,1	23,1
Multi-region firms	55,6	56,8	61,7	61,0	61,8	61,9	52,5
Total	**34,9**	**35,0**	**35,9**	**36,2**	**36,2**	**36,1**	**32,9**
Hours devoted to training activities (as percentage of hours worked)							
Single-region firms	0,53	0,56	0,53	0,54	0,54	0,54	0,50
Brussels	0,59	0,59	0,49	0,54	0,56	0,51	0,54
Flanders	0,57	0,62	0,59	0,58	0,58	0,58	0,53
Wallonia	0,38	0,38	0,39	0,45	0,44	0,42	0,43
Multi-region firms	1,46	1,31	1,32	1,30	1,43	1,60	1,36
Total	**0,78**	**0,77**	**0,73**	**0,74**	**0,77**	**0,80**	**0,72**
Net training costs[2] (as percentage of staff costs)							
Single-region firms	0,76	0,76	0,73	0,73	0,71	0,70	0,71
Brussels	0,83	0,72	0,63	0,70	0,69	0,68	0,70
Flanders	0,82	0,85	0,82	0,77	0,75	0,75	0,73
Wallonia	0,52	0,48	0,56	0,61	0,62	0,60	0,66
Multi-region firms	2,31	2,09	2,07	2,07	2,28	2,42	2,15
Total	**1,26**	**1,19**	**1,13**	**1,13**	**1,19**	**1,21**	**1,14**
Training firms (as percentage of total firms)							
Single-region firms	6,6	6,5	6,4	6,2	6,4	6,5	13,1
Brussels	7,1	6,7	6,9	6,8	7,1	7,1	13,0
Flanders	7,3	7,2	7,1	6,9	7,0	7,1	13,0
Wallonia	4,7	4,5	4,5	4,4	4,7	4,9	13,6
Multi-region firms	47,6	43,4	44,1	45,1	43,7	41,9	51,3
Total	**7,2**	**7,1**	**6,9**	**6,8**	**7,0**	**7,0**	**13,7**

Source: NBB (social balance sheets).

(1) The introduction of a new social balance sheet form applicable to financial years closed from 1 December 2008 onwards causes a break in the series between data for the year 2008 and those relating to previous years.

(2) Gross costs, from which are deducted subsidies and other financial advantages received. Net costs of formal training also comprise contributions paid and payments made to collective funds.

Summaries of articles

Economic projections for Belgium – Autumn 2010

The global economic recovery which had begun in mid 2009 has continued, though its strength has varied from one region to another. The emerging economies have been the driving force, propelling the revival of international trade. The upturn is more gradual in the advanced economies, as is generally the case after an economic recession accompanied by a financial crisis. Moreover, there has been some loss of momentum in the past few months owing to the difficult transition to a self-sustaining recovery, as the fiscal stimuli initially introduced in the midst of the crisis are giving way to a general move towards the consolidation of public finances. In the euro area, significant divergences have become apparent between the performance of the economies which have been able to take advantage of the strengthening foreign demand and that of countries facing major structural adjustments. In that context, the projections indicate that the recovery will be maintained, but will be weaker for a time than at the beginning of 2010.

In Belgium, too, the hesitant revival in activity which had begun in the second half of 2009 was consolidated and has since been maintained. So far it has been slightly stronger than previously expected. Overall, following a contraction of 2.7 p.c. in 2009, growth is forecast at 2.1 p.c. in 2010 and 1.8 p.c. in 2011, slightly outpacing growth in the euro area.

In view of the slump in GDP during the recession, the resilience of the labour market was a welcome surprise. The decline in employment was both limited and short-lived: altogether, job losses totalled 38,400 units between the end of 2008 and the end of 2009. These losses were already more or less offset by jobs created during the first two quarters of 2010. According to the projections, job creations are likely to exceed 56,000 units during 2010, with a further 15,000 units in 2011. The resilience of employment is due to the use of flexible arrangements during the period of the economic slowdown and to a decline in the hourly productivity. In that context, the unemployment rate increased from 7 p.c. in 2008 to 7.9 p.c. in 2009 and 8.5 p.c. in 2010. It is projected at 8.6 p.c. in 2011.

The recovery was initiated in 2009 by the end of the movement towards stock reduction and by the export revival triggered by the marked strengthening of international trade. Domestic demand excluding the change in stocks is also likely to gain momentum, boosted initially by private consumption. Households are in fact expected to reduce their savings ratio to its pre-crisis level, as uncertainties regarding the labour market prospects and the value of financial assets have receded. In 2011, housing and business investments will also start contributing to the growth of domestic demand.

Inflation measured by the HICP is forecast to dip slightly during the coming year, so that – as an annual average – it will increase from the rate of 0 p.c. recorded in 2009 to 2.3 p.c. this year before subsiding to 2.1 p.c. in 2011.

According to the latest data, Belgium's public finances will end the year 2010 with a deficit of 4.8 p.c. of GDP, which is a 1.2 percentage point improvement on 2009. In the absence of a budget for the federal government and social security for 2011, assuming no policy change, and given the continuing consolidation of economic conditions, the deficit is forecast at 4.7 p.c. The government debt ratio is projected to continue rising in 2010 and 2011, but at a much more modest pace than in the two previous years. In 2010, the debt ratio is estimated at 97.6 p.c. of GDP. In 2011 it will rise further, to 99.8 p.c. of GDP.

JEL Codes: E17, E25, E37, E66

Key words: Belgium, macroeconomic projection, Eurosystem

The inflation gap between Belgium and the three main neighbouring countries and likely repercussions on competitiveness

In a monetary union, divergences of inflation rates between the participating countries have direct repercussions on their price and cost competitiveness. Bearing this in mind, the article examines the implications of inflation differentials within the euro area and shows that participation in the monetary union can only succeed if the Member States pay sufficient attention to changes in their competitive position. The article then goes on to discuss the institutional framework for monitoring competitiveness in Belgium and raises the question of whether it is still advisable, as is currently the case, to focus primarily on the three main neighbouring countries rather than on the euro area as a whole. Since the answer to this question is in the affirmative, the last part analyses the inflation gap with these same countries.

Although broadly in line with the inflation rate in the euro area, inflation in Belgium has recorded a cumulative positive differential vis-à-vis the three main neighbouring countries of around 5 percentage points since 1996. It is largely attributable to faster growth of unit labour costs, while the contribution of energy price developments has on the whole been neutral over this period. However, in 2008 and again in 2010, energy products evidently contributed positively to the inflation differential, as did foodstuffs.

In this context, particular vigilance is called for on two fronts. On the one hand, attention needs to be paid to the extent of the first-round effects that commodity price changes can have on inflation (especially food products, natural gas and electricity). The Price Observatory, the Commission for Electricity and Gas Regulation (CREG) and the Competition Council have an important role to play here. On the other hand, it is important for the social partners to internalise all possible effects of wage indexation and strive to reach agreement on nominal pay rises that will preserve Belgium's competitive position in accordance with the 1996 Law on the promotion of employment and the preventive safeguarding of competitiveness. In the longer term, a reduction in the energy intensity of Belgium's consumption profile would also help to keep price and cost developments under control.

JEL Codes: E24, E31, E64

Key words: inflation, indexation, second-round effects, competitiveness

Implications of liberalisation for methods of setting retail gas prices in Belgium

The liberalisation of the gas and electricity markets entailed the establishment of new pricing mechanisms, including those concerning consumers in the residential sector. The purpose of the article is to analyse how Belgian gas suppliers have adopted those mechanisms. After a brief description of the wholesale and retail gas markets in Belgium, the second section focuses on

examining retail prices for residential consumers. The analysis is based on the tariff data of the five main suppliers active in that segment. It shows that the method of setting the retail gas prices used in variable price contracts is based on very similar principles, using specific indexation formulas freely determined by each operator. The formulas generate selling price indexation based on parameters which pass on changes in purchase costs to the final consumer according to a price risk transfer principle. That indexation is convenient for all operators and does not entail any additional consumer information costs. The disclosure of the automatic indexation mechanisms has the advantage of being relatively simple and transparent in regard to fundamental movements in parameters and their influence on prices. However, for the average consumer, the calculation of indexed prices appears complex and the information supplied seems incomplete. Discretionary adjustments to the said indexations are not very clear even though they are reflected in an increase in the portion of the price which is not linked to changes in the energy parameters.

The situation of gas suppliers active on the retail market in Belgium is then assessed in comparison with that in neighbouring European countries, which apply officially regulated prices, price approval procedures, price caps and prices free of any regulation. However, those prices are still at least subject to "close" supervision owing to the authorities' concern that the retail prices charged should reflect the true cost of a product which is subject to a public service obligation, which is an item of essential household expenditure, and for which the price must be determined by the market.

Since consumer prices of gas are more volatile in Belgium than in other countries, with the ensuing second-round effects on inflation, measures capable of reducing that volatility could be attractive. However, the effects of any such measures require careful appraisal. Two measures might be envisaged, in line with developments seen in other countries: the introduction of "supervised" freedom to set tariffs, with effective checks on the justification for tariff adjustments, and information on tariff formulas which is easier for consumers to understand.

JEL Codes: E31, E64, L95.

Key words: consumer price index, Belgium, gas price, retail gas market

The Belgian deposit guarantee scheme in a European perspective

During the recent financial crisis, the deposit guarantee scheme in Belgium – as in other European countries – played a role in preventing bank runs and restoring confidence: to that end, the intervention ceilings were raised substantially and the scope of the scheme was extended to include certain life insurance policies. Finally, the expansion of the system's coverage had to be financed by a sharp increase in the contributions from financial institutions. First of all, that measure had a positive impact on the budget; secondly, increased contributions may also boost the credibility of the deposit guarantee system.

A recent European initiative proposes further ambitious reforms. Besides a better consumer protection, the European deposit guarantee schemes would be largely harmonised, thus also promoting European financial integration. Risk-weighted financing of the schemes should counteract moral hazard, benefiting financial stability. However, this proposal has yet to be approved by the European Parliament and the Council. Its impact ought to be assessed in the light of the broader package of measures aimed at making the financial system more resilient, such as the new prudential supervision structure, the Basel III proposal for stricter capital and liquidity requirements, and the possible new levies on the financial sector.

JEL codes: G01, G21, G28

Key words: deposit assurance, financial institutions, financial crisis, moral hazard

Results and financial structure of firms in 2009

The article looks at the financial situation of non-financial corporations in Belgium over the period from 1 January to 31 December 2009. After briefly describing the methodology and the population studied, it presents an extrapolation of the main operating result items for 2009. It assesses then 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 : apart from the medians, the first and third quartiles, as well as the tenth and ninetieth percentiles, have been studied too. Finally, the article gives some insight into the relation between financial ratios' distribution and bankruptcy risk. This insight shows for instance that the relation between solvency and bankruptcy risk is markedly negative : the higher the solvency, the lower the bankruptcy risk, and vice versa. The same kind of relation can be derived for other variables, such as profitability or debt ratios.

JEL Codes : D39, G30, G33, L60, L80

Key words : firms' results, financial structure, bankruptcy risk, sectoral analysis, distribution analysis

The 2009 social balance sheet

The impact of the economic recession on employment is reflected in the information gleaned from social balance sheets filed for the year 2009. Staff numbers were down by 1.2 p.c. compared with 31 December 2008, which is more than double the average annual decline. As evidence of the use that firms have made of the various flexibility instruments available to help reduce the volume of labour, part-time employment increased in 2009, at the expense of full-time jobs, mainly because of the shift from full-time work schedules towards shorter working hours. Job losses took a proportionally higher toll on men than on women, and manual workers have been affected more than employees or management staff. Large enterprises had to face more staff cuts than SMEs. Among the different branches of activity, job losses were the heaviest in industry, followed by the financial services and insurance sector. Some job creation was still observed in certain branches, including health and social work.

Workers affected by temporary lay-offs for economic reasons and by the crisis measures remain on their employer's staff register, which has tended to limit the drop in the number of workers in employment, while the volume of hours worked, which is directly influenced by these measures, felt considerably in 2009. Combined with this decline, the increase with 3.8 p.c. of the average hourly labour costs led to an increase in staff costs of barely half a percentage point.

Despite a rise in the number of training firms, budgets for both formal and informal training were revised downwards in 2009. In all, firms devoted 1.63 p.c. of staff costs to training their workers, compared with 1.72 p.c. a year earlier, a contraction that reflects the pro-cyclical nature of this expenditure. By contrast, participation rates among workers were higher, except where informal training was concerned.

JEL Codes : J20, J24, J30, M51, M53

Key words : employment, staff costs, training, working hours, employment contract, full-time, part-time, skills, temporary worker

Abstracts of the working papers series

194. Trade with China and skill upgrading: Evidence from Belgian firm level data, by G. Mion, H. Vandenbussche, L. Zhu, September 2010

The autors use Belgian firm-level data over the period 1996-2007 to analyze the impact of imports from China and other low-wage countries on firm growth, exit, and skill upgrading in manufacturing. For this purpose they use both industry-level and firm-level imports by country of origin and distinguish between firm-level outsourcing of final versus intermediate goods. Results indicate that, both industry-level import competition and firm-level outsourcing to China reduce firm employment growth and induce skill upgrading. In contrast, industry-level imports have no effect on Belgian firm survival, while firm-level outsourcing of finished goods to China even increased firm's probability of survival. In terms of skill upgrading, the effect of Chinese imports is large. Industry import competition from China accounts for 42 p.c. (20 p.c.) of the within firm increase in the share of skilled workers (non-production workers) in Belgian manufacturing over the period of the analysis, but these effects, as well as the employment reducing effect, remain mainly in low-tech industries. Firm-level outsourcing to China further accounts for a small but significant increase in the share of non-production workers. This change in employment structure is in line with predictions of offshoring models and Schott's (2008) "moving up the quality ladder" story. All these results are robust to instrumental variables estimation.

195. Trade crisis? What trade crisis?, by K. Behrens, G. Corcos, G. Mion, September 2010

The authors provide an analysis of the 2008-2009 trade collapse using microdata from a small open economy, Belgium. First, they find that changes in firm-country-product exports and imports occurred mostly at the intensive margin: the number of firms, the average number of destination and origin markets per firm, and the average number of products per market changed only very little. Second, econometric analysis reveals some composition effects in the fall of the intensive margin along firm, product and country characteristics. The most important factor explaining changes in exports is the destination country's growth rate of GDP. Had growth rates in 2008-2009 been the same as in 2007-2008, Belgian exports would have fallen by about 57 p.c. less than what is observed. Trade in consumer durables and capital goods fell more severely than trade in other product categories, which explains another 22 p.c. of the observed fall. Financial variables and involvement in global value chains have some explanatory power on the exports and imports fall respectively, but appear to have affected domestic operations in equal proportion. More generally, exports-to-turnover and imports-to-intermediates ratios at the firm level did neither systematically decrease nor reveal strong firm- or sector-specific patterns. Overall, the results point

to a demand-side explanation : the fall in trade was mostly driven by the fall in economic activity. It is not a trade crisis – just a trade collapse.

196. Trade and the global recession, by J. Eaton, S. Kortum, B. Neiman, J. Romalis, October 2010

The ratio of global trade to GDP declined by nearly 30 p.c. during the global recession of 2008-2009. This large drop in international trade has generated significant attention and concern. Did the decline simply reflect the severity of the recession for traded goods industries ? Or alternatively, did international trade shrink due to factors unique to cross border transactions ? The paper merges an input-output framework with a gravity trade model and solves numerically several general equilibrium counterfactual scenarios which quantify the relative importance for the decline in trade of the changing composition of global GDP and changes in trade frictions. The results suggest that the relative decline in demand for manufactures was the most important driver of the decline in manufacturing trade. Changes in demand for durable manufactures alone accounted for 65 p.c. of the cross-country variation in changes in manufacturing trade/GDP. The decline in total manufacturing demand (durables and non-durables) accounted for more than 80 p.c. of the global decline in trade/GDP. Trade frictions increased and played an important role in reducing trade in some countries, notably China and Japan, but decreased or remained relatively that in others. Globally, the impacts of these changes in trade frictions largely cancel each other out.

197. Internationalization strategy and performance of small and medium sized enterprises, by J. Onkelinx, L. Sleuwaegen, October 2010

Focusing on the timing and geographical scope of import and export activities of Belgian small and medium sized enterprises (SMEs), the paper analyzes the importance, structural features and performance implications of firms that recently started to export following the geographical configuration of their international trade operations and their year of establishment. The analysis allows the authors to separate firms that started to export in the period 1998-2005 into four distinct groups : born international, i.e. firms which were established less than five years before their first year of exporting and exporting to less than five countries in the same region (regional focus) ; born global, i.e. young firms but with a more internationally diversified export portfolio ; born again global, i.e. firms similar to born globals but established longer than five years before their first exports, and traditional internationalizers, i.e. firms established more than five years before their first export operations and characterized by a narrow geographical scope of their exports.

The authors find SME export growth to be driven by a small group of born global firms, accounting for 60 p.c. of the total increase in SME exports between 1998 and 2005. Analyzing the structural feature of the different types of firms, they find born globals to be more productive and characterized by a higher R&D spending and intangible asset intensity compared to other types of traders.

The authors next test if the typology matters for the observed export performance differences across firms over time. They find that born globals grow faster in terms of export sales, have a stronger commitment to export markets and are more likely to continue exporting. Born globals also have the highest failure rate, traditional internationalizers the lowest. These findings suggest strong risk/return trade-offs among the strategies chosen by the different types of firms.

Performing a dynamic analysis of changes in trade configurations of firms over the observation period, the paper investigates how these changes have an impact on performance. Specific attention is paid to firms that stop importing/exporting. Especially firms that move from being exporters to become two-way traders, i.e. also starting to import goods from other countries, show the most marked increases in turnover and productivity.

The final part of the study analyzes the relationship between export and import activities to particular countries following thesequence in which they occur. The authors find that the probability to start importing from a country is 4 times higher for firms already exporting to that country than for trading SMEs without prior export experience in that country.

198. The internationalization process of firms : From exports to FDI ?, by P. Conconi, A. Sapir, M. Zanardi, October 2010

The authors describe a simple model in which domestic firms decide whether to serve a foreign market through exports or horizontal foreign direct investment (FDI). This choice involves a trade-off between the higher variable trade costs associated with exports and the higher fixed set-up costs associated with establishing foreign subsidiaries. Crucially, firms are uncertain about their profitability in foreign markets and can only learn it by operating there. To obtain market-specific knowledge, firms may follow an "internationalization process", serving the foreign market via exports first and eventually, in some cases, switching to local subsidiary sales. To assess the validity of the predictions of the model, the authors use firm-level data on export and FDI decisions in individual destination markets for all companies registered in Belgium over the period 1997-2008. They show that firms' strategies to serve foreign markets depend not only on the variable and fixed costs associated with exports and FDI, but also on the export experience they have acquired in that market.

199. Intermediaries in international trade : Direct versus indirect modes of export, by A. B. Bernard, M. Grazzi, C. Tomasi, October 2010

The paper contributes to the relatively new literature on the role of intermediaries in international trade. Using Italian firm-level data, the authors document significant differences between exporters of different types and highlight the role of country-specific fixed cost in the choice of direct versus indirect modes of export. Recent theoretical work suggests that intermediaries are typically providing solutions to country-specific fixed costs. The empirical results largely confirm this relationship. Measures of country fixed costs are positively associated with intermediary exports both in the aggregate and within firms. In contrast, proxies for variable trade costs are largely not correlated with differences between direct and indirect exports.

200. Trade in services : IT and task content, by A. Ariu, G. Mion, October 2010

The paper investigates the determinants of the dramatic increase in services tradability focusing on the extensive margin of the phenomenon. The authors use balance sheet and firm-level service trade information over the period 1995-2005 provided by the National Bank of Belgium and they merge it with information on the evolution of information technology use and tasks performed by workers from the qualification and career survey provided by the BIBB-IAB. They show that technological change, measured either by the more intensive use of information technologies or by changes in the task content of jobs, has substantially contributed to the increase in the number of service-trading firms. Interestingly, they find evidence of a churning effect. While technological change has induced net entry into service trading, it has also increased the likelihood of both gross entry and exit of firms. Furthermore, the evidence suggests that due to the peculiar nature of services provision, the change in the tasks content of jobs is a better measure of technological change than the use of information technologies. The results are robust to controlling for service trade liberalization and offshoring.

201. The productivity and export spillovers of the internationalisation behaviour of Belgian firms, by M. Dumont, B. Merlevede, C. Piette, G. Rayp, October 2010

The paper analyses to what extent the decision to start exporting may be subject to spillovers of the internationalisation behaviour of other (foreign and domestic) firms. The authors distinguish between two possible channels: effects on productivity and effects on the perceived level of sunk costs of exporting. For both channels, they consider geographical and activity or industry-based linkages between firms. For a sample Belgian firms they find evidence of significant spillovers on productivity as well as productivity-independent spillovers on the decision to start exporting. Spillovers seem more substantial in the geographical dimension than in terms of competitor, client or supplier links, except for the impact of multinationals on the productivity of domestic firms.

202. Market size, competition, and the product mix of exporters, by T. Mayer, M. J. Melitz, G. I. P. Ottaviano, October 2010

Recent empirical evidence has highlighted how the export patterns of multi-product firms dominate world trade flows, and how these multi-product firms respond to different economic conditions across export markets by varying the number of products they export. The authors further analyze the effects of those export market conditions on the relative export sales of those goods: they refer to this as the firm's product mix choice. They build a theoretical model of multi-product firms that highlights how market size and geography (the market sizes of trading partners and the bilateral economic distances between them) affect both a firm's exported product range and its exported product mix across market destinations. They show how tougher competition in an export market – associated with a downward shift in the distribution of markups across all products sold in the market – induces a firm to skew its export sales towards its best performing products. They find very strong confirmation of this competitive effect for French exporters across export market destinations. The theoretical model shows how this effect of export market competition on a firm's product mix then translates into differences in measured firm productivity. Thus, a firm operating a given technology will produce relatively more output per worker when it exports to markets with tougher competition. This productivity gain is further compounded by the effect of competition on the mix of exported products.

203. Multi-product exporters, carry-along trade and the margins of trade, by A. B. Bernard, I. Van Beveren, H. Vandenbussche, October 2010

New empirical and theoretical work has highlighted the importance of multi-product firms in international trade flows. The paper examines multi-product exporters in the small open economy of Belgium, considering their importance and the relationship between the margins of trade and firm productivity, both across firms and within firms over time. In addition, the authors employ proxies for trade costs to quantify the extensive and intensive margin adjustments of trade. Linking production and export data at the firm-product level, they discover new and, heretofore, unknown facts about multi-product manufacturing exporters. The large majority of Belgian manufacturing firms export products that they do not produce. More than three quarters of the exported products and more than one quarter of export value from Belgian manufacturers are in goods that are not produced by the firm, so-called Carry-Along Trade (CAT). CAT exports are concentrated in the largest and most productive firms and the value of CAT exports responds differently to variation in firm productivity and trade costs than does the export value of goods that the firm produces.

204. Can Belgian firms cope with the Chinese dragon and the Asian tigers? The export performance of multi-product firms on foreign markets, by F. Abraham, J. Van Hove, October 2010

Exporting firms are affected in many ways by competition on foreign markets. The paper focuses on the impact of Asian competition on the bilateral export performance of Belgian firms, controlling for firm level as well as destination-market characteristics. Export performance is measured in several ways, including the export intensity, the variety and quality of trade as well as the export intensity growth. Export performance appears to differ substantially across firms, across sectors and across destination markets. The overall results indicate that both the export intensity and variety of Belgian firms' exports are reduced by Asian competition. Especially the competitive pressure caused by mainland China and Hong Kong is strong. The competitive pressure is intense in labour-intensive sectors but also felt in a wide range of activities with a higher value added. Belgian exporters cope with foreign competition by following a variety-expansion or a quality-upgrading strategy.

205. Immigration, offshoring and American jobs, by G. I. P. Ottaviano, G. Peri, G. C. Wright, October 2010

How many "American jobs" have US-born workers lost due to immigration and offshoring? Or, alternatively, is it possible that immigration and offshoring, by promoting cost-savings and enhanced efficiency in firms, have spurred the creation of jobs for US natives? The authors consider a multi-sector version of the Grossman and Rossi-Hansberg (2008) model with a continuum of tasks in each sector and they augment it to include immigrants with heterogeneous productivity in tasks. They use this model to jointly analyze the impact of a reduction in the costs of offshoring and of the costs of immigrating to the US. The model predicts that while cheaper offshoring reduces the share of natives among less skilled workers, cheaper immigration does not, but rather reduces the share of offshored jobs instead. Moreover, since both phenomena have a positive "cost-savings" effect they may leave unaffected, or even increase, total native employment of less skilled workers. The model also predicts that offshoring will push natives toward jobs that are more intensive in communication-interactive skills and away from those that are manual and routine intensive. The authors test the predictions of the model on data for 58 US manufacturing industries over the period 2000-2007 and find evidence in favor of a positive productivity effect such that immigration has a positive net effect on native employment while offshoring has no effect on it. They also find some evidence that offshoring has pushed natives toward more communication-intensive tasks while it has pushed immigrants away from them.

206. The effects of internationalisation on domestic labour demand by skills: Firm-level evidence for Belgium, by L. Cuyvers, E. Dhyne, R. Soeng, October 2010

The authors empirically investigate the effects of the internationalisation of Belgian firms on domestic demand for production and non-production workers, which are used as proxies for unskilled and skilled labour. Distinction is made between home-employment effects of firms' internationalisation, through either international trade or outward foreign direct investment, in high-income countries and in low-income economies. The results of the econometric analysis, using data over 1997-2007, suggest that increasing import shares from low-income countries or investing in those countries significantly reduces demand for low-skilled labour, while it increases demand for skilled labour. An increase in exports generally raises the demand for production workers, while it reduces the demand for non-production workers. However, these effects are reversed in the case of exports to low-income countries. Considering the impact of foreign direct investment, the results tentatively suggest that the setting up of a new international investment project has a positive impact on demand for non-production workers one period before it is made. This positive effect is offset in the long run, particularly in the case of investment in low-income countries.

207. Labour demand adjustment: Does foreign ownership matter?, by E. Dhyne, C. Fuss, C. Mathieu, October 2010

The paper examines whether multinational companies differ in their employment adjustment from domestic firms, on the basis of a panel of Belgian firms for the period 1997-2007. The authors focus on incumbent firms as, in general, they account for the largest fraction of net employment creation, especially among multinational firms (MNFs). They obtain structural estimates of adjustment cost parameters for blue-collar workers and white-collar workers, domestic firms, and MNFs. They find evidence of convex, asymmetric (in the sense that it is more expensive to downsize than to upsize) and cross adjustment costs (indicating costly substitution between workers). To adjust white-collar employment seems to be around half as costly for MNFs as for domestic firms. There is no difference between Belgian MNFs and foreign MNFs. A small fraction of the gap between the adjustment costs of MNFs and domestic firms may be explained by the use of fixed-term contracts and early retirement. Controlling for firm size does not yield robust conclusions; the cost advantage of MNFs may diminish, vanish or turn into a disadvantage.

208. The Taylor principle and (in-)determinacy in a New Keynesian model with hiring frictions and skill loss, by A. Rannenberg, November 2010

The author introduces skill decay during unemployment into Blanchard and Gali's (2008) New-Keynesian model with hiring frictions and real-wage rigidity. Plausible values of quarterly skill decay and real-wage rigidity turn the long-run marginal cost-unemployment relationship positive in a "European" labour market with little hiring but not in a fluid "American" one. If the marginal cost-unemployment relationship is positive, determinacy requires a passive response to inflation in the central bank's interest feedback rule if the rule features only inflation. Targeting steady state output or unemployment helps to restore determinacy. Under indeterminacy, an adverse sunspot shock increases unemployment extremely persistently.

Conventional signs

–	the datum does not exist or is meaningless
e	estimate by the Bank
e.g.	for example
n.	not available
p.m.	pro memoria

List of abbreviations

Countries or regions

BE	Belgium
DE	Germany
IE	Ireland
EL	Greece
ES	Spain
FR	France
IT	Italy
CY	Cyprus
LU	Luxemburg
MT	Malta
NL	Netherlands
AT	Austria
PT	Portugal
SI	Slovenia
SK	Slovakia
FI	Finland
BG	Bulgaria
CZ	Czech Republic
DK	Denmark
EE	Estonia
LV	Latvia
LT	Lituania
HU	Hungaria
PL	Poland
RO	Romania
SE	Sweden
UK	United Kingdom
EU15	European Union excluding the countries wich joined after 2003
US	United States
BR	Brussels-Capital Region
VL	Flemish Region
WL	Walloon Region

Others

ABEX	Association of Belgian Experts
Bcm	Billion cubic meter
BIS	Bank for International Settlements
BRUGEL	Energy regulatory commission in the Brussels-Capital Region
BWB	Bundeswettbewerbsbehörde
CBFA	Banking, Finance and Insurance Commission
CCEG	Electricity and Gas Control Committee
CEC	Central Economic Council
CNC	Commission des normes comptables (Commission for accountancy standards)
CPB	Centraal Planbureau – The Netherlands
CPI	Consumer Price Index
CRE	Commission de régulation de l'énergie (France)
CREG	Commission for Electricity and Gas Regulation (energy regulator for Belgium)
CWaPE	Walloon Energy Commission (energy regulator for the Walloon Region)
DERA	Danish Energy Regulatory Authority
DGSEI	Directorate General for Statistics and Economic Information Belgium (FPS Economy, SMEs, Self employed and Energy)
DNO	Distribution network operator
EBA	European Banking Authority
EC	European Commission
ECB	European Central Bank
ECS	Electrabel Customer Solution
EDF	Électricité de France
EDP	Excessive Deficit Procedure
EEA	European Economic Area
EIA/DOE	Energy Information Administration : Department of Energy (US)
EIOPA	European Insurance and Occupational Pensions Authority
ERGEG	European Regulator' Group for Electricity and Gas
ESAs	European Supervisory Authorities
ESMA	European Securities Markets Authority
ESRB	European Systemic Risk Board
EMU	Economic and Monetary Union
EU	European Union
Febelfin	Federation of Belgian financial institutions
Federgon	Federation of firms supplying agency workers
FPS	Federal Public Service
FSF	Financial Stability Forum
FSP	Federal Science Policy
FTE	Full-time equivalents
G7	Group of Seven
G20	Group of Twenty
GDF	Gaz de France
GDP	Gross domestic product
GJ	Gigajoule
GWh	Gigawatt-hour

HCF	High Council of Finance
HICP	Harmonised Index of Consumer Prices
HWWI	Hamburgisches Welt-Wirtschafts-Institut
IADI	International Association of Deposit Insurers
ICEDD	Institut de conseil et d'études en développement durable
IEA	International Energy Agency
IGA	Gas purchase index
IGD	Gas distribution index
IMF	International Monetary Fund
ISF	Impôt de solidarité sur la fortune
IT	Information technology
kWh	Kilowatt-hour
LNG	Liquid natural gas
MSCI	Morgan Stanley Capital International
MoU	Memorandum of Understanding
MWh	Megawatt-hour
NAI	National Accounts Institute
Nace-Bel	Nomenclature of economic activities in the European Community, Belgian version
NBB	National Bank of Belgium
NEO	National Employment Office
NMa	Nederlandse Mededingingsautoriteit (competition authority in the Netherlands)
NPI	Non-profit institution
NSSO	National Social Security Office
OECD	Organisation for Economic Co-operation and Development
OFGEM	Office of the Gas and Electricity Markets
OLO	Linear bond
OPC	Organisme de placement collectif (collective investment fund)
OTC	Over the Counter
SICAF	Société d'investissement à capital fixe (investment fund with fixed capital)
SICAV	Société d'investissement à capital variable (investment fund with variable capital)
SLP	Synthetic Load Profile
SMEs	Small and medium-sized enterprises
SPE	Société coopérative de production d'électricité (cooperative company for the production of electricity)
SPRL	Private limited liability companies
TTF	Title Transfer Facility
TNO	Transmission network operator
TWh	Terawatt hour
UCI	Undertaking for collective investment
VAT	Value Added Tax
VREG	Vlaamse Regulerinsinstantie voor de Elektriciteits- en de Gasmarkt (Flemish regulatory authority for the gas and electricity market)

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