

Economic Review

June 2008



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Contents

ECONOMIC PROJECTIONS FOR BELGIUM – SPRING 2008	7
INFLATION AND INDEXATION IN BELGIUM: CAUSES AND POSSIBLE EFFECTS OF THE CURRENT ACCELERATION IN INFLATION	29
GROSS JOB FLOWS AND FIRMS' INTERNATIONAL ACTIVITIES	39
FOREIGN FINANCIAL TRANSACTIONS OF BELGIAN NON-FINANCIAL SECTORS	55
THE USE AND EFFECTIVENESS OF FISCAL RULES AND INDEPENDENT FISCAL INSTITUTIONS	69
SUMMARIES OF ARTICLES	85
ABSTRACTS OF THE WORKING PAPERS SERIES	89
CONVENTIONAL SIGNS	93
LIST OF ABBREVIATIONS	95

Economic projections for Belgium – Spring 2008

Introduction

Like the euro area, Belgium has recorded robust growth in the past two years, of nearly 3 p.c. However, the environment began to turn gloomy in the second half of 2007 so that, in its December 2007 projections⁽¹⁾, the Bank predicted a GDP growth of 1.9 p.c. in 2008. Since then, the deterioration in the external factors has been more acute than initially expected, mainly as a result of the worsening financial tensions and the abrupt downturn in the property cycle in a number of countries. The US economy, in particular, faces a severe cyclical slowdown, which is curbing the buoyancy of international trade. Moreover, commodities, and especially oil, have risen further in price. In the euro area, while the euro's appreciation against the US dollar has partly cushioned those increases, it is detrimental to the opportunities for exports.

This unfavourable context looks unlikely to improve in the near future. It is therefore having an adverse effect on Belgium's economic prospects for 2008 and 2009. However, in view of the scale of the shocks, the slowdown seems relatively modest, as the economy's sound fundamentals are providing a partial buffer. The recent data for Belgium indicate that the slackening of activity was initially modest at the end of last year and in early 2008. Conversely, inflation accelerated sharply, owing to the direct impact of energy and food prices.

This article presents the Bank's macroeconomic projections for 2008 and 2009. Produced as part of a biannual exercise by the Eurosystem central banks – the results for the euro area being obtained by aggregating the results for the various national economies⁽²⁾ – these projections are prepared on the basis of a set of common assumptions concerning the international environment and movements in interest rates, exchange rates and commodity prices. They also depend on assumptions specific to the Belgian economy as regards variables which are to a large extent influenced by the discretionary action of the economic agents. That applies, for example, to the wage agreements resulting from negotiations between the social partners, and to government decisions on the budget.

In regard to hourly labour costs in the private sector, the information currently available concerning the outlook in Germany, France and the Netherlands and the assessment of developments in Belgium is still highly fragmentary and uncertain. According to the technical assumption applied in this exercise, an increase of around 3.2 p.c. was projected for 2009.

The figures for public finances, in the case of both revenue and expenditure, take account only of measures already introduced and recent actual figures. Over the longer term, they result mainly from the endogenous effect of the macroeconomic environment on revenue, and an expenditure pattern based on past developments. New government measures to be adopted in the months ahead were not taken into account in this exercise. In some circumstances, they could in turn affect the projections for the economy as a whole.

(1) NBB (2007), *Economic projections for Belgium – Autumn 2007*, Economic Review, December.

(2) The projections for the euro area are published in the June edition of the ECB's Monthly Bulletin.

The first section deals with the international environment. It summarises the Eurosystem projections for the euro area and presents the principal common assumptions. The next three sections go into more detail on the recent situation and the projections for the national economy, dealing respectively with activity, employment and the main expenditure components (section 2) – which, in accordance with Eurosystem practice, are presented without taking account of specific seasonal effects and the impact of irregularities in the calendar –, prices and labour costs (section 3), and the public finance figures (section 4). Finally, the main risks relating to the projections are discussed in the last section, which also contains a summary of the results obtained by other institutions.

1. International environment

1.1 The global economy

In 2008, after four years of sustained growth, the global economy entered a marked deceleration phase, as a result of the persistent financial tensions, substantial corrections on certain property markets, and the widespread increase in commodity prices. These factors are largely interdependent, and it is likely that their effects will dissipate only gradually during the second part of the year and in 2009. Thus, according to the European Commission forecasts, the expansion of global GDP outside the euro area is set to fall from 5.1 p.c. in 2007 to 4.2 p.c. in 2008 and 4 p.c. in 2009.

The financial tensions, which initially concerned subprime mortgages in the United States, rapidly spread to other markets and affected banking institutions on both sides of the Atlantic. The uncertainty over the location of the risks and the extent of the counterparties' exposure affected the functioning of the money markets, leading to large interest rate differentials between collateralised and non-collateralised loans, despite the liquidity injections by the central banks. Although there was a slight fall in the yields on government bonds, preferred by investors seeking secure forms of investment, financing conditions also became tighter for non-financial corporations and households. In that context, the stock market indices began falling in the summer of 2007, particularly those which include the shares of financial institutions. In turn, the lower valuation of the banks is hampering the consolidation of the balance sheet structure in cases where banks are obliged to make provisions owing to the depreciation of assets or to transfer to their loan portfolios business previously handled by specialist vehicles.

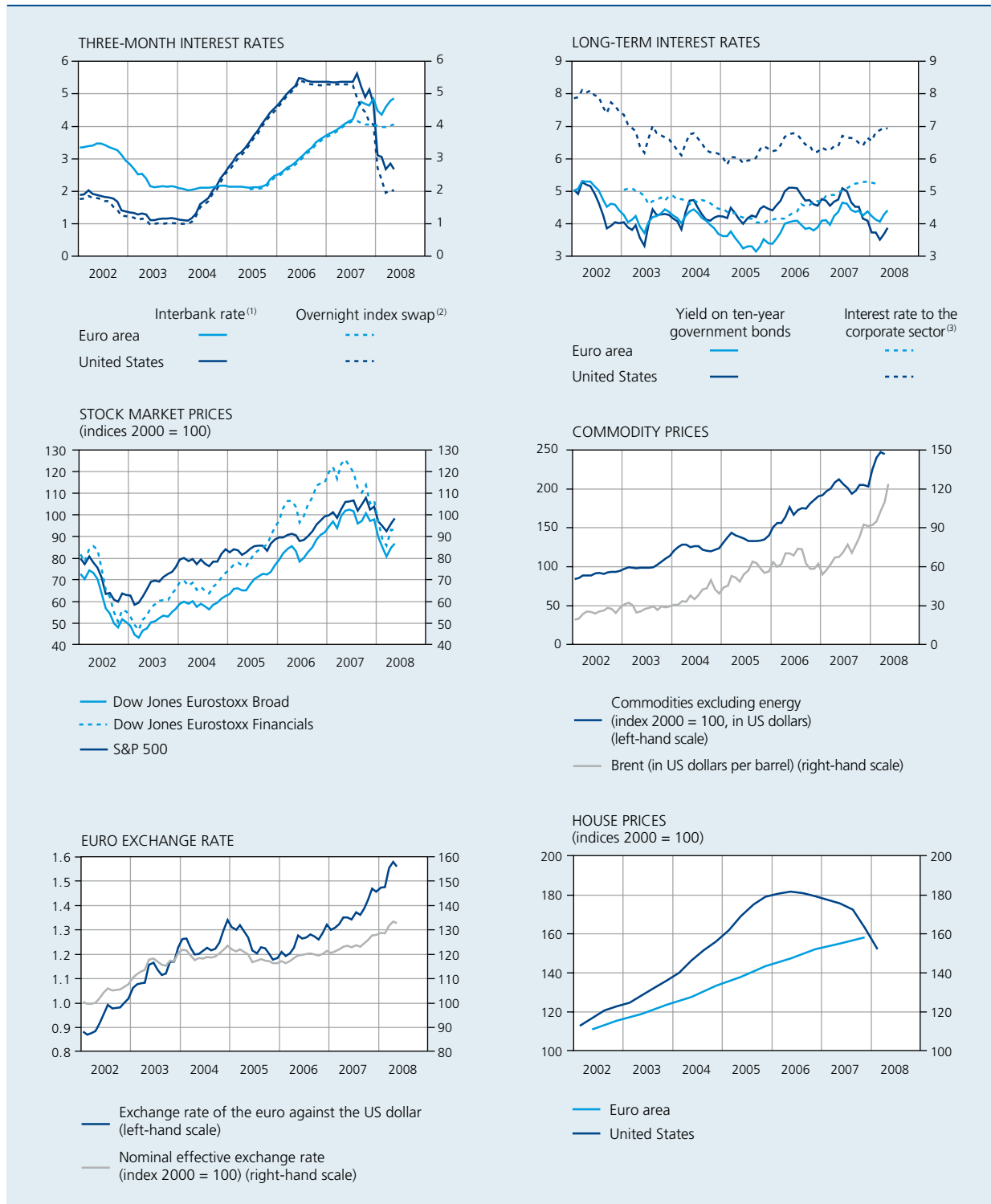
The financial tensions erupted following the downturn in the property cycle. Initially confined to a fall in house building activity in the United States, during recent months it has spread to the economy as a whole. In other countries, too, such as the United Kingdom or – in the euro area – Spain and Ireland, the property price boom has ended, causing a deceleration or even a decline in investment in housing and, depending on the extent of the wealth effects, depressing private consumption.

Perpetuating a trend which had begun in 2003, commodity prices continued to escalate at the beginning of 2008. Expressed in US dollars, oil prices increased by 63 p.c. during the twelve-month period ending in April 2008 and agricultural commodity prices rose by 59 p.c. Fundamentally, they are underpinned by robust demand, particularly from the emerging countries, while the scope for expanding supply is limited. In addition, the high prices quoted on the international markets are probably due partly to the fact that commodities are an alternative for some investors, in the face of the falling dollar and the financial turbulence. However, in view of the importance of structural factors, prices of these products are likely to persist at a high level, as indicated by forward prices.

These three factors triggered a widespread deterioration in the economic outlook, though its severity varies between economies according to their direct sensitivity to financial and property price developments and, indirectly, their economic proximity to the most exposed economies. The cyclical downturn is particularly marked in the United States, where recent information indicates that it will be longer and more acute than previously expected. The impact of the decline in investment in housing and the financial market setbacks is spreading to the labour market, driving up unemployment. Together with higher inflation and the wealth effects associated with the fall in the prices of financial assets and property, this is depressing private consumption. Despite the support of monetary policy and tax cuts introduced for 2008, the EC predicts that GDP growth in the United States will reach only 0.9 p.c. in 2008 and 0.7 p.c. in 2009, compared to 2.2 p.c. in 2007, and around 3 p.c. or more in previous years.

Although it will be less pronounced, a slowdown is also likely in the other main economies, partly for the same reasons – as in the United Kingdom, where GDP growth is forecast to drop from 3 p.c. in 2007 to 1.7 p.c. in 2008 and 1.6 p.c. in 2009 –, and partly owing to the weaker growth of international trade. Thus, although they have hardly been affected so far by the financial turbulence, the emerging Asian economies will not be totally unscathed. However, with growth forecast at between

CHART 1 DEVELOPMENTS ON THE FINANCIAL, PROPERTY AND COMMODITY MARKETS
(monthly averages)



Sources: Bloomberg, ECB, Federal Reserve, Standard & Poor's.

(1) Interest rate on non-collateralised interbank deposits (Euribor for the euro area, Libor for the US).

(2) Fixed rate paid by the party receiving the variable rate (Eonia for the euro area, actual federal funds rate for the US), in a three-month interest rate swap.

(3) For the euro area: interest rate on bank loans to non-financial corporations (MIR survey); for the United States: yield on corporate bonds with a BAA rating (Moody's).

TABLE 1 PROJECTIONS FOR THE MAIN ECONOMIC REGIONS EXCLUDING THE EURO AREA

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

	2007	2008	2009
	Actual	Projections	
GDP in volume			
World, excluding the euro area	5.1	4.2	4.0
of which:			
United States	2.2	0.9	0.7
Japan	2.0	1.2	1.1
United Kingdom	3.0	1.7	1.6
China	11.9	10.0	9.1
India	8.4	8.0	8.0
Russia	8.1	7.3	7.0
Brazil	5.4	4.6	4.3
<i>p.m. World trade, excluding the euro area</i>	7.3	6.6	6.3
Inflation⁽¹⁾			
United States	2.8	3.6	1.6
Japan	0.1	0.7	0.6
United Kingdom	2.3	2.8	2.2
Unemployment rate⁽²⁾			
United States	4.6	5.4	6.2
Japan	3.9	4.0	4.2
United Kingdom	5.2	5.4	5.7

Source: EC (Spring forecasts, April 2008).

(1) Consumer price index.

(2) Percentages of the labour force.

9 and 10 p.c. in China, around 8 p.c. in India and 7 p.c. in Russia, sustained by domestic demand, these economies are likely to continue to make a dominant contribution to the expansion of global activity. Moreover, Russia – like the other producer countries – is benefiting from the rise in commodity prices.

Apart from the concerted action designed to ensure the liquidity of the money markets, variations in the expected scale of the slowdown in activity have prompted different monetary policy responses. In the United States, the Federal Reserve began cutting the federal funds target rate in September 2007, reducing it from 5.25 to 2 p.c. by 30 April 2008. Since the autumn of 2007, the Bank of England has cut its base rate on three occasions by 25 basis points, reducing it to 5 p.c. on 10 April 2008. For its part, the ECB Governing Council has kept the key rate of the Eurosystem on hold at 4 p.c. since June 2007, in view of the accelerating inflation and the associated risks.

1.2 Eurosystem projections for the euro area

Bolstered by the dynamism of foreign demand, the vigour of investment and the improvement in the labour market, the euro area's GDP grew by 2.7 p.c. in real terms in 2007, outpacing the potential growth of the economy as it had in the previous year. Measured by the HICP, inflation averaged 2.1 p.c. over the year as a whole. However, owing to the combined effects of higher energy prices and higher food prices, a very sharp acceleration occurred from September 2007, driving inflation up to 3.6 p.c. in March 2008.

A cyclical downturn began in mid 2007, though activity still proved resilient, including in the first quarter of 2008. However, a more marked deceleration in growth is expected in the middle of the year, attributable to all expenditure categories. Abroad, the growth of exports is likely to be affected by the weaker expansion of international trade and the adverse effect on competitiveness

TABLE 2 EUROSYSTEM PROJECTIONS
(percentage changes compared to the previous year)

	Euro area			<i>p.m. Belgium</i>		
	2007	2008	2009	2007	2008	2009
Inflation (HICP)	2.1	3.2 – 3.6	1.8 – 3.0	1.8	4.1	2.3
GDP in volume	2.7	1.5 – 2.1	1.0 – 2.0	2.8	1.6	1.5
of which:						
Private consumption	1.6	1.1 – 1.5	0.9 – 2.1	2.4	1.1	1.3
Public consumption	2.1	1.3 – 2.3	1.2 – 2.2	2.1	2.5	1.8
Investment	4.7	1.3 – 3.5	-0.4 – 2.8	5.7	4.0	1.8
Exports	5.7	3.5 – 6.3	2.4 – 5.6	3.8	3.5	3.8
Imports	5.2	2.9 – 6.3	2.2 – 5.6	4.6	4.5	3.8

Sources: ECB, NBB.

of the euro's appreciation, since the euro gained around 17 p.c. against the US dollar and the British pound between April 2007 and April 2008. On the domestic front, the deteriorating outlook for demand and the rise in external financing costs are projected to curb the rate of corporate investment and amplify the existing slowdown in investment in housing, particularly in Spain and Ireland. Finally, the sharp increase in inflation will depress household purchasing power and hence private consumption. A gradual strengthening of demand and activity is expected during 2009, as the effects of the various current inhibiting factors fade away.

Inflation is projected to remain elevated during much of 2008, on the assumption that international market prices of oil and agricultural products will persist at a high

level. The current unusually large contribution made by the energy and food components to the year-on-year change in the price index is therefore likely to diminish at the beginning of 2009. The rise in unit labour costs looks set to outstrip the figure for previous years, owing to a faster increase in compensation per employee and the cyclical downturn in productivity. However, that effect will be partly offset by a reduction in corporate profit margins.

In all, according to the Eurosystem projections, GDP growth in the euro area is forecast at between 1.5 and 2.1 p.c. in 2008, and between 1 and 2 p.c. in 2009, after reaching 2.7 p.c. in 2007. Inflation is set to rise from 2.1 p.c. in 2007 to between 3.2 and 3.6 p.c. in 2008, before receding to between 1.8 and 3 p.c. in 2009.

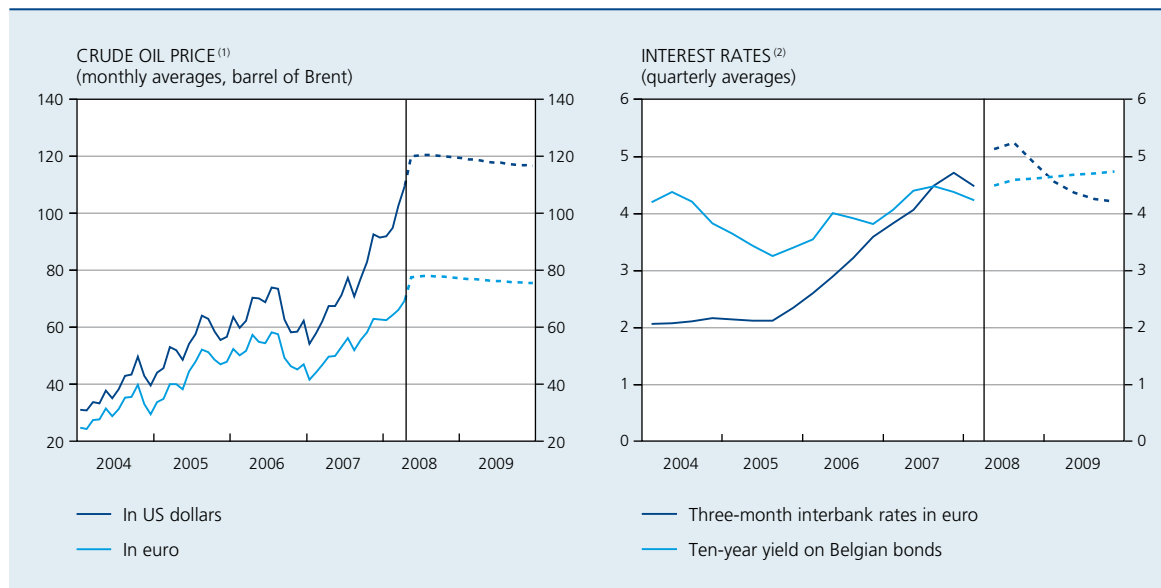
Box 1 – Eurosystem assumptions

The Eurosystem's economic projections for the euro area and the Bank's corresponding projections for Belgium are based on the following technical assumptions:

- the interest rates are based on market expectations. As an annual average, three-month interbank deposit rates in euro are forecast to rise from 4.3 p.c. in 2007 to 4.9 p.c. in 2008, and then to drop back to 4.3 p.c. in 2009. This picture is affected by the spreads which developed from August 2007 in relation to the ECB's key interest rate. Rates on government bonds are projected to increase steadily, reaching an average of 4.3 p.c. in 2007, 4.5 p.c. in 2008 and 4.7 p.c. in 2009. Compared to the risk-free bond rates, the assumed cost of financing corporate and household investment includes a supplement of around 40 and 70 basis points respectively, reflecting the widening of the spreads recorded in that respect since August 2007;



ASSUMPTIONS CONCERNING THE MOVEMENT IN OIL PRICES AND INTEREST RATES



Source: ECB.

(1) Actual figures up to April 2008, assumption from May 2008.

(2) Actual figures up to the first quarter of 2008, assumption from the second quarter of 2008.

- the bilateral euro exchange rates are kept constant at their value as at mid May 2008, namely 1.54 US dollar to the euro. That represents a 12 p.c. appreciation compared to 2007;
- in accordance with the movement in implicit prices reflected in forward contracts, international market prices for a barrel of Brent are expected to average 113.3 dollars in 2008 and 117.7 dollars in 2009, against 72.7 dollars in 2007;

ASSUMPTIONS UNDERLYING THE EUROSISTEM PROJECTIONS

	2007	2008	2009
	(annual averages)		
Three-month interbank rates in euro	4.3	4.9	4.3
Ten-year bond yields in Belgium	4.3	4.5	4.7
Euro exchange rate against the US dollar	1.37	1.54	1.54
Oil price (US dollar per barrel)	72.7	113.3	117.7
	(percentage changes)		
Export markets relevant to Belgium	5.0	4.3	4.7
Export competitors' prices	0.4	-0.2	1.5
of which: euro area competitors	1.3	1.6	1.4

Source: ECB.



- the growth of Belgium's export markets in real terms, measured as the weighted total of the volume of imports of the trading partners, including those in the euro area, is likely to decline from 5 p.c. in 2007 to 4.3 p.c. in 2008, before recovering to 4.7 p.c. in 2009;
- the export prices of euro area competitors are forecast to increase by 1.6 p.c. in 2008 and 1.4 p.c. in 2009;
- as is usual according to the Eurosystem conventions, the figures for public finances take account of the macroeconomic environment and budget measures which have already been announced and are sufficiently specific.

2. Activity, employment and demand in Belgium

2.1 Activity and employment

As in the euro area, economic activity in Belgium remained vigorous in 2007, expanding by 2.8 p.c. The slackening of GDP growth recorded in the second half of the year following the deterioration in the external environment proved less marked than expected, with growth continuing to hover between 0.5 and 0.7 p.c. quarter-on-quarter. Although there was a slight dip in the first quarter of 2008, the expansion of activity remained relatively robust against the backdrop of the progressive weakening of the international environment, the euro's appreciation and the rising prices of commodities and food.

Economic activity largely mirrored the pattern of business confidence which, though declining from its peak level of June 2007, remained above its long-term trend. As indicated by the continuing downward trend in business confidence, the growth slowdown is likely to be more apparent from the second quarter of 2008, owing to the further deterioration in the external environment, to which economic activity might respond with a certain time lag. Consequently, the GDP growth expected for 2008 has been adjusted downwards by 0.3 percentage point compared to the autumn estimate, bringing it to 1.6 p.c.

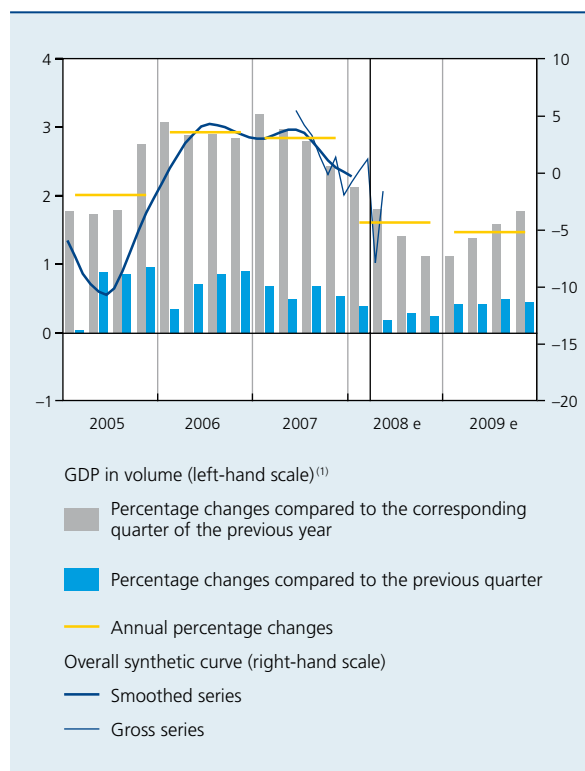
As the deceleration factors ebb away during 2008, before practically disappearing in 2009, economic growth should gradually pick up, regaining a rate close to its potential by the end of that second year. However, that recovery is masked in the annual growth for 2009, projected at 1.5 p.c., due to an adverse carry-over effect.

Propelled by the strengthening of activity, but also by the success of the service voucher system, the rate of job creation accelerated further in 2007, reaching 0.5 p.c. in the last quarter and 1.7 p.c. as an annual average. In all, 73,000 extra jobs were created in 2007, of which 11,600

were attributable to the service vouchers; that is the strongest expansion since 2000, which had admittedly been an exceptional year.

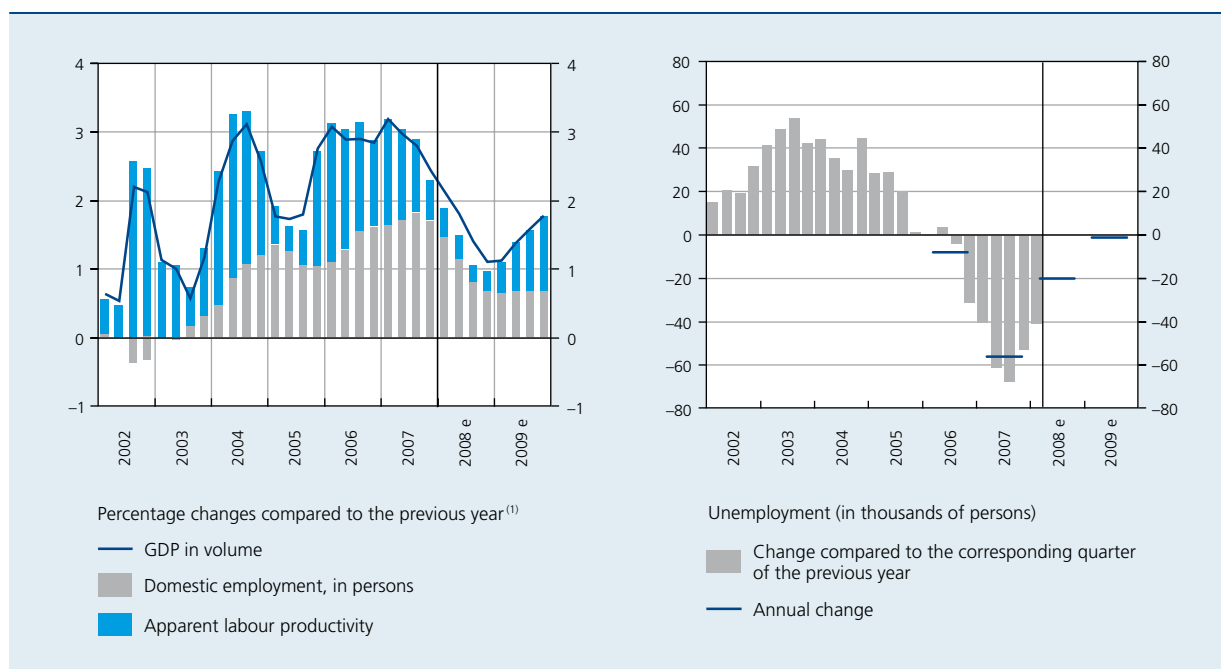
In line with the movement in activity, with due allowance for the fact that employment usually takes time to respond, job creation is projected at 1.3 p.c. in 2008 and 0.7 p.c. in 2009. This represents a cumulative net increase of 85,000 jobs or, taking account of frontier workers, an increase in the number of persons employed totalling 88,000 units altogether over the two years.

CHART 2 ACTIVITY AND BUSINESS SURVEY INDICATOR
(seasonally adjusted data)



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

CHART 3 EMPLOYMENT AND UNEMPLOYMENT



Sources: NAI, NEMO, NBB.

(1) Data adjusted for seasonal and calendar effects.

TABLE 3 LABOUR SUPPLY AND DEMAND

(calendar adjusted data, annual averages; year-on-year changes in thousands of persons, unless otherwise stated)

	2005	2006	2007	2008 e	2009 e
Population of working age	43.7	62.6	65.8	54.2	43.8
Labour force	71.5	47.1	18.7	37.2	28.6
<i>p.m. Harmonised activity rate⁽¹⁾</i>	66.7	66.5	67.1	67.1	67.1
National employment	51.7	55.3	74.3	57.4	31.0
<i>p.m. Harmonised employment rate⁽¹⁾</i>	61.1	61.0	62.0	62.3	62.3
Frontier workers	0.6	2.6	1.7	1.5	1.4
Domestic employment	51.1	52.7	72.6	55.8	29.6
Self-employed	7.8	7.8	14.0	15.6	12.0
Employees	43.3	44.9	58.7	40.2	17.6
Public sector	9.9	3.2	4.9	1.6	1.9
Private sector	33.4	41.7	53.7	38.7	15.7
Unemployed job-seekers	19.8	-8.2	-55.7	-20.1	-2.4
<i>p.m. Harmonised unemployment rate⁽²⁾</i>	8.4	8.2	7.5	6.9	6.8

Sources: EC, NAI, NEMO, NBB.

(1) Percentages of the population of working age (15-64 years).

(2) Percentages of the labour force. This series corresponds to the results of the labour force survey, adjusted monthly in accordance with the Eurostat methodology, using national administrative data.

Even though it will be weaker, job creation is still expected to outstrip the expansion of the labour supply, forecast at around 66,000 units during the period 2008-2009, taking into account an activity ratio that remains more or less stable. Despite the economic slowdown, unemployment should therefore continue to fall during the projection period – by 22,000 units according to the estimates – even if the decline is considerably smaller in 2009. The harmonised unemployment rate, expressed as a percentage of the labour force, should thus fall from 7.5 p.c. in 2007 to 6.8 p.c. in 2009, while the employment rate, calculated as the ratio between the number of persons in work and the population of working age, will rise from 62 to 62.3 p.c.

Owing to the slower growth of activity, the rise in productivity per worker is expected to record a sharp cyclical reduction, dropping to barely 0.3 p.c. in 2008. Despite the recovery of productivity growth to 0.8 p.c. in 2009, the figure is likely to remain below its long-term average. The cyclical character of productivity is due to the fact that, in periods of cyclical slowdown, employers generally choose to maintain the level of their workforce.

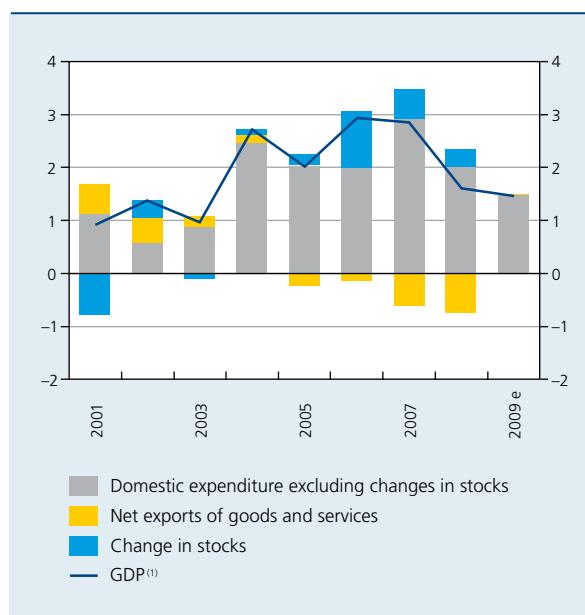
2.2 Main expenditure categories

While domestic expenditure as a whole had supported the dynamism of the past two years, a general deceleration is expected in 2008 and 2009. Thus, the contribution of domestic expenditure excluding changes in stocks is projected to fall from 2.9 percentage points in 2007 to 2 and 1.5 points respectively in the next two years. Similarly, the change in stocks is likely to contribute only 0.4 percentage point to growth in 2008, before becoming neutral in 2009. Net exports of goods and services are expected to depress growth again in 2008, to an extent comparable to that seen in 2007, namely -0.7 percentage point; nevertheless, their impact should be neutral in 2009.

Following a gradual recovery in 2006 and 2007, exports of goods and services would decelerate during 2008, in line with the deterioration in the international environment, before picking up subsequently. However, that revival will probably be hampered by the delayed effects of the euro's recent appreciation on the price competitiveness of European producers. Overall, the volume growth of exports is projected at 3.5 p.c. in 2008 and 3.8 p.c. in 2009. The volume growth of imports is expected to be just as sustained in 2008 as it was in 2007, near 4.5 p.c., owing to a base effect connected with the vigour of domestic demand in 2007. In the wake of the deceleration of that factor, imports are expected to expand by only 3.8 p.c. in 2009.

CHART 4 MAIN EXPENDITURE CATEGORIES

(calendar adjusted volume data;
contribution to the change in GDP in percentage points,
unless otherwise stated)

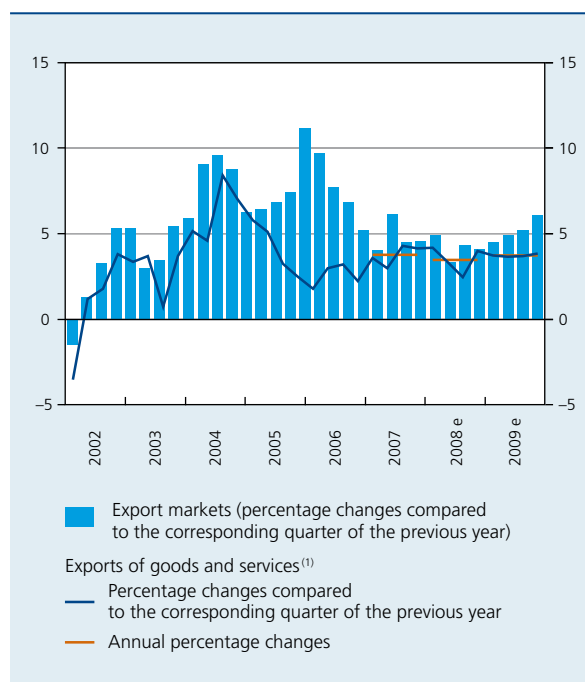


Sources: NAI, NBB.

(1) Annual percentage changes.

CHART 5 EXPORT MARKETS AND EXPORTS OF GOODS AND SERVICES

(seasonally adjusted volume data)



Sources: ECB, NAI, NBB.

(1) Calendar adjusted data.

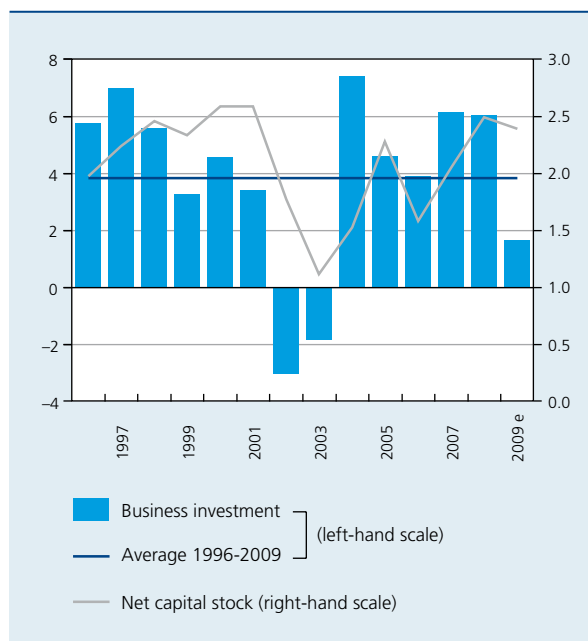
Investment by both businesses and households is likely to contribute to the marked decline in gross fixed capital formation during the period covered by the projections.

Business investment is forecast to fall owing to the combined effects of the slackening pace of economic activity and the deteriorating demand outlook. The further tightening of external financing conditions due to the rise in long-term interest rates will also depress investment somewhat, although lending criteria do not appear likely to curb demand for bank loans, as explained in box 2. Moreover, despite the weaker expansion of final demand, businesses still have ample internal resources. Measured by the gross operating surplus, those resources are projected to increase from 23.7 p.c. of GDP to 24.1 and 24.2 p.c. of GDP in 2008 and 2009.

Overall, these factors should have the effect of reining in business investment by the beginning of 2008. Driven by the sustained dynamism at the end of 2007 and the high capacity utilisation rate, investment growth is expected to reach 6 p.c. in 2008 before dropping to 1.6 p.c. in 2009. However, owing to the vigorous expansion of investment in recent years, the net capital stock is likely to continue growing at a relatively high rate.

Unlike business investment, investment in housing had already begun to slow in 2007, with a rise of 5.3 p.c., after recording an exceptionally high average growth rate of 9.2 p.c. per annum between 2004 and 2006. In line with the reduction in the number of building permits issued and mortgage loans granted, its growth is projected to fall to 1.5 and 0.2 p.c. respectively in 2008 and 2009. While investment in housing continued to be bolstered by the real disposable income of households in 2007, that is likely to change over the horizon of the

CHART 6 BUSINESS INVESTMENT AND NET CAPITAL STOCK
(calendar adjusted volume data, percentage changes compared to the previous year)



Sources : NAI, NBB.

forecasts owing to the slower rise in those incomes. Moreover, by the end of the projection period, long-term interest rates are expected to reach their highest level since mid 2002, when the expansion of the housing market began. The decline in investment in housing is also related to the less steep price increases on the secondary market, and is in line with the international downturn in the residential property market cycle, which is also sapping business confidence in the construction sector.

Box 2 – Credit conditions in Belgium

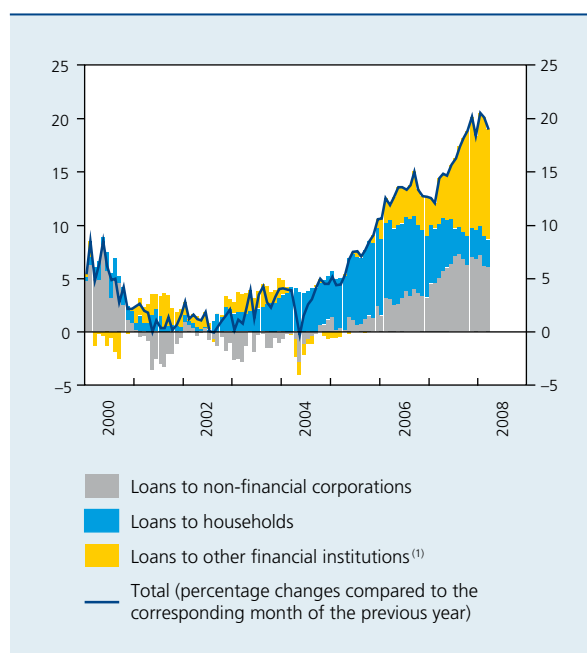
The difficulties facing certain financial institutions on either side of the Atlantic have kindled fears that non-financial corporations and households may be confronted by credit restrictions or even a credit crunch. This potential channel for the transmission of the financial tensions to the real economy would considerably worsen the severity and duration of the cyclical slowdown. In that context, this box draws the main lessons from the analysis of the various sources of information for Belgium, both in regard to lending (on the basis of the periodic accounting statements by credit institutions (scheme A) and the central corporate and individual credit registers), and concerning the situation of the main Belgian credit institutions and the lending rates and conditions applied by the banks (MIR surveys of interest rates applied to customers, and the Bank Lending Survey of lending criteria and similar surveys of businesses).



First, it must be said that, in line with the picture for the euro area as a whole, the growth of lending by Belgian banks to the resident private sector remained robust in the first quarter of 2008, at around 20 p.c. compared to the same period of the previous year, particularly lending to businesses and other financial intermediaries. However, there is no indication that the dynamism was due to any frontloading by businesses – whereby they borrowed in advance, while credit facilities were still available, in anticipation of future investment projects –, or excessive drawing on existing credit lines, or a substitution effect due to possible problems in raising finance on the capital markets.

LENDING BY BELGIAN CREDIT INSTITUTIONS TO THE RESIDENT PRIVATE SECTOR

(contribution to the change in total bank lending, percentage points, unless otherwise stated)



Source : NBB.

(1) Includes non-monetary financial institutions, financial auxiliaries, insurance companies and pension funds.

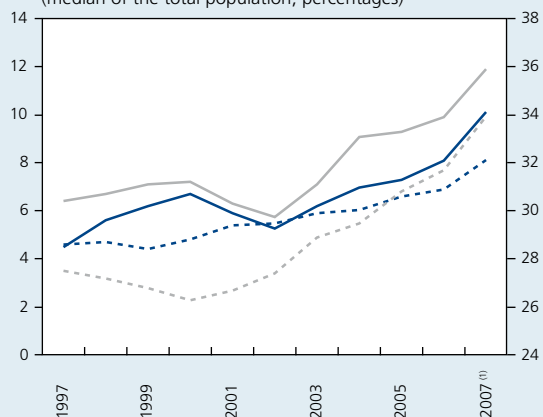
If Belgian banks have continued to grant large volumes of loans to the private sector, that is mainly because they have stood up relatively well so far to the financial turmoil. It is true that they have encountered the tightening of liquidity on the markets in non-collateralised interbank loans, and on other financial market segments, but their dependence on those sources of finance is attenuated by the scale of their customers' deposits and by the fact that they hold a large portfolio of public debt securities which can be used as collateral. Despite some deterioration in their profit ratios during the second half of 2007 – provisional data indicate that this trend persisted in the first quarter of 2008 – the overall financial position of the Belgian banks has remained relatively favourable, viewed in a historical context.

The overall financial situation of borrowers also remained sound in 2007. Despite an increase in their debt level, non-financial corporations continued to record high levels of profitability, liquidity and solvency. As for households, although their debts increased as a result of the marked rise in property prices since the beginning of the decade, their financial position also remains favourable, as indicated in particular by the low rates of default on their outstanding loans.



FINANCIAL SITUATION OF BORROWERS AND BANK LENDING CONDITIONS IN BELGIUM

INDICATORS OF PROFITABILITY AND SOLVENCY OF NON-FINANCIAL CORPORATIONS (median of the total population, percentages)



Return on equity (left-hand scale)

— Small enterprises⁽²⁾

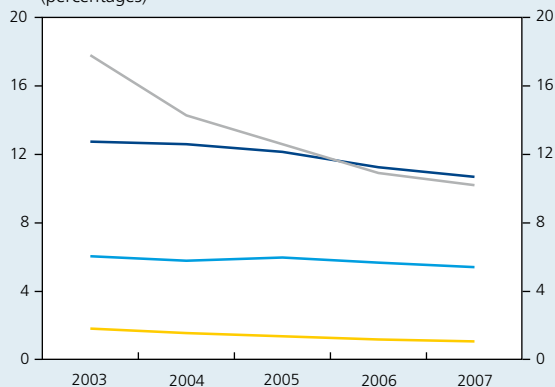
— Medium-sized and large enterprises⁽²⁾

Equity as a ratio of total liabilities (right-hand scale)

- - - Small enterprises⁽²⁾

- - - Medium-sized and large enterprises⁽²⁾

HOUSEHOLD SOLVENCY INDICATORS (percentages)



Number of unpaid defaulting loans as a ratio of total current loans

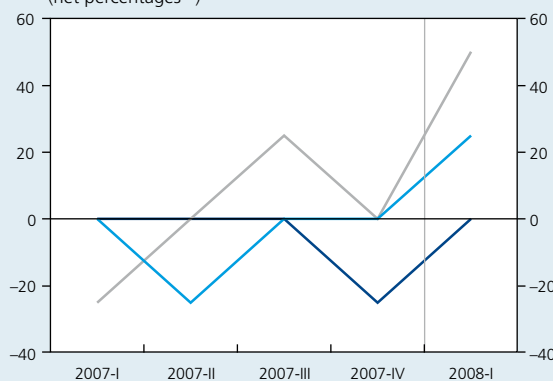
— Instalment loans

— Hire purchase

— Credit lines

— Mortgage loans

OVERALL CREDIT CONDITIONS FOR GRANTING LOANS TO NON-FINANCIAL CORPORATIONS AND HOUSEHOLDS (net percentages⁽³⁾)

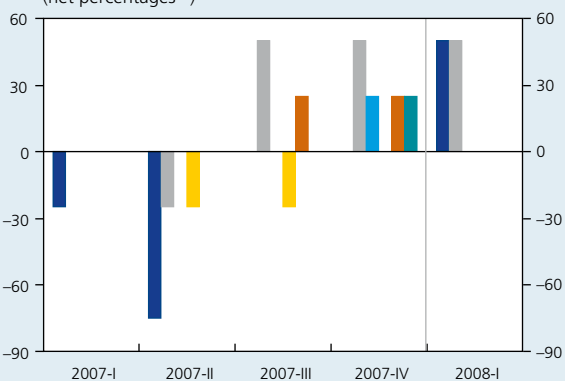


— Loans to SMEs

— Loans to large enterprises

— Mortgage loans to households

MAIN CRITERIA FOR LENDING TO NON-FINANCIAL CORPORATIONS (net percentages⁽³⁾)



■ Margins on loans as a whole

■ Margins on the riskiest loans

■ Size of the loan

■ Collateral requirements

■ Loan covenants

■ Maturity

Source : NBB.

(1) The values for the indicators in 2007 were obtained by taking the percentage changes between 2006 and 2007 of the values calculated for a constant sample of firms and applying them to the total population.

(2) Firms submitting their annual accounts in the abbreviated format are regarded as small enterprises; those submitting full-format accounts are regarded as medium-sized or large enterprises.

(3) Net percentage of credit institutions responding to the bank lending survey, indicating the degree of tightening or easing (-) of the overall conditions and the main lending criteria.

Consequently, the risk that Belgian banks may adopt a particularly restrictive credit policy in relation to the private sector in the coming months, owing to capital constraints or a sharp deterioration in the balance sheet of borrowers, can be regarded as low.

If credit were nevertheless to become significantly tighter, that could have a more pronounced effect on large enterprises. That can be deduced from successive bank surveys concerning credit conditions, carried out since the crisis erupted, and from the Bank's investment survey conducted in November 2007 on a sample of borrower firms. However, unlike households and smaller firms, large enterprises have alternative sources of funding to meet their financing needs.

The same surveys reveal that the banks have resorted almost exclusively to widening their margins, particularly those on the riskiest loans, in order to tighten their conditions. In the current context, the banks made little mention of the tightening of other lending criteria, such as the collateral requirements or the size of the loan. Taking account of the data available up to March 2008, it seems that the increase in the margins has been fairly small since the financial tensions emerged in August 2007, while their level remained low up to mid 2007.

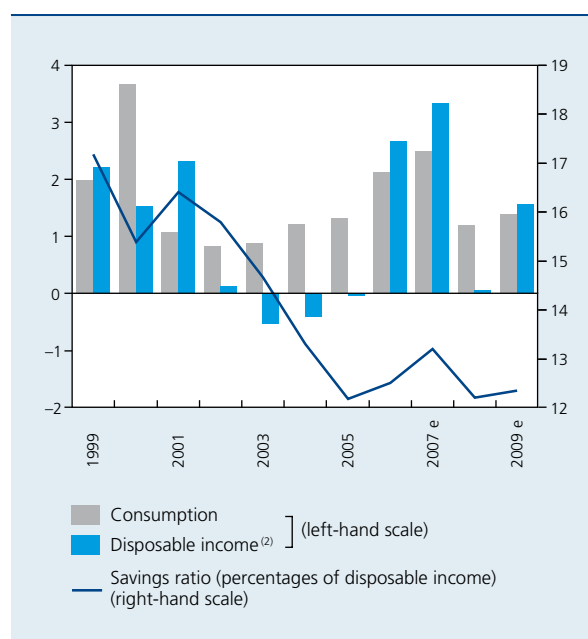
As stated in the box on the Eurosystem assumptions, these various items of information were taken into account in preparing the projections, by setting the costs of corporate investment credit at 40 basis points higher than the rate on government bonds, and those of household investment at 70 basis points higher.

In 2008, the movement in private consumption expenditure incorporates the automatic downward effect – estimated at 0.3 percentage point – of the transfer from the private to the public sector, at the beginning of that year, of the coverage of minor health risks of self-employed persons. In terms of the national accounts, that transfer means a shift from private to public consumption expenditure. However, the expected slowdown in private consumption reflects mainly the marked deceleration in private purchasing power. Thus, following a rise of 6 p.c. over the two preceding years as a whole, and a particularly sharp increase in 2007, real disposable income is set to rise by a total of only 1.7 p.c. over the period covered by the projections. After two years of growth in the region of 2.3 p.c., private consumption would therefore record a marked deceleration in 2008, expanding by barely 1.1 p.c. It is forecast to strengthen slightly in 2009, growing by 1.3 p.c.

Primary household incomes are expected to feel the effects of the gradual deceleration of wages and salaries. That will be due mainly to the weakening of job creation, particularly in 2009. In fact, the nominal annual rise in compensation per person in the economy as a whole is forecast at well above 3 p.c. over the projection horizon. Taken as a whole, net transfers by households to other sectors are likely to increase less rapidly than in 2007.

CHART 7 CONSUMPTION, DISPOSABLE INCOME AND SAVINGS RATIO OF INDIVIDUALS

(percentage changes by volume compared to the previous year⁽¹⁾, unless otherwise stated)



Sources : NAI, NBB.

(1) Data not adjusted for calendar effects.

(2) Data deflated by the deflator of private final consumption expenditure.

TABLE 4 GROSS DISPOSABLE INCOME OF INDIVIDUALS, AT CURRENT PRICES
(percentage changes compared to the previous year, unless otherwise stated)

	2005	2006	2007 e	2008 e	2009 e
Gross primary income	2.8	3.9	5.7	4.5	3.7
of which:					
Wages and salaries	3.2	4.5	5.3	4.7	3.8
Compensation per person	1.9	3.2	3.6	3.6	3.3
Employment	1.2	1.3	1.6	1.1	0.5
Incomes other than wages and salaries	1.8	2.5	6.6	3.9	3.5
Current transfers ⁽¹⁾	3.0	-1.4	8.2	4.9	2.6
of which:					
Current taxes on income and assets	4.1	-0.3	4.0	5.1	2.5
Gross disposable income	2.7	5.2	5.1	4.4	3.9
<i>p.m. In real terms</i> ⁽²⁾	0.0	2.7	3.3	0.1	1.6
Consumption expenditure	4.1	4.6	4.3	5.6	3.8
Savings ratio ⁽³⁾	12.2	12.5	13.2	12.2	12.4

Sources: NAI, NBB.

(1) These are net amounts, i.e. the difference between transfers received from other sectors and those paid to other sectors, excluding transfers in kind.

(2) Figures deflated by the deflator of private final consumption expenditure.

(3) Gross savings as a percentage of gross disposable income, these two aggregates including the net claims of households on pension funds.

TABLE 5 GDP AND MAIN EXPENDITURE CATEGORIES
(calendar adjusted volume data; percentage changes compared to the previous year, unless otherwise stated)

	2005	2006	2007	2008 e	2009 e
Consumption expenditure of individuals	1.4	2.2	2.4	1.1	1.3
Consumption expenditure of general government	-0.2	0.0	2.1	2.5	1.8
Gross fixed capital formation	6.7	4.2	5.7	4.0	1.8
Housing	10.1	7.4	5.3	1.5	0.2
General government	13.0	-3.2	3.5	-3.8	9.2
Enterprises	4.6	3.9	6.1	6.0	1.6
Change in stocks ⁽¹⁾	0.2	1.1	0.6	0.4	0.0
<i>p.m. Total domestic expenditure</i>	2.3	3.2	3.6	2.4	1.5
Net exports of goods and services ⁽¹⁾	-0.2	-0.1	-0.6	-0.7	0.0
Exports of goods and services	4.1	2.6	3.8	3.5	3.8
Imports of goods and services	4.7	2.8	4.6	4.5	3.8
GDP	2.0	2.9	2.8	1.6	1.5

Sources: NAI, NBB.

(1) Contribution to the change in GDP.

Though there is some deceleration in nominal terms, the main factor curbing purchasing power in 2008 will be higher inflation, measured by the deflator of private consumption expenditure. However, households are expected to absorb the impact on their consumption expenditure of the slower rise in their purchasing power by cutting their savings ratio to a level close to that preceding the 2007 upsurge. It is thus projected at 12.2 p.c. of disposable income in 2008 and 12.4 p.c. in 2009, compared to 13.2 p.c. in 2007.

After remaining steady in 2005 and 2006, the consumption expenditure of general government grew by around 2 p.c. in 2007, and is expected to maintain that growth rate over the projection horizon. In 2008, it is actually forecast to accelerate owing to the growth of health care spending. Public investment is projected to contract by 3.8 p.c. in 2008, owing to the sales of public buildings, recorded as disinvestment by general government, and the low point in the electoral cycle of local authority investment. The following year it is forecast to increase by 9.2 p.c.

3. Prices and costs

After remaining almost constantly below 2 p.c. in the previous twelve months, inflation in Belgium rose sharply from the fourth quarter of 2007, reaching 4.4 p.c. in March 2008. As explained in detail in this Review⁽¹⁾, that acceleration was due exclusively to the higher prices of food – particularly processed food – and energy, the main factor being the increase in the prices of these products on the international markets. In addition, the higher charges for electricity and gas distribution and transport contribute 0.3 percentage point to overall inflation from February 2008.

According to the current projections, the unusually large contribution from the food and energy components to the annual increase in consumer prices is likely to persist at that high level during the coming months, before rapidly fading away at the beginning of 2009. For the purpose of this exercise it is in fact assumed that international market prices for oil and agricultural commodities will remain stable, albeit at a high level close to that recorded in mid May 2008. Overall inflation is therefore expected to rise from 1.8 p.c. in 2007 to 4.1 p.c. in 2008, before dropping back to 2.3 p.c. in 2009. The health index, which is used as the benchmark for the indexation of wages and social benefits, as well as rents, is forecast to increase by 3.8 p.c. in 2008 and 2.5 p.c. in 2009.

The sharp increase in overall inflation in recent months conceals more modest increases for the other components of the HICP: during the first four months of 2008, inflation was running at 1.3 p.c. for non-energy industrial goods and 1.5 p.c. for services. However, some acceleration is expected for both components despite the continued moderating effect of the euro's appreciation and keen international competition. Apart from the disappearance of the downward pressure exerted by the steep fall in mobile telephony charges in the summer of 2007, contributory factors here will be the indirect effect of the commodity price shocks and the gradual incorporation of the increase in labour costs recorded in the previous year and expected for the current year. The underlying trend in inflation is therefore projected at 2.2 p.c. in 2009.

The rise in unit labour costs in the private sector is estimated respectively at 2.9 and 3.4 p.c. in 2007 and 2008, compared to an annual average increase of 0.6 p.c. over the period 2002-2006. This steep increase is due both to the dip in labour productivity – already apparent in 2007, owing to the marked expansion of employment in the private sector, and further accentuated in 2008, owing to the cyclical downturn –, and to the faster rise in hourly labour costs. These two factors should weigh less in 2009, so that the rise in unit labour costs should fall to 2.4 p.c.

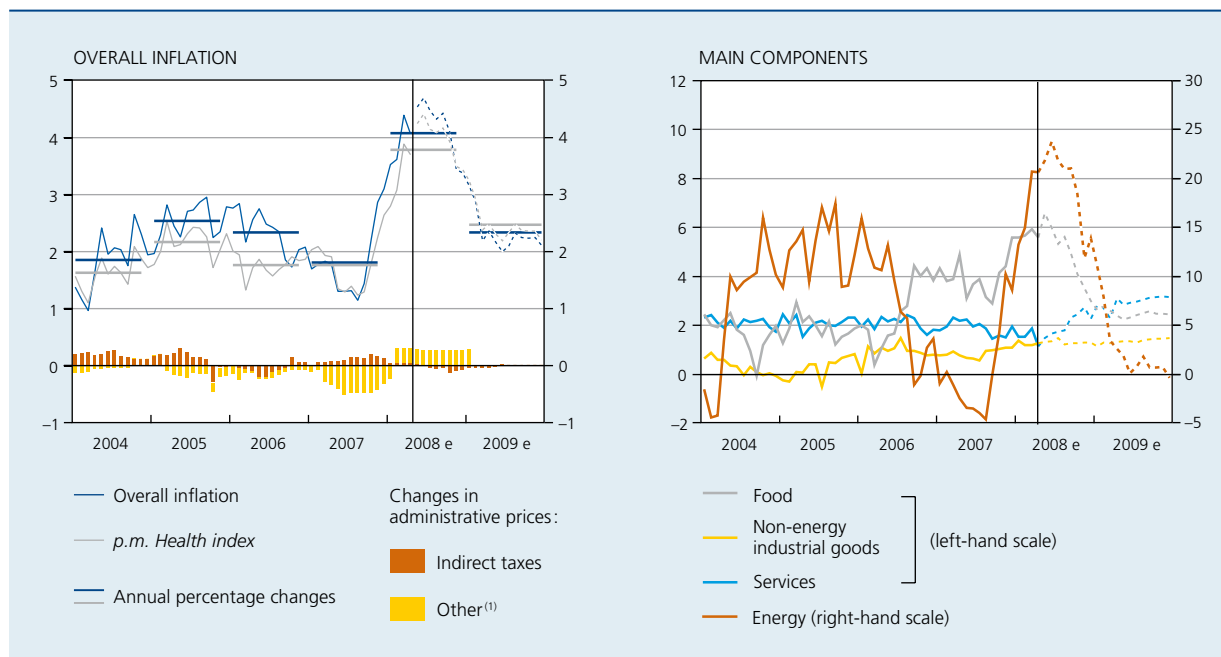
The accelerating rise in hourly labour costs in 2007 and 2008 takes place against the background of the pressure exerted on some segments of the labour market in the wake of the economic boom. In addition, temporary factors reinforced the increase in 2007, namely the earlier payment of the holiday allowance on termination of a contract of employment, and the payment of redundancy allowances in connection with the restructuring of large companies, in total accounting for around 0.6 percentage point. While these factors exert the opposite effect on the movement in labour costs in 2008, they are not sufficient to offset the major impact of indexation. Thus, according to the information currently available for 2007 and the developments expected for 2008, hourly labour costs are set to rise by 7.3 p.c. over the two years as a whole, significantly exceeding the 5 p.c. norm. The handicap in relation to the three main neighbouring countries – Germany, France and the Netherlands – is therefore likely to worsen.

For 2009, the figure of 3.2 p.c. growth in hourly labour costs assumed for this exercise corresponds essentially to the expected effect of indexation, as the latter will take time to respond to the 2008 acceleration in inflation measured by the health index. That assumption is based on moderate wage settlements, a factor determining the expected easing of inflation and the forecast continuation of job creation.

(1) *Inflation and indexation in Belgium: causes and possible effects of the current acceleration in inflation*, Economic Review, NBB, June 2008.

CHART 8 INFLATION

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



Sources : EC, NBB.

(1) Impact on overall inflation, in percentage points, of price changes associated with measures concerning the radio and television licence fee and changes to network industry tariffs.

TABLE 6 PRICE AND COST INDICATORS

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

	2005	2006	2007 e	2008 e	2009 e
HICP	2.5	2.3	1.8	4.1	2.3
Health index	2.2	1.8	1.8	3.8	2.5
Underlying trend in inflation ⁽¹⁾	1.4	1.6	1.9	2.4	2.2
Private sector labour costs:					
Labour costs per hour worked	2.3	2.9	3.7	3.5	3.2
Employers' social contributions ⁽²⁾	-0.3	-0.2	0.1	-0.4	
Gross wages	2.6	3.0	3.5	4.2	
of which: indexations	2.1	1.8	1.6	3.2	
Labour productivity ⁽³⁾	1.5	1.5	0.8	0.1	0.8
Unit labour costs	0.7	1.3	2.9	3.4	2.4

Sources: EC; FPS Employment, Labour and Social Dialogue; NAI; NBB.

(1) Measured by the HICP excluding unprocessed food and energy.

(2) Contribution to the change in labour costs following the adjustments to the implicit contribution rates, percentage points.

(3) Value added in volume per hour worked by employees and self-employed workers.

4. Public finances

4.1 Overall balance

According to provisional data published by the NAI in March 2008, Belgian public finances recorded a small deficit of 0.2 p.c. of GDP in 2007. In the macroeconomic context described above, that deficit is likely to increase to 0.3 p.c. of GDP in 2008 and 0.8 p.c. in 2009.

However, the interest charges of general government are expected to have a favourable influence on the movement in the budget balance, as they are likely to fall by 0.1 p.c. of GDP in both 2008 and 2009. That fall is due exclusively to the continuing reduction in the debt ratio. The average implicit rate applicable to the public debt will in fact increase slightly, as the projections are based on market rates higher than those in 2007. Nevertheless, this increase in market rates will have only a limited impact on the implicit interest rate, on account of the small proportion of short-term debt securities and the fact that long-term loans maturing can still be refinanced at lower interest rates.

Non-recurrent factors, which are expected to have a slightly less negative impact on the budget balance in 2008 than in 2007, should also bring some improvement in the general government accounts. These factors are expected to boost the overall balance by 0.1 p.c. of GDP in 2008. They will have practically no effect in 2009.

Conversely, the economic situation is likely to depress the budget balance, since – as stated earlier – the projections are based on a slowdown in economic activity in 2008. In 2009 also, GDP growth is expected to be below the trend growth rate.

Adjusted for the influence of the economic cycle and non-recurrent factors, the primary surplus is forecast to fall by 0.6 p.c. of GDP between 2007 and 2009. The deterioration in the structural primary balance will be due both to a decline in revenues and to a slightly expansionary expenditure policy.

It should be noted that the projections only take account of budget measures which have already been announced in sufficient detail. They disregard the effect of decisions yet to be taken, e.g. on the occasion of the budget

TABLE 7 GENERAL GOVERNMENT ACCOUNTS⁽¹⁾
(percentages of GDP)

	2005	2006	2007	2008 e	2009 e
Revenue	49.4	48.8	48.6	48.5	48.2
of which: fiscal and parafiscal revenue	44.3	44.0	43.8	43.7	43.4
Primary expenditure	47.5	44.5	44.9	45.0	45.4
Primary balance	1.9	4.3	3.7	3.5	2.8
Interest charges	4.2	4.0	3.8	3.7	3.6
Financing balance	-2.3 ⁽⁴⁾	0.3	-0.2	-0.3	-0.8
Changes in the financing balance	-2.3	2.6	-0.5	-0.1	-0.6
due to changes in					
interest charges	0.5	0.2	0.1	0.1	0.1
cyclical component ⁽²⁾	-0.4	0.5	0.5	-0.3	-0.1
GDP growth	-0.2	0.4	0.4	-0.2	-0.3
composition effects	-0.2	0.1	0.2	-0.1	0.2
non-recurrent factors	-2.8	2.8	-0.9	0.1	0.0
structural primary balance ⁽³⁾	0.4	-0.9	-0.3	0.0	-0.5
<i>p.m. Stability programme targets</i>	<i>0.0</i>	<i>0.0</i>	<i>0.3</i>	<i>0.0</i>	<i>0.3</i>

Sources: FPS Finance, NAI, NBB.

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

(2) According to the methodology described in Bouthevillain C., Ph. Cour-Thimann, G. van den Dool, P. Hernández de Cos, G. Langenus, M. Mohr, S. Momigliano and M. Tujala (2001), *Cyclically adjusted balances: an alternative approach*, ECB Working Paper Series, n° 77 (September). A less technical description of this methodology may be found in Box 6 *Cyclically adjusted budget balances: calculation method used by the ESCB* in the NBB Report 2003 (Part 1), p. 83-84.

(3) Balance adjusted for cyclical and non-recurrent factors.

(4) Excluding the impact of the assumption by the Railway Infrastructure Fund of the major part of the debt of the BNRC when the latter was restructured on 1 January 2005, the accounts of general government would have ended with a surplus of 0.1 p.c. of GDP in 2005.

revisions in 2008 and the preparation of the 2009 budgets. In that regard, the projections reveal that substantial supplementary measures are needed in order to attain the targets set in the April 2008 stability programme, namely a balanced budget in 2008 and a surplus of 0.3 p.c. of GDP in 2009, rising to 1 p.c. of GDP in 2011.

4.2 Revenue

General government revenues expressed as a percentage of GDP are projected to decline in both 2008 and 2009 by 0.1 and 0.3 p.c. of GDP respectively.

That decline is due mainly to structural measures, which are likely to have an impact of 0.2 p.c. of GDP in each of the two years. Levies on earned incomes are likely to be reduced again as a result of the introduction on 1 January 2008 of a system of performance-related bonuses attracting advantageous tax treatment, the increase in the standard allowance for professional expenses from 1 July 2008 and the extension in 2008, and especially the generalisation in 2009, of the lump sum reduction in personal income tax on professional activities, already applied in the Flemish Region. Moreover, the increase introduced in recent years in the tax allowance for energy-saving investments has a negative impact on the personal income tax

assessments. Finally, the gradual abolition of the compensatory levy on excise duty for diesel cars, entering its final phase in 2008, is also depressing public revenues. However, the reductions in charges will be partly offset by the general introduction on 1 April 2008 of the measure whereby the tax deductibility for company vehicles will depend on their CO₂ emissions, and by the redefining of the basis for assessment of the tax on unused power station generating capacity.

The easing of the tax burden is also due partly to the disappearance of the effect of the transitional measures which had augmented revenues in 2007, such as the temporary tax regime for tax-exempt reserves and the earlier collection of social contributions on holiday allowances paid in advance by employers on termination of contracts of employment. The structural shifts at macroeconomic level are also likely to influence the movement in general government revenues. The trend increase in earned incomes, which are taxed relatively more heavily, is expected to be weaker than GDP growth. However, those effects should be offset in 2008 by the fact that payroll tax will increase more strongly than earned incomes, owing to the acceleration in inflation. The annual indexation of the scales used to calculate the payroll tax are in fact based on the average indexation for the previous year. In 2009, the expected fall in inflation should have the opposite effect.

TABLE 8 STRUCTURAL MEASURES RELATING TO PUBLIC REVENUES
(millions of euro, unless otherwise stated; changes compared to the previous year)

	2008 e	2009 e
Taxes	-526	-658
Increase in the standard allowance for professional expenses	-75	-150
Increased allowance for energy-saving investments	-79	0
Flemish Region tax abatement	-50	-375
Introduction of a performance-related bonus system	-100	-100
Gradual abolition of the compensatory levy on excise duty for diesel vehicles	-104	0
Tax deductibility for company vehicles	85	30
Other	-203	-63
Social security contributions	-30	0
Total	-556	-658
<i>p.m. Percentages of GDP</i>	-0.2	-0.2
<i>p.m. Increase in social security contributions of self-employed persons (owing to compulsory insurance against minor health care risks)</i>	340	0

Sources: Budget documents, NSSO, FPS Finance, NBB.

Finally, account needs to be taken of the 2008 increase in social security contributions of self-employed workers, since it is now compulsory for them to have insurance against minor health care risks. This technical factor is expected to have only a limited net impact on the financing balance of general government, since social benefits will increase at more or less the same rate.

4.3 Primary expenditure

Primary expenditure, which had amounted to 44.9 p.c. of GDP in 2007, is projected to increase slightly to 45 and 45.4 p.c. of GDP respectively in 2008 and in 2009. This represents a volume increase in primary expenditure of 1.2 and 2.5 p.c. in those two years. Following adjustment for cyclical and non-recurrent factors and indexation, it will grow by 2 and 2.2 p.c.

The expenditure increase expected in 2008 is due to varying developments in the subsectors which make up general government. At federal government level, the adjusted growth of primary expenditure is likely to be fairly strong. Measures to promote employment, particularly shift working, which are recorded as subsidies in accordance with the ESA 95, should continue to expand, but less strongly than in 2007. At the same time, social security expenditure is likely to continue rising steadily, owing to the expected growth of expenditure on health care and pensions. In the latter case, a number of measures will have an influence, notably those applied under the generation pact. In contrast, at the level of the communities and regions, expenditure is forecast to increase at a fairly modest rate, slightly below the potential growth rate. Finally, local authority expenditure is set to remain practically unchanged in 2008, owing to the reduction in investment which normally occurs in the two years following the municipal and provincial elections, in this case those held in 2006.

It is difficult to estimate the rate of increase in primary expenditure in 2009 since no budget is available as yet. However, the projections already allow for a set of measures to increase social benefits; these were implemented, in particular, under the generation pact, and will augment social security spending. The growth of federal government expenditure is expected to be relatively moderate, as the measures so far approved concerning the reduction in payroll tax will by then be fully operational. In the case of the communities and regions, these projections are based largely on what has happened in the past. Local authority expenditure is expected to revert to growth approaching its trend rate, as investment usually picks up at that point.

4.4 Debt

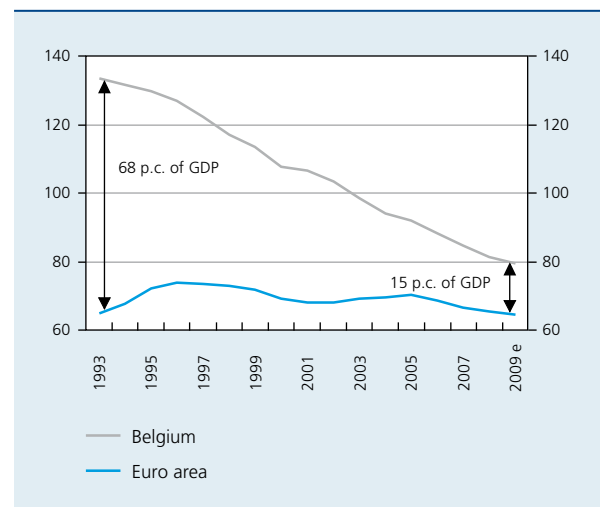
Since 1993, when the public debt peaked at 133.5 p.c. of GDP, the general government debt ratio has constantly declined. At the end of 2007, it stood at 84.8 p.c. of GDP.

Despite the budget deficits projected for 2008 and 2009, the debt ratio should continue to fall during those two years. By the end of 2008, it should be down to 81.4 p.c. of GDP. In 2009, it is expected to decline further to 79.5 p.c. of GDP. That should reduce the differential between Belgium's debt ratio and the average for the euro area to around 15 p.c. of GDP by the end of the projection period.

5. Assessment of the risk factors

Like those published by the ECB for the euro area, the Bank's new projections for Belgium indicate that, throughout 2008 and, by inertia, in 2009 as well, the economy will feel the effects of the substantial shocks occurring in the global environment. The increasing severity of those shocks in the past six months also explains why the GDP growth forecast for 2008 has been cut by 0.3 percentage point compared to the autumn 2007 estimate. Nevertheless, despite the scale of those shocks, the slowdown in activity is expected to be moderate overall. Inflation felt the full impact of the higher commodity prices in the fourth quarter of 2007, causing a 1.2 point upward revision for

CHART 9 CONSOLIDATED GROSS DEBT
(percentages of GDP)



Sources: EC, NAI, NBB.

inflation in Belgium, but the influence of that factor should wane at the beginning of 2009.

However, this scenario is subject to the assumptions made for both the global economy and Belgium. In that regard, there are still many uncertainties, as it is difficult to determine whether the numerous instances of financial tension will become even more acute or will rapidly fade away. In the United States, in particular, the severity and duration of the slowdown in domestic demand are hard to predict. In the past, the American economy has been quick to recover from an adverse shock, but this time the shocks are having a direct and simultaneous impact on all the agents – financial institutions and households and, via a ricochet effect, non-financial corporations – which could attenuate the effect of the fiscal and monetary support measures. In addition, commodity prices could continue to climb beyond their current levels. There is nothing really definite about the outlook here, as is evident from the fact that the markets are passing on almost fully the fluctuations in spot prices over the entire period of forward prices.

The latest available statistics, which relate to the first quarter of 2008, reveal that activity has remained buoyant in the euro area. Most forecasters explain this resilience by the fundamentally sound situation of the European economies and by the fact that, on average, the financial turbulence has only a moderate influence on the real economy, via the widening of the spreads for bank

lending. However, it is important to check that the worst effects do not become apparent in the coming quarters, taking longer to emerge than initially expected.

If they materialise, these risk factors will tend to depress the growth prospects. Via a feedback effect, that would help to reduce the inflationary pressure, but the latter also depends on the movement in commodity prices. In Belgium, specifically, the assumption made regarding wages presupposes moderate wage increases in 2009 and, by implication, throughout the period covered, in principle, by the forthcoming agreements between the social partners, following the increase which was recorded in 2007 and is projected for 2008 exceeding that in neighbouring countries. Failing that, inflation will continue to exceed the level assumed in the projections and the risk of a lasting deterioration in competitiveness and employment could damage the economy.

More generally, it will only be possible to preserve and consolidate the economy's resilience to shocks with the backing of structurally sound fiscal and economic policies, offering stable development prospects for enterprises and households.

Like those produced by the Bank, the recent forecasts issued by other institutions also indicate two years of moderate GDP growth, assuming a gradual economic revival in 2009. In the absence of new measures, this macroeconomic environment would lead to an increase

TABLE 9 COMPARISON OF THE FORECASTS FOR BELGIUM
(percentage changes compared to the previous year)

	Real GDP		Inflation ⁽¹⁾		Budget balance ⁽²⁾		Publication date
	2008	2009	2008	2009	2008	2009	
NBB – Spring 2008	1.6	1.5	4.1	2.3	-0.3	-0.8	June 2008
<i>p.m. Autumn 2007</i>	1.9	<i>n.</i>	2.9	<i>n.</i>	-0.3	<i>n.</i>	<i>December 2007</i>
Federal Planning Bureau (FPB)	1.7	1.7	3.8	2.0	-0.3	-0.8	May 2008
IMF	1.4	1.2	3.1	1.9	-0.3	-0.7	April 2008
EC	1.7	1.5	3.6	2.3	-0.4	-0.6	April 2008
OECD	1.7	1.7	3.7	2.0	-0.3	-0.9	June 2008
Belgian Prime News	1.7	1.9	3.0	2.0	-0.3	-0.2	March 2008
Consensus Economics	1.8	2.0	2.9	1.9	<i>n.</i>	<i>n.</i>	May 2008
The Economist's Poll	1.7	1.7	2.9	1.9	<i>n.</i>	<i>n.</i>	May 2008
<i>p.m. Actual figures 2007</i>	2.8		1.8		-0.2		

(1) HICP, except FPB: private final consumption deflator.

(2) Percentages of GDP.

TABLE 10 COMPARISON OF THE ASSUMPTIONS

	2008					2009				
	NBB	EC	IMF	FPB	OECD	NBB	EC	IMF	FPB	OECD
Export markets	4.3	5.1	n.	5.6	5.4	4.7	4.7	n.	5.3	5.3
Oil (dollars per barrel)	113.3	101.2	95.5	101.5	113.2	117.7	100.0	94.5	100.2	120.0
Short-term interest rate	4.9	4.3	4.0	4.3	4.5	4.3	3.8	3.6	3.8	4.1
Long-term interest rate	4.5	n.	n.	4.0	4.3	4.7	n.	n.	3.8	4.4
Dollars per euro	1.54	1.55	1.47	1.55	1.54	1.54	1.57	1.48	1.54	1.56

in the budget deficit in 2009. Regarding the movement in consumer prices, all the forecasts predict that the rise in food and energy prices will be temporary, so that inflation will recede to an average of 2 p.c. in 2009.

The unusually large variations in the estimated rate of inflation for 2008, ranging from 2.9 to 4.1 p.c., are due largely to the dispersion of the assumptions regarding oil prices.

Annex

PROJECTIONS FOR THE BELGIAN ECONOMY: SUMMARY OF THE MAIN RESULTS

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

	2005	2006	2007	2008 e	2009 e
Growth (calendar adjusted data)					
GDP in volume	2.0	2.9	2.8	1.6	1.5
Contributions to growth:					
Domestic expenditure, excluding change in stocks	2.0	2.0	2.9	2.0	1.5
Net exports of goods and services	-0.2	-0.1	-0.6	-0.7	0.0
Change in stocks	0.2	1.1	0.6	0.4	0.0
Prices and costs					
Harmonised index of consumer prices	2.5	2.3	1.8	4.1	2.3
Health index	2.2	1.8	1.8	3.8	2.5
GDP deflator	2.5	2.0	1.6	3.3	2.6
Terms of trade	-0.3	-0.5	0.3	-0.6	0.0
Unit labour costs in the private sector	0.7	1.3	2.9	3.4	2.4
Hourly labour costs in the private sector	2.3	2.9	3.7	3.5	3.2
Hourly productivity in the private sector	1.5	1.5	0.8	0.1	0.8
Labour market					
Domestic employment (annual average change in thousands of units)	51.1	52.7	72.6	55.8	29.6
Harmonised unemployment rate ⁽¹⁾ (p.c. of the labour force) ...	8.4	8.2	7.5	6.9	6.8
Incomes					
Real disposable income of individuals	0.0	2.7	3.3	0.1	1.6
Savings ratio of individuals (p.c. of disposable income)	12.2	12.5	13.2	12.2	12.4
Public finances ⁽²⁾					
Overall balance (p.c. of GDP)	-2.3	0.3	-0.2	-0.3	-0.8
Primary balance (p.c. of GDP)	1.9	4.3	3.7	3.5	2.8
Public debt (p.c. of GDP)	92.1	88.2	84.8	81.4	79.5
Current account					
(p.c. of GDP according to the balance of payments)	2.6	2.7	1.9	0.4	0.4

Sources: EC, DGSEI, NAI, NBB.

(1) Adjusted series (Eurostat).

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

Inflation and indexation in Belgium : causes and possible effects of the current acceleration in inflation

Introduction

Measured by the harmonised index of consumer prices (HICP), inflation accelerated sharply in Belgium from 1.2 p.c. in August 2007 to 4.1 p.c. in April 2008⁽¹⁾. During the summer of 2007 it had been below the rate for the euro area, but that has no longer been so since the beginning of 2008. In April, inflation came to 3.3 p.c. in the euro area, so that Belgium has a positive inflation gap of 0.8 percentage point in relation to that area. The particularly sharp acceleration in inflation in Belgium and the positive inflation gap in relation to the euro area has, in some circles, raised questions as to the role of the indexation mechanism. A first question concerns the extent to which that mechanism is the source of the current acceleration in inflation. A second concerns whether that mechanism will perpetuate the current inflationary process by triggering a price-wage spiral.

This article examines these two questions and is planned as follows. Section 1 looks at the factors at the root of the current acceleration in inflation and the positive gap between Belgium and the euro area. In that context, the article refers extensively to the study entitled "Inflation in Belgium: an analysis by the National Bank of Belgium at the request of the federal government", published in a special edition of the Economic Review, while also commenting on the latest developments. The previous study in fact only examined the data available up to January 2008, whereas this article is based on the data up to April 2008. Section 2

discusses the possible effects of the current inflationary process on wage-setting. Finally, the main conclusions are summarised.

1. Factors behind the acceleration in inflation

The acceleration in inflation recorded since mid 2007 is entirely attributable to the movement in energy prices and prices of processed food. The pace of the increase in energy prices continued to quicken in February, March and April 2008, and in that last month reached 20.7 p.c. against the previous year. Recently, the rate of processed food price increases has ceased accelerating, but has still remained at historically high levels, namely 8.3 p.c. in April 2008. As this article will show, the movement in the prices of these two product categories largely reflects the impact on consumer prices of the increase in the price of energy and food commodities. Moreover, energy products in particular were also affected by price factors of domestic origin, which are attributable only partly – if at all – to the rise in labour costs, and still less so to the indexation mechanism applied in Belgium.

(1) When this article went to press, i.e. on 30 May, the national consumer price index for May was known. On that basis, inflation according to the HICP is likely to continue rising by 5.2 p.c., though this does not invalidate the distinction which this article makes between the movement in inflation for energy and processed food on the one hand, and for non-energy industrial goods and services on the other.

TABLE 1 HARMONISED INDEX OF CONSUMER PRICES FOR BELGIUM

(percentage changes compared to the previous year)

	Total							<i>p.m.</i> Health index ⁽³⁾
		Energy	Unprocessed food ⁽¹⁾	Underlying trend in inflation ⁽²⁾				
					Processed food	Non-energy industrial goods	Services	
2001	2.4	1.4	6.9	2.1	2.2	2.0	2.0	2.7
2002	1.6	-3.6	3.2	2.1	1.5	1.7	2.6	1.8
2003	1.5	0.2	1.7	1.7	2.8	1.0	1.9	1.5
2004	1.9	6.6	0.9	1.4	2.2	0.3	2.1	1.6
2005	2.5	12.7	1.7	1.4	2.0	0.3	2.1	2.2
2006	2.3	7.3	3.3	1.6	2.1	0.9	2.1	1.8
2007	1.8	0.2	3.0	1.9	4.7	0.9	1.9	1.8
2007 December	3.1	8.7	2.7	2.4	7.6	1.1	2.0	2.6
2008 January	3.5	13.3	1.4	2.5	8.5	1.4	1.5	2.8
February	3.6	15.0	1.2	2.5	8.7	1.2	1.5	3.1
March	4.4	20.7	2.3	2.6	8.3	1.2	1.9	3.9
April	4.1	20.7	1.6	2.2	8.3	1.3	1.1	3.7

Sources: EC, DGSEI, NBB.

(1) Fruit, vegetables, meat and fish.

(2) Measured by the HICP, excluding unprocessed food and energy.

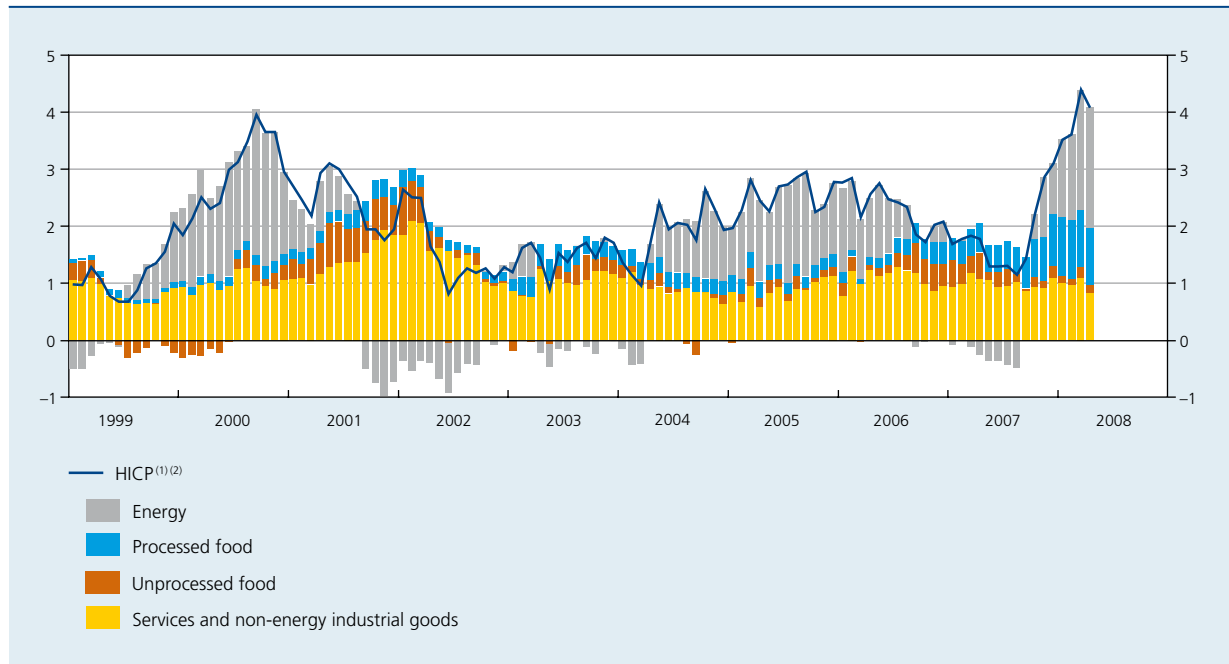
(3) National consumer price index, excluding products considered harmful to health, namely tobacco, alcohol drinks, petrol and diesel.

Conversely, the other three main components of inflation – unprocessed food, non-energy industrial goods and services – showed few signs of accelerating in the second half of 2007 and the first four months of 2008. In March 2008, the rate of price increases in the case of unprocessed food edged upwards to 2.3 p.c., a rise attributable to the movement in the prices of fish and vegetables which essentially reflects the intrinsic volatility of that component. In April, the rate of these price increases subsided to 1.6 p.c. The rising inflation in services, up from 1.5 p.c. in February to 1.9 p.c. in March, is due to the early date of the Easter holiday, which traditionally exerts a seasonal, upward effect on travel: the holiday fell partly in March this year, whereas it generally falls entirely in April. The same factor also explains why inflation in services slowed sharply in April to 1.1 p.c. In principle, this slowing is a temporary factor. The rate of increase in prices of non-energy industrial goods came to 1.3 p.c. in April.

Not only was there no increase in the contribution of these three components to overall inflation in the second half of 2007 and the first four months of 2008, but that contribution was also particularly low in relation to historical data: between September 2007 and April 2008, it came to 1.1 percentage points, compared to an average of 1.3 percentage points since January 1999. That is in marked contrast to the contribution of energy and processed food, which increased to 2.1 percentage points between September 2007 and April 2008, compared to an average of 0.8 percentage point since January 1999. In April 2008, the contribution of these product categories actually reached 3.1 percentage points.

CHART 1 INFLATION IN BELGIUM

(contribution to inflation, percentage points, unless otherwise stated)



Sources: EC, NBB.

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

(2) Excluding the estimated effect, in January and July 2000, of the inclusion of sales in the HICP.

1.1 Movement in energy prices

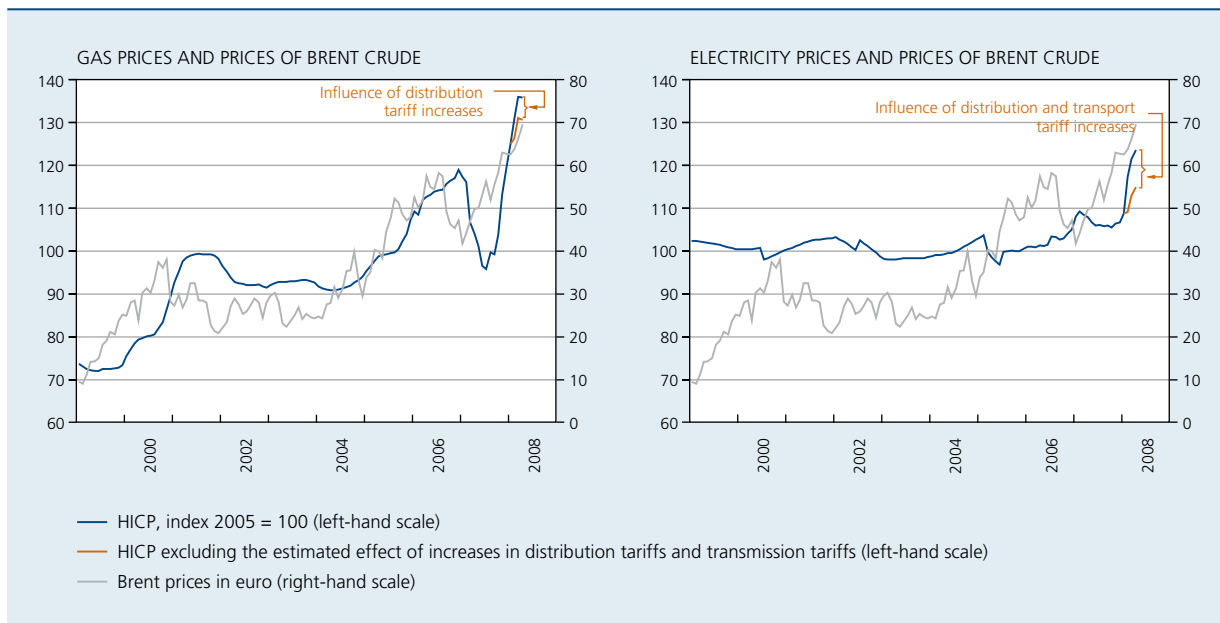
The strong acceleration in consumer prices of energy products is due mainly to the general increase in the price of energy as a commodity. Expressed in euro, the price of a barrel of Brent crude oil averaged just over 40 euro at the beginning of 2007. Since then it has risen almost continuously, and in October 2007 exceeded the peak levels recorded in 2006 to reach an average of 70 euro in April 2008. Expressed in US dollars, the rise in the price of crude was even more marked – the price of Brent surged from 54 dollars at the beginning of 2007 to an average of 110 dollars in April 2008 – but the appreciation of the euro against the US currency attenuated the inflationary effects in the euro area.

As a result, from October 2007 and up to April 2008, consumer prices of petroleum products – not only petrol but also diesel and heating oil – exceeded the previous year's record levels so that, during the period from October 2007 to April 2008, the rate of inflation was between 10 and 17 p.c. for road fuel and between 14 and 46 p.c. for heating oil. The effects of the higher price of crude oil have been further amplified in the past few months by an increase in the refining margins for

diesel and heating oil. The latter is the most sensitive to fluctuations in petroleum product prices quoted on the international markets because, unlike petrol and diesel, it is less subject to significant flat-rate duties. Conversely, the rise in consumer prices of road fuel was marginally curbed by the activation of the reverse ratchet system, whereby the excise duty on petrol was reduced by 0.87 cents between mid February and the end of April 2008. For diesel, the reverse ratchet system had already used up in 2007 the whole of the scope permitted under European law.

The rise in the prices of energy commodities also largely explains the increase in consumer prices of gas and electricity since mid 2007. Moreover, for gas that transmission accelerated considerably from January 2007 since, from that date, consumer prices have been indexed not only on the basis of the smoothed movement in heating oil prices, as used to be the case, but also on the basis of the reference price for natural gas at Zeebrugge, which is a spot price. The transmission was further reinforced from October 2007, when the largest gas supplier adjusted one of the parameters used in the indexation formulas. The resulting tariff increase was then followed – though to a lesser extent – by the other suppliers.

CHART 2 CONSUMER PRICES OF GAS AND ELECTRICITY IN BELGIUM



Sources: EC, NBB.

The costs of the energy input have also increased recently in the case of electricity. However, the impact of that rise on consumer prices has been less than for gas, owing to the higher level of the non-energy costs involved in electricity production. It was also tempered by the relative importance of nuclear power stations in generating electricity in Belgium. However, the moderating effect of this last factor has diminished slightly of late owing to the fall in the share of nuclear power, attributable to major maintenance work on the nuclear power stations. It has therefore been necessary to make more use of power stations fired by gas or coal, whereas the price of those commodities has risen sharply in recent months. Although the resulting price increases are, in principle, temporary, they undoubtedly exerted upward pressure in the first four months of 2008.

However, other factors also play a considerable role. Thus, the rise in the gas and electricity supply tariffs, and in the electricity transmission tariffs, have affected inflation for those products since February 2008, driving overall inflation up by 0.3 percentage point. This situation has arisen because the municipal associations challenged at law the justification for the tariff reductions previously imposed by the regulator, CREG, and in this case the court ruled that the CREG had exceeded its powers. In these circumstances, the municipal associations decided to put up the

tariffs, thus largely cancelling out the tariff reductions previously imposed⁽¹⁾.

Moreover, since January 2007 the gas and electricity prices recorded by the HICP reflect the monthly tariffs movements, whereas they used to reflect the movement in the annual bills. Consequently, the adjustments described above were immediately reflected in inflation.

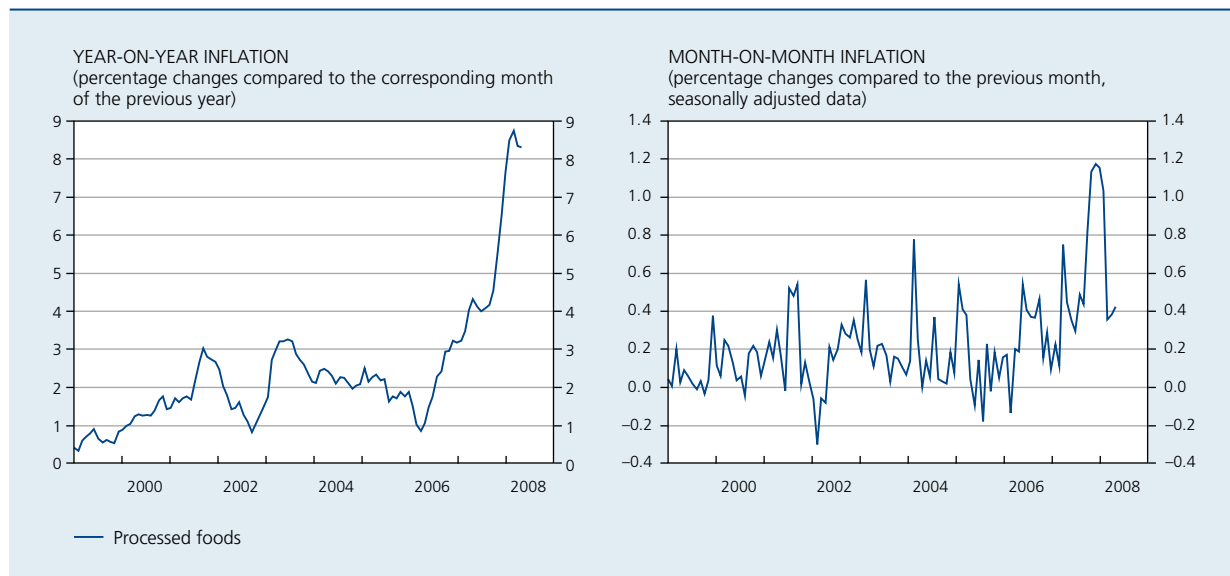
1.2 Movement in processed food prices

The inflation analysis conducted in February at the request of the federal government showed that the quickening pace of price increases for processed food was due largely to the rise in food commodity prices⁽²⁾. The biggest increases were recorded for milk, cheese and eggs, oils and fats (particularly butter), and bread and cereals (including pasta). The effect on consumer prices was exceptionally large because world market food prices were higher than the intervention prices set by the Common Agricultural Policy (CAP), which was therefore no longer able to

(1) For more details, see Annex C to the article "Inflation in Belgium: an analysis by the National Bank of Belgium for the federal government", published in the Economic Review, NBB, special edition, April 2008.

(2) For more details, see Annex D to the article "Inflation in Belgium: an analysis by the National Bank of Belgium for the federal government", published in the Economic Review, NBB, special edition, April 2008.

CHART 3 MOVEMENT IN PROCESSED FOOD PRICES IN BELGIUM



Sources : EC, NBB.

smooth the fluctuations in world market prices. This was therefore the first time that those fluctuations influenced European market prices without any attenuating mechanism. That largely explains the exceptional impact of this shock on prices, which in turn speeded up the transmission mechanism. A substantial shock in fact encourages firms setting prices to deviate from their normal habit of periodic price adjustments and react almost instantly. The sudden and exceptional increase in the second half of 2007 in the frequency of price adjustments in the case of the processed foods recording the biggest rises shows that this was in fact what happened⁽¹⁾. The resulting, highly synchronised price adjustments probably made it easier to increase prices, since individual firms did not need to be so worried as usual about their price competitiveness and hence their competitive position.

This vigorous and rapid response by consumer prices also suggested that – in the absence of other commodity price shocks – the transmission might be completed promptly and that the rate of processed food price increases might therefore soon subside. The inflation figures for February, March and April 2008 appear to bear out this assumption. The increase in processed food prices did indeed slow down from February, and dropped from 8.7 p.c. in February to 8.3 p.c. in April. However, the size of this decline should be viewed in context, since it is due entirely to a base effect resulting from the marked rise in tobacco prices recorded a year earlier. Conversely, the

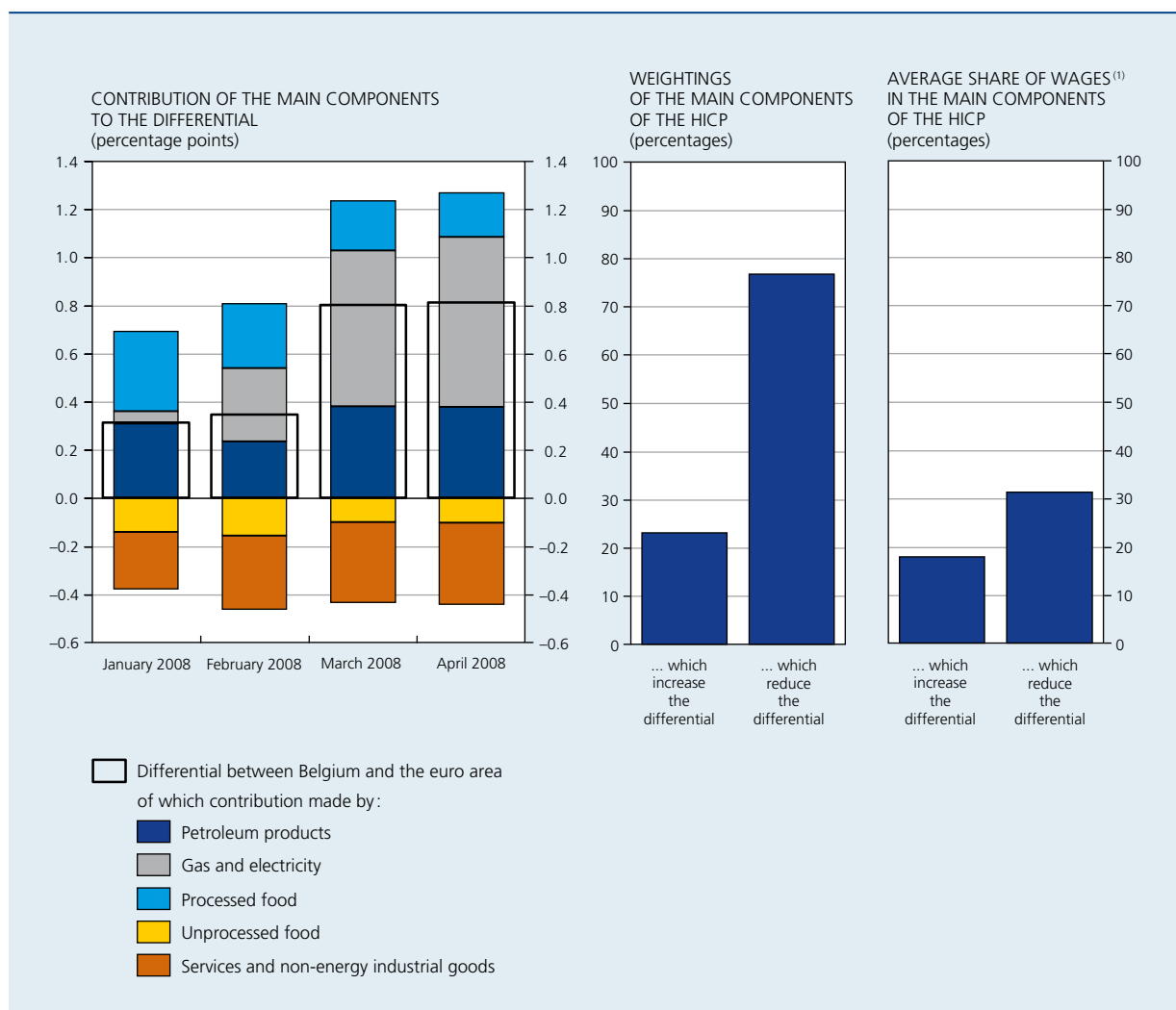
fact that the month-on-month changes in processed food prices have eased considerably in recent months after an exceptionally large increase in the second half of 2007 is more significant. Thus, the monthly rise in processed food prices dropped from almost 1.2 p.c. at the end of 2007 to around 0.4 p.c. in March and April 2008. This monthly price increase is nevertheless relatively high, since it corresponds to annual inflation of around 5 p.c.

1.3 Inflation differential in relation to the euro area

The inflation differential in relation to the euro area came to 0.8 percentage point in April and was due solely to the fact that the movement in prices of energy and processed foods made a larger contribution to inflation in Belgium than in the euro area. In contrast, the movement in prices of unprocessed food, and especially services and non-energy industrial goods, exerted a moderating influence. In the case of services, that was due largely to the reduction in mobile phone charges during the summer of 2007. Consequently, the positive inflation differential is attributable entirely to products which represent less than one quarter of the consumption basket, whereas for three quarters of the basket the price movement was more

(1) For more details, see Annex E to the article "Inflation in Belgium: an analysis by the National Bank of Belgium for the federal government", published in the Economic Review, NBB, special edition, April 2008.

CHART 4 INFLATION DIFFERENTIAL BETWEEN BELGIUM AND THE EURO AREA



Sources : EC, NAI, NBB.

(1) Calculated on the basis of the 2000 input output tables. Share of wages in cumulative costs of final household consumption, assessed at purchase prices excluding VAT. For more details, see Cornille, D. and B. Robert (2005), *Sectoral interdependences and cost structure in the Belgian economy : an application for input-output tables*, Economic Review, NBB, 2005-2.

favourable in Belgium than in the euro area. Moreover, labour costs are a less significant determinant of inflation for products which make a positive contribution to the inflation differential than for products which make a negative contribution. Of those, it is in services that wages represent the largest share of the cost structure, at 44 p.c. of the price excluding VAT.

Moreover, a more detailed analysis of the categories of products which make a positive contribution to the inflation differential shows that the movement in labour costs has played only a minimal, or even non-existent, role. The large contribution made by petroleum products to inflation in Belgium arises from the fact that the fluctuations in the prices of these products on the international

market traditionally have a greater short-term effect on the Belgian HICP owing to their higher weighting and the lower excise duty imposed on them⁽¹⁾. The significant contribution of gas and electricity is due to the acceleration, since the beginning of 2007, in the transmission of fluctuations in energy commodity prices to consumer prices in Belgium, plus the temporary factors described above – which exert additional upward pressure on electricity prices – and the sharp rise in gas and electricity distribution and transport costs. This last factor alone accounts for 0.3 percentage point of the inflation differential in

(1) For more details, see Annex B to the article "Inflation in Belgium: an analysis by the National Bank of Belgium for the federal government", published in the Economic Review, NBB, special edition, April 2008.

relation to the euro area. Finally, the larger contribution from processed food is due in part to the tobacco price increases in March and April 2007. In view of the disappearance of that factor from the inflation figures for March and April 2008, the contribution of this category of products to the inflation differential in relation to the euro area has diminished recently. The remainder of that contribution reflects the fact that the rise in the price of bread and cereals was significantly greater than in the euro area, plus the fact that consumption habits specific to Belgium tend to have an unfavourable effect in the current circumstances (higher weighting for bread and cereals, and for butter).

Since the creation of the monetary union, there have been brief periods in which inflation in Belgium was considerably higher than in the euro area, notably in 2000. However, there have also been periods when Belgium recorded lower inflation than the euro area, as in 2002 or more recently in 2007. Overall, inflation in Belgium has therefore not shown any systematic tendency to exceed the rate in the euro area. Thus, inflation in Belgium averaged 2 p.c. between 1999 and 2007, against 2.1 p.c. in the euro area. Wage settlements have been a major factor in this good inflation performance: the reasons why wage increases have remained moderate during this period, despite the existence of an indexation mechanism, are analysed below.

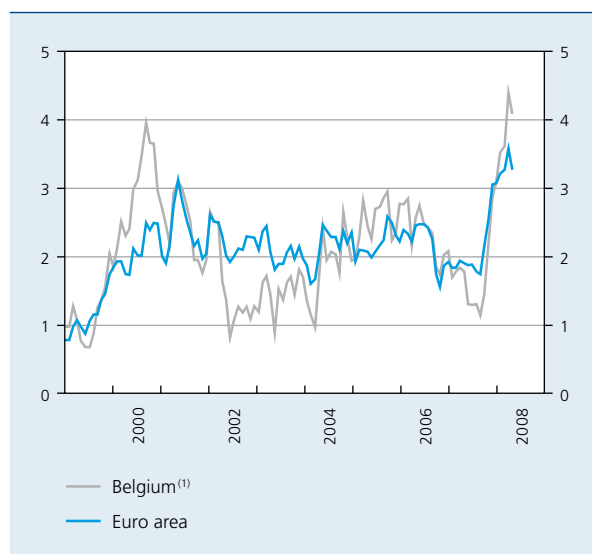
2. Risk of triggering a price-wage spiral

The above analysis has demonstrated that neither the acceleration in inflation up to April 2008 nor the ensuing positive differential in relation to the euro area is due to the indexation mechanism applied in Belgium. What is more, since the creation of monetary union this mechanism has not caused any structural upward deviation in inflation in Belgium compared to the figure for the euro area, where most countries do not have automatic indexation mechanisms. If it has been possible, in recent years, to reconcile wage indexation with moderate wage increases and moderate inflation, that is mainly thanks to the two principal characteristics of the Belgian system described below, which are designed to attenuate the undesirable effects of wage indexation and to make it compatible with the operation of EMU. Nonetheless, this is no cause for complacency, nor should it give the impression that wage indexation is totally harmless in regard to future wage increases and hence inflation.

The first key characteristic of the Belgian system of wage indexation is that, since 1994, it has been based on the health index. This index does not measure the whole of the movement in consumer prices, since it excludes petrol, diesel, alcoholic beverages and tobacco. Consequently, there is less risk of an oil shock triggering a price-wage spiral. Thus, over the period 1999-2007 as a whole, the cumulative rise in the health index was 2 percentage points below overall inflation, at 17.3 compared to 19.3 p.c. The lags in the health index always coincided with steep increases in crude oil prices, as in 2000 and between 2004 and 2006. This is also the main reason why the rise in the health index has again trailed behind overall inflation in recent months, displaying an average deviation of 0.5 percentage point between October 2007 and April 2008.

However, the health index does not entirely eliminate the effect of oil shocks, since it takes account of heating oil, gas and electricity prices, which are also affected by crude oil price fluctuations. Over the period 1999-2007 as a whole, the health index neutralised only around three-fifths of the rise in energy prices. Apart from the normal transmission of changes in crude oil prices to the three products mentioned, which in recent months has accelerated sharply in the case of gas, the health index is driven upwards, in the current circumstances, by the other factors responsible for the rise in gas and electricity prices, such as distribution and transport costs, and the accelerating inflation of processed food prices. Consequently, the rise in the health index recorded from mid 2007 has become much steeper, reaching 3.3 p.c. in the first quarter of 2008. In April, the index actually rose by 3.7 p.c.

CHART 5 INFLATION IN BELGIUM AND IN THE EURO AREA
(percentage changes compared to the corresponding month of previous year)

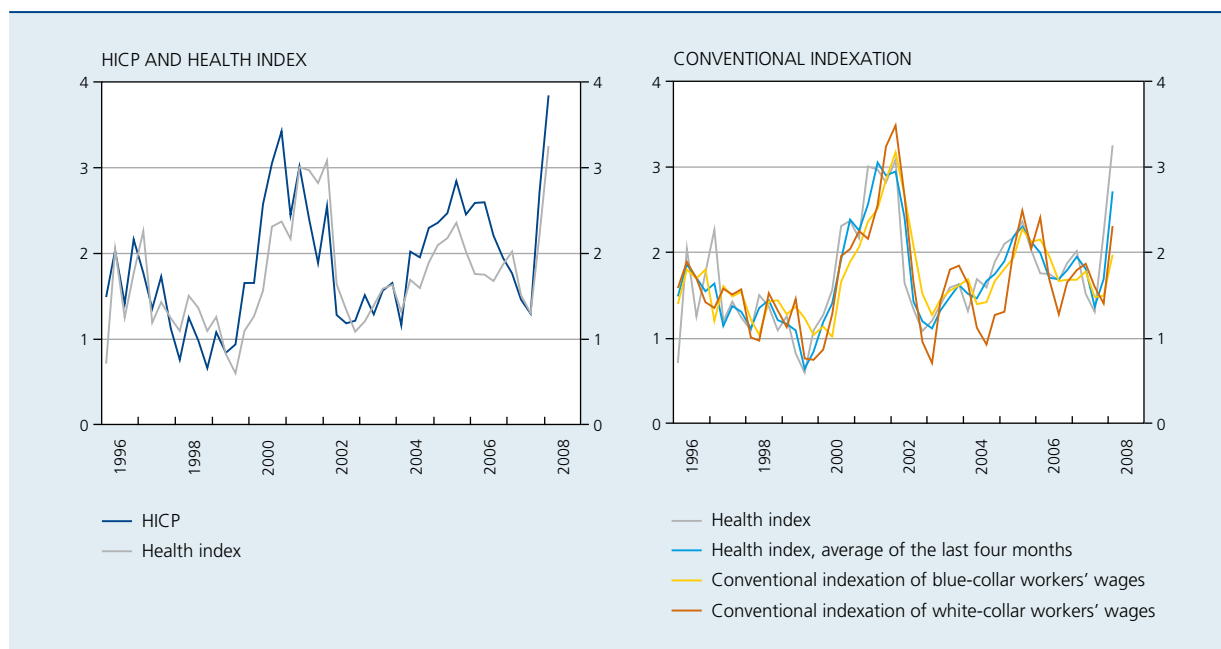


Source: EC.

(1) Excluding the estimated effect, in January and July 2000, of the inclusion of sales in the HICP.

CHART 6 INDEXATION MECHANISM

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



Sources : DGSEI, FPS Employment, NBB.

The indexation of the wages of both blue- and white-collar workers has therefore begun to gather speed, albeit after a slight time lag. That is due to the fact that the law stipulates that the indexation must be based on the average health index for the past four months. Moreover, the exact indexation procedures are laid down in the sectoral negotiated wage agreements, which may cause an additional delay⁽¹⁾. The fact that indexation only began to accelerate slightly in the first quarter of 2008 is an additional argument indicating that the surge in inflation cannot, for the moment, be blamed on indexation. Nonetheless, the corollary to this delayed response by wages is that indexation will certainly continue to accelerate in the second quarter of 2008, at the very least.

That said, it is not possible to conclude that such an acceleration will necessarily get out of control. A second key characteristic of indexation in Belgium is that, under the law of 1996 on the promotion of employment and safeguarding of competitiveness, it is incorporated in a broader framework governing private sector wage settlements. The social partners are therefore requested to take account of the impact of the indexation mechanism

when determining the real wage increases and thus to reconcile the indexation with a moderate overall wage increase which should, in principle, be in line with the movement in nominal wage costs in the three main trading partners.

When determining the margin available for real wage increases, the social partners in fact take account of the expected movement in inflation when negotiating the nominal increase for the two-year period covered by an interprofessional agreement. Taking account of the automatic wage indexation mechanism during the term of the agreement, the ex post rise in nominal wages is nonetheless liable to deviate from the increase initially expected if actual inflation differs from expected inflation. Thus, in all probability, the influence of the indexations on wage increases in 2008 will be markedly greater than expected at the time of the negotiations relating to the agreements for the period 2007-2008. At the time of the sectoral negotiations in the spring of 2007, the inflation forecasts – including those produced by the Bank – were in fact much more favourable than the actual inflation figures. In practice, however, in recent years a number of sectors – representing around a quarter of private sector workers – have opted for all-in agreements, one of the aims of which is to determine real negotiated increases which can be reduced if indexation exceeds the pace expected

(1) Broadly speaking, there are two methods: indexation takes place either at fixed intervals (e.g. every six months or annually), or when certain thresholds (trigger indices) are exceeded.

at the time of conclusion of the sectoral collective agreements, as is currently the case. The risk of a price-wage spiral being triggered is thus limited during the period covered by the agreement. Conversely, once a new cycle of negotiations begins, that protection disappears and it is up to the negotiators to take that risk into account. That is also the moment when the negotiators for sectors which have not concluded all-in agreements are asked by the 1996 law to take that risk into consideration and to attenuate the effects of undesirable automatisms in wage setting.

Thus, the wage negotiations scheduled for the autumn and relating to the period 2009-2010 offer the social partners the opportunity to take account of the effect of the indexation expected for that period when determining the margin available for real pay increases. In addition, the 1996 law provides that if the increase in labour costs in Belgium were to exceed that in the three neighbouring countries, e.g. because – contrary to the initial forecasts – indexation accelerated sharply in the period 2007-2008, that slippage must in any case be taken into account when the social partners negotiate the available margin for wage increases under the new agreement.

The fact that it is incorporated in a broader framework is the precise reason why wage indexation – with use of the health index already offering partial protection against the adverse effects of an oil shock – is less automatic than it looks. In the past, these protection mechanisms have helped to moderate wage increases, and hence inflation. In the future, it is of the utmost importance to ensure that the current acceleration in inflation is not perpetuated by the impetus of second-round effects in the setting of both wages and prices. No-one would benefit from such a process triggering a damaging inflationary spiral which, all other things being equal, would in turn erode corporate profit margins and the real income of workers. Such variability in the respective movement in corporate profit margins and the real income of workers is inefficient and hence harmful to economic activity; that is specifically one of the reasons why monetary policy attaches such importance to safeguarding price stability. In a small open economy forming part of a monetary union, such a spiral can also lead to loss of competitiveness in relation to other countries, thus further depressing economic activity and employment.

Conclusion

This article has examined the recent acceleration in inflation in Belgium and in that context has investigated two questions concerning the role played by the indexation

mechanism, namely the extent to which indexation is responsible for the current inflationary process and whether it will perpetuate that by triggering a price-wage spiral.

Regarding the first question, the analysis presented above provides a clear answer: neither the acceleration in inflation nor the positive differential in relation to the euro area can so far be attributed to the Belgian indexation mechanism. The acceleration in inflation is in fact due entirely to the strong pressure from prices of energy and processed food, whereas there has so far been no sign of any rise in inflation for three-quarters of the products making up the consumption basket, particularly non-energy goods and services. What is more, it is precisely for this last category of goods that labour costs are most important as a determinant of inflation. This study demonstrates that the surge in commodity prices on the world market had been the main factor influencing the movement in prices of processed food and energy. It is particularly in the case of energy that the repercussions have been more marked in Belgium than in the euro area. Previous studies had already shown that fluctuations in crude oil prices had a greater short-term impact on the Belgian HICP owing to the higher weighting of petroleum products and the lower levels of excise duty applicable to them. Moreover, since the beginning of 2007 the transmission of energy commodity price movements to consumer prices of gas and electricity recorded in the HICP has greatly speeded up in Belgium. In addition, these products recorded a further sharp price increase at the beginning of 2008 owing to the substantial rise in transport and distribution costs.

On the second question, it appears that, in the current circumstances, and despite an undeniable moderating influence, the use of the health index did not prevent an acceleration in wage increases resulting from indexation in the first quarter of 2008. However, the law of 1996 on the promotion of employment and the safeguarding of competitiveness places Belgium's indexation practices in a broader framework governing the movement in private sector wages. More particularly, the cycle of pay negotiations relating to 2009 and 2010, scheduled for the autumn, offers the social partners the opportunity to take account of the indexation when determining the pay increases, and thus to continue the tendency which has begun in recent years, which consists in reconciling indexation with responsible pay settlements. In these conditions, it will be possible to prevent the triggering of a price-wage spiral, to contribute to the preservation of competitiveness and employment and to ensure that Belgian inflation does not remain permanently above the level in the euro area.

Gross job flows and firms' international activities

Ch. Piette
M. Pisu^(*)

Introduction

It is generally acknowledged that, owing to the economy's high degree of openness, the evolution of employment in Belgium is greatly affected by external trade and by the strategic decisions of multinational companies located there. That issue is even more acute at present, against the backdrop of the increasing presence of low-wage countries on international markets and the attractions of those countries for foreign investors.

This article summarises the results of an empirical study on that subject. The main original feature of the study is that it was conducted using a microeconomic database containing firm-level data on non-financial corporations located in Belgium. It includes various data taken from the annual accounts filed with the Central Balance Sheet Office and other information, also collected by the National Bank of Belgium, relating to international trade in goods and foreign direct investment (FDI).

One advantage of using microeconomic data is that it makes it possible to take account of the heterogeneity of businesses. Even within very narrowly defined sectors, significant disparities between firms may in fact emerge. In particular, such data permit analysis of the trend in employment by distinguishing between job creation attributable to certain firms and, simultaneously, job destruction attributable to others. These gross job flows, which tend to be much larger than the net fluctuations, cannot be observed in aggregate statistics such as those obtained from the national accounts. It is quite important to take them into consideration since they typify the redeployment of labour between firms in a context of

structural changes in economic activity. As well as assessing the impact of international trade and FDI on the level of employment in Belgian firms, this study aims to evaluate their role in that process.

The article is structured as follows. Section 1 gives a brief description of the database used and the population of firms covered. Section 2 gives an account of the importance of international activities within that population, in terms of both foreign trade and direct investment. Section 3 offers an initial assessment of the impact of these activities on employment on the basis of descriptive statistics. Section 4 then verifies the robustness of these results via an econometric analysis. The study's main findings are summarised in the conclusion.

1. Description of the data

The database used for this study was compiled from three sources of information collected by the Bank for its statistical work and tasks in the public interest, with due regard for their confidentiality. These three sources are:

- The annual accounts filed with the Central Balance Sheet Office by firms incorporated under Belgian law; these accounts provided data on the number of employees expressed in full-time equivalents (FTEs), productivity and profitability.

^(*) The authors would like to thank Luc Dresse for his useful comments. They also wish to thank Roger De Boeck, Jean-Marc Troch, Jean-Marie Van den Berghe and George Van Gastel, as well as the staff of the National Bank of Belgium's Microeconomic Analysis and External Statistics units for their invaluable assistance in developing the database used for this study.

- The results of the survey of direct investment. Conducted annually by the Bank since 1997, this survey records companies owning at least 10 p.c. of the capital in a non-resident firm, and companies which are at least 10 p.c. owned by a foreign firm. It thus makes it possible to identify Belgian subsidiaries of foreign firms and Belgian multinationals – i.e. firms owning shares in foreign companies without themselves being owned by a foreign shareholder – as opposed to firms which have no significant investment link with non-residents.
- The foreign trade figures which the Bank has collected on behalf of the National Accounts Institute since January 1995. Covering trade in goods between Belgium and the rest of the world, these data can be used to identify firms involved in international trade.

A total of six mutually exclusive groups of firms were formed for the purposes of the analysis, namely subsidiaries of foreign firms and Belgian multinationals; then – out of those with no FDI links – exporters, importers, and two-way traders, i.e. firms active in both export and import; finally, there are the “purely domestic” firms. However, it should be noted that in the majority of cases subsidiaries of foreign firms and Belgian multinationals are also exporters and/or importers of goods.

In view of the data availability, the analysis concerns a period beginning in 1997, the first year for which the survey of direct investment produced results, and ending in 2005.

In 2005, some 316,360 Belgian firms filed annual accounts with the Central Balance Sheet Office. However, the analysis covers firms employing at least one full-time or part-time worker, as these are the only firms relevant for explaining the evolution in the number of employees. Thus, the number of firms taken into account totals around 138,000.

It is important to note that the aggregate statistics which can be compiled on the basis of this population of firms are not entirely comparable with other sources, especially the national accounts. While the Central Balance Sheet Office data concerns only non-financial corporations, the national accounts also relate to financial corporations, as well as non-market services and general government. Moreover, the national accounts data on employment is compiled on the basis of the social security data. Finally, unlike the employment figures used in this article, the national accounts statistics are not expressed in terms of the number of FTE jobs.

Despite these methodological differences, the aggregate microeconomic data has similarities with the national accounts statistics; those similarities are reflected, in particular, in the sectoral breakdown of employment. According to both sources, services account for the majority of jobs in Belgium. In 2005, they represented 73 p.c. of the number of firms and 60 p.c. FTE employees according to the microeconomic data, compared to 64.1 p.c. of the number of employees according to the national accounts. In addition, wholesale and retail trade

TABLE 1 BREAKDOWN OF THE POPULATION OF FIRMS BY INDUSTRY
(percentages of the total, unless otherwise stated)

	Number of firms		Jobs in FTEs		<i>p.m.</i> Number of employees according to the national accounts ⁽¹⁾	
	1997	2005	1997	2005	1997	2005
Agriculture, fishing, mining and quarrying	1.9	2.1	0.8	0.9	1.2	1.3
Manufacturing	14.6	11.4	35.0	28.5	29.9	25.1
Recycling, utilities and construction	13.7	13.4	11.0	10.5	10.1	9.5
Services	69.6	73.0	53.1	60.0	58.7	64.1
Wholesale and retail trade	33.9	31.2	20.1	21.3	19.2	20.9
Other services	35.6	41.9	33.0	38.8	39.5	43.2
Total	100	100	100	100	100	100
<i>p.m. Total number (thousands)</i>	109	138	1,655	1,848	2,094	2,283

Sources: NAI, NBB (Central Balance Sheet Office)

(1) Employment in general government, non-market services and financial institutions was excluded to obtain a sectoral coverage similar to that of the Central Balance Sheet Office data.

account for a significant number of jobs. Industrial firms represent 11.4 p.c. of the total number of firms, but are larger on average than service firms as they account for 28.5 p.c. of employment in FTEs according to the microeconomic data, and 25.1 p.c. according to the national accounts.

Furthermore, as in the case of the national accounts, the comparison of the 2005 figures with those for 1997 reveals the decline in employment in the manufacturing sector and the growing importance of service activities. In fact, the share of manufacturing in the total number of employees in the market sector has fallen by 6.5 percentage points according to the microeconomic data, and by 4.8 percentage points according to the national accounts. On the basis of these similarities, it appears that microeconomic data such as those used here can help to explain phenomena apparent at macroeconomic level, even if their coverage is not exactly the same as that of the statistics most commonly used.

This study considers three main industries on account of their significant involvement in international trade and/or in FDI.

Taken as a whole, firms in manufacturing and trade account for around 90 p.c. of exports and imports of goods. Industry dominates on the export side, with a share of 67 p.c. compared to 25.3 p.c. for trade. In the case of imports, the shares of the two industries are more evenly balanced, with 45.8 p.c. for manufacturing

industry and 42.8 p.c. for trade, owing to the role that firms in the latter perform in delivering foreign-made goods to Belgian customers.

Other service firms are only marginally involved in international trade in goods (imports of capital goods, etc.). Moreover, there is no microeconomic data on international trade in services. However, the latter is small in scale compared to international trade in goods: according to the balance of payments statistics, it represented 17 p.c. of trade between Belgium and the rest of the world in the period 1997-2005. Conversely, service activities other than trade, and particularly the coordination centres, account for the major part of Belgium's total inward and outward FDI. That is why they are considered in this study.

The three industries – manufacturing, trade and other services – will also be discussed separately, as the interactions between international trade, FDI and employment are determined by factors specific to each of them. In particular, while the trade industry is usually confined to acting as intermediary between producers and consumers, manufacturing firms are able to outsource part of their production to other countries, and that may have more significant repercussions on employment in the country of origin. In the trade sector, the decision to establish foreign subsidiaries is motivated mainly by the desire to serve new markets. In the case of manufacturing firms and certain service firms, it may also result from the attempt to obtain better production conditions by relocating part of the value added chain.

TABLE 2 BREAKDOWN OF FOREIGN TRADE IN GOODS AND FOREIGN DIRECT INVESTMENT BY INDUSTRY
(2005 data; percentages of the total)

	Foreign trade		Foreign direct investment stock ⁽¹⁾	
	Exports	Imports	from Belgium	in Belgium
Agriculture, fishing, mining and quarrying	0.5	0.2	1.2	2.2
Manufacturing	67.0	45.8	24.7	19.2
Recycling, utilities and construction	4.9	8.4	2.7	2.9
Services	27.6	45.5	71.3	75.6
Wholesale and retail trade	25.3	42.8	5.3	8.2
Other services	2.3	2.8	66.1	67.4
of which: coordination centres	0.0	0.0	33.1	28.7
Total	100	100	100	100

Source: NBB.

(1) Excluding that attributable to financial institutions; including equity capital held via indirect ownership and intra-group loans.

2. Firms active in the international markets

2.1 Concentration of international activities

The aggregate statistics derived from the microeconomic database permit a distinction between purely domestic firms, exporters and/or importers, Belgian multinationals and subsidiaries of foreign companies. This shows that a relatively small number of firms engage in one or other form of international activity via trade or direct investment. However, these firms are important in terms of employment.

Purely domestic firms represent just over 80 p.c. of the population, though that proportion varies considerably between sectors. In manufacturing and whole sale and retail, firms serving only the local markets correspond respectively to 58.7 and 65.4 p.c. of the total. Conversely, they are decidedly dominant in other service activities – where they represent 92.8 p.c. – notably because of the importance of personal services (hotels and restaurants, etc.) and business services.

The figures for manufacturing industry also reflect the international fragmentation of the production chain. Firms active in both export and import represent 21.2 p.c. of the total number of industrial firms, while firms which only export or only import account for just 7 and 8.4 p.c. respectively. In the trade sector, there are more firms

involved only in importing, owing to the role of these firms in supplying consumer goods for the local market.

On average, firms active on the international markets employ more staff, reflecting their relatively greater importance in the Belgian economy. This applies particularly to the subsidiaries of foreign firms which, though accounting for only 1.3 p.c. of the number of firms, employ 25.3 p.c. of the staff of resident enterprises. Their weight is greatest in manufacturing industry, where they represent 40.6 p.c. of employment. A large proportion of the jobs in trade and other services are also attributable to them.

The fact that trade and investment links with other countries concern only a small number of firms is also reflected in a high degree of concentration in the volume of Belgium's exports and imports. The concentration of the trade flows in the two sectors where they are significant, namely manufacturing industry and trade, can be illustrated by means of Lorenz curves.

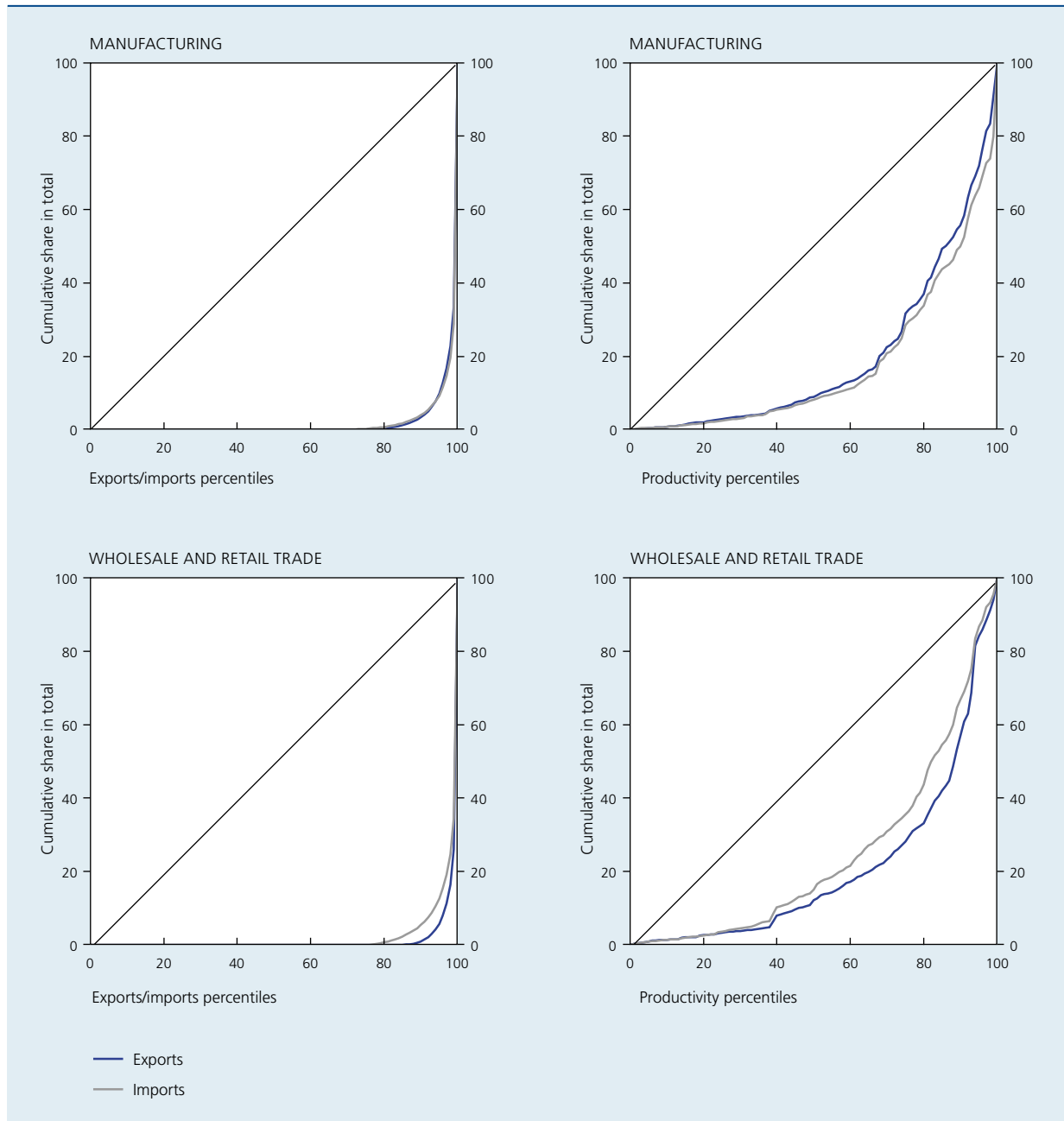
In the two sectors considered, fewer than 10 p.c. of firms account for over 90 p.c. of the foreign trade in goods. It is also essentially the most productive firms which are active in this area. In manufacturing industry, firms in the last decile of the ranking according to productivity levels accounted for 44 p.c. of exports and 50 p.c. of imports in 2005. A similar phenomenon is also evident in the trade sector, though the concentration of imports is less marked there than in manufacturing.

TABLE 3 BREAKDOWN BY CATEGORY OF FIRMS
(2005 data; percentages of the total)

	Total		Manufacturing		Wholesale and retail trade		Other services	
	Number of firms	Jobs in FTEs	Number of firms	Jobs in FTEs	Number of firms	Jobs in FTEs	Number of firms	Jobs in FTEs
Purely domestic firms	80.3	35.9	58.7	10.8	65.4	27.0	92.8	51.5
Exporters	3.6	3.1	7.0	2.7	5.8	5.3	1.6	2.1
Importers	6.9	7.6	8.4	5.0	14.0	12.4	2.5	5.7
Two-way traders	7.6	17.8	21.2	30.0	13.4	25.4	1.6	7.5
Belgian multinationals	0.3	10.2	1.0	10.9	0.2	7.7	0.3	13.6
Foreign firms	1.3	25.3	3.6	40.6	1.2	22.2	1.2	19.6
Total	100	100	100	100	100	100	100	100

Source: NBB.

CHART 1 CONCENTRATION OF TRADE FLOWS AMONG THE MOST PRODUCTIVE FIRMS
(results for 2005)



Source : NBB.

2.2 Characteristics of firms active in the international markets

Various empirical studies have found that the most productive firms are also those most active in the international markets, and the theoretical literature explains why.

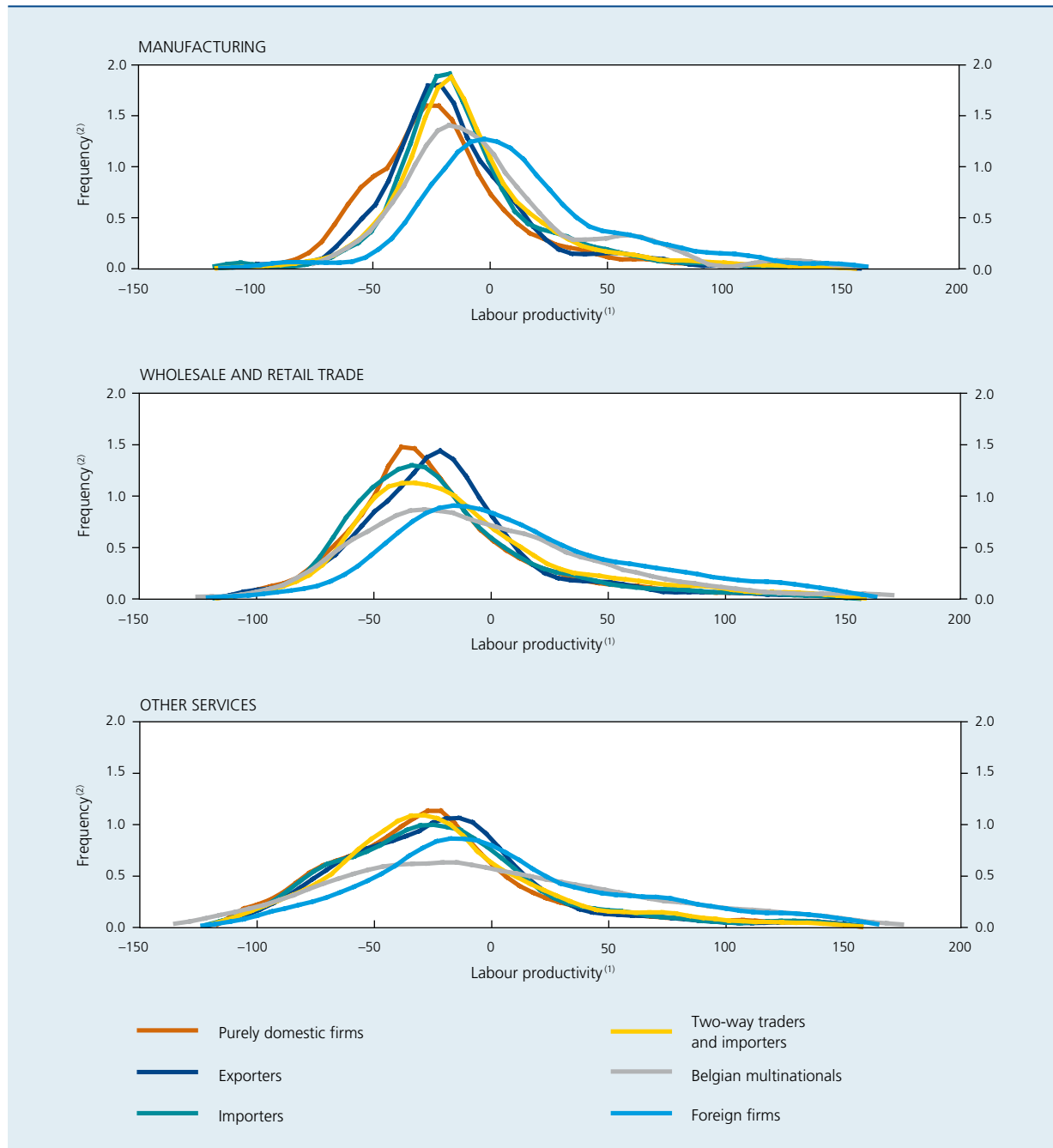
On the basis of a microeconomic approach whereby firms with heterogeneous characteristics can coexist within the same industry owing to imperfect competition on the goods market, the theoretical models predict that only the most productive firms will be able to afford the costs entailed in entering foreign markets⁽¹⁾. In the case

(1) Cf. in particular Melitz (2003), Helpman, Melitz and Yeaple (2004), and Kasahara and Laphan (2007).

of exports, such costs include those arising from market research, the search for partners to establish a distribution network, the need to adapt the products according to local preferences or to make them conform to foreign quality standards, etc. In the case of imports, the existence of fixed costs is due, for example, to the search for foreign

suppliers. Apart from these various fixed costs, international trade in goods entails a number of variable costs relating in particular to freight transport and customs duties, which can be avoided by direct investment, namely by establishing production units close to the markets to be served. As a general rule, the costs associated with direct

CHART 2 DISTRIBUTION OF LABOUR PRODUCTIVITY BY CATEGORY OF FIRMS
(results for 2005)



Source : NBB.

(1) Value added per full-time equivalent, in thousands of euro; the difference between the result for the firm and the average productivity of the industry (NACE, four digits) to which it belongs. For clarity, firms below the 5th percentile and above the 95th are not represented in the productivity distributions.

(2) As a percentage.

investment are higher than those relating to exports since they concern either the creation of one or more foreign subsidiaries or the acquisition of shares in existing companies. For that reason, the theoretical models predict that, when given the opportunity to sell part of their output abroad, the most productive firms with the greatest financial resources will do so via direct investment, while those whose productivity is at an intermediate level will resort to exporting. The least productive firms will continue to operate on a purely domestic level.

From an empirical point of view, the use of firm-level data for the United Kingdom, Ireland and Germany, in particular, made it possible to show, on the basis of the distribution of productivity specific to each category of firms, that multinationals are generally more productive than exporting firms, the latter being themselves more productive than purely domestic firms⁽¹⁾.

A similar analysis was done on the basis of the data available for Belgium. Here it should be noted that, thanks to the use of the Central Balance Sheet Office data, the population of firms covered is much larger than that of the samples used in studies on other countries. The distribution of labour productivity specific to each category of firms was reproduced separately for manufacturing, trade and other services. That approach makes it possible to take account of the heterogeneity of firms belonging to the same category, the level of productivity being highly variable. Owing to this heterogeneity, more conventional indicators such as average or median productivity would not be very representative.

In manufacturing, the labour productivity distributions display a fairly clear hierarchy. With distribution curves shifted to the right in comparison with those of the other categories of firms, the subsidiaries of foreign firms and the Belgian multinationals are significantly more productive. They are followed by two-way traders, and by firms which only import, whose distribution curves coincide. The latter are more productive than firms involved only in exporting. Finally, purely domestic firms appear to be the least productive. The greater productivity of subsidiaries of foreign firms and Belgian multinationals is also very marked in the wholesale and retail trade sector. However, it is more difficult to discern any clear hierarchy between the levels of productivity of the other categories of firms, as the distribution curves are relatively close. A similar profile is found among firms operating in other service activities.

Generally speaking, the differences in labour productivity levels between Belgian firms is consistent with the results obtained for other countries. This finding mainly concerns subsidiaries of foreign firms and Belgian multinationals, which tends to confirm that the fixed costs associated with foreign investment often exceed those relating to foreign trade. The absence of a clear hierarchy between the productivity distributions of the other categories of firms in trade and in other service activities may reflect the lower fixed costs associated with international market activity, compared to the costs incurred by manufacturing firms. So it is easier for less productive service firms in these industries to export and import goods.

3. Developments in employment between 1997 and 2005

International trade and foreign investment are often seen as factors exerting a substantial – and often negative – influence on employment in industrialised countries. FDI may in fact be a way of relocating activities, and is therefore often perceived as being associated with job losses in those countries. The same is true for imports, especially if they are associated with the outsourcing of part of the production activities to low-cost countries. Conversely, exports – which bear witness to a firm's dynamism – are thought to be beneficial for domestic employment.

This section aims to verify whether there are in fact significant differences in terms of employment trends between firms active only on the domestic market and those which, to varying degrees, are also present in international markets.

The analysis is based mainly on an examination of the gross job flows: it considers the gross job creation and destruction separately. The former correspond to the total jobs created by firms which have increased the number of their employees during a given period, while the latter concern job cuts attributable to firms which have reduced their staff over the same period. Unlike an approach based solely on examination of the net changes, this method makes it possible to measure the scale of the job reallocations within each sector and each category of firms. In fact, it is often the case that some firms expand their workforce during a given period while others, though active in the same sector, make staff redundant. However, the scale of this process is likely to vary between firms, as some have a more stable level of employment than others.

(1) Cf. Girma, Kneller and Pisu (2005) for the United Kingdom, Girma, Gorg and Strobl (2004) for Ireland and Arnold and Hussinger (2005) for Germany.

TABLE 4 NET CHANGE IN EMPLOYMENT
(average annual changes between 1997 and 2005, in FTEs)

	Purely domestic firms	Exporters	Importers	Two-way traders	Belgian multinationals	Foreign firms	Total
Manufacturing	-7,645	28	656	2,256	-1,068	-2,173	-7,946
Wholesale and retail trade	-3,048	700	1,018	2,828	1,461	1,829	4,787
Other services	6,152	432	1,911	2,202	-1,140	3,115	12,671
Total for the three industries ..	-4,542	1,160	3,586	7,285	-747	2,771	9,513

Source: NBB.

3.1 Net changes, gross job flows and employment turnover

The statistics set out in Table 4 show the scale of the net changes in employment in the Belgian economy. Altogether, in the three industries considered, net job creations averaged 9,513 FTEs per annum between 1997 and 2005. This figure masks divergent developments, between and within industries, according to firms' involvement in international activities.

In manufacturing, employment declined at an annual rate of 7,946 FTEs between 1997 and 2005. Although this represents only about one-tenth of the sector's jobs, this decline is due mainly to firms focusing solely on the domestic market. Belgian multinationals and subsidiaries of foreign firms also contributed to the decline

in industrial employment, cutting their workforce by 1,068 and 2,173 FTEs respectively per annum. However, this decline was attenuated by importers and to a greater extent by two-way traders, since their workforce expanded by 656 and 2,256 FTEs per annum respectively. In the case of exporters, net changes in jobs were relatively small.

In the trade sector, employment grew by 4,787 FTEs per annum. All categories of firms contributed to this increase, except purely domestic firms, whose workforce contracted by 3,048 FTEs per annum. Other service activities recorded the largest expansion in employment, at an average of 12,671 FTEs per annum. In this sector, only Belgian multinationals reduced their workforce. However, that is due mainly to job cuts in a very small number of firms active in transport and communication.

TABLE 5 GROSS JOB FLOWS
(average annual changes between 1997 and 2005, in FTEs)

	Gross job creation (1)	Gross job destruction (2)	Net changes (1) - (2)	Turnover (1) + (2)
Manufacturing	27,666	35,611	-7,946	63,277
of which: firm demography ⁽¹⁾	4,675	2,516	2,159	7,191
Wholesale and retail trade	28,487	23,700	4,787	52,187
of which: firm demography ⁽¹⁾	3,949	1,554	2,395	5,503
Other services	57,793	45,122	12,671	102,915
of which: firm demography ⁽¹⁾	8,740	3,757	4,983	12,497
Total for the three industries	113,946	104,433	9,513	218,378
of which: firm demography ⁽¹⁾	17,364	7,827	9,537	25,191

Source: NBB.

(1) Gross job creation in new firms and gross job destruction in firms terminating their activities respectively.

Net changes look relatively modest compared with the gross job flows recorded at the firm level. These are ten times higher than the net figure, with annual creation in the order of 113,946 FTEs and destruction of around 104,433 FTEs. Measured as the sum of gross creation and destruction, employment turnover thus came to 218,378 FTEs per annum. This is due largely to job reallocations in services other than those relating to trade, this branch being admittedly the principal source of job creation. It is also worth noting that each category of firms records job creation and job destruction simultaneously, even though the creation outweighs the destruction for some, while the opposite is true for others. In each sector, the major part of the employment turnover can be attributed to purely domestic firms (cf. infra).

A detailed examination of the job creation and destruction also permits an appraisal of the impact on employment of business start-ups and closures. Between 1997 and 2005, the emergence of new firms led to the creation of 17,364 FTEs per annum, or 15 p.c. of the total gross job creation. The disappearance of firms led to the destruction of 7,827 FTEs, or 7 p.c. of the total gross job destruction. These proportions do not vary significantly between industries. However, most of the jobs created following the establishment of new companies are concentrated in purely domestic firms, where they accounted for 23 p.c. of gross job creation. In fact, most new businesses do not engage in trade with foreign partners when they first start operating.

3.2 Rate of job creation and job losses

The impact international trade and direct investment have on employment is easier to assess by calculating rates of gross job creation and destruction for each category of firms. The method developed by Davis and Haltiwanger (1992)⁽¹⁾ is used for that purpose. Chart 3 shows the

(1) For each firm, the employment growth rate is calculated by means of the

formula: $g_{i,t} = \frac{e_{i,t} - e_{i,t-1}}{n_{i,t}}$, in which $e_{i,t}$ represents the number of workers

employed by firm i in year t and $n_{i,t} = (e_{i,t} + e_{i,t-1})/2$. This method of calculation offers the advantage of limiting the rates of growth to 2 in the case of new firms starting up and -2 in the case of firms closing down. The low growth rates remain close to those obtained by the traditional method. The rates of job creation and destruction specific to a group of firms are calculated on the basis of the averages of the individual positive and negative growth rates, weighted according to each firm's share in the total number of jobs. The respective formulas used to calculate the average rates of gross job creation and destruction are:

$$\text{Gross job creation}_{i,t} = \sum_i \frac{n_{i,t}}{N_t} g_{i,t} \quad \text{for all } g_{i,t} > 0$$

$$\text{Gross job destruction}_{i,t} = \sum_i \frac{n_{i,t}}{N_t} |g_{i,t}| \quad \text{for all } g_{i,t} < 0$$

where $N_t = \sum_i (e_{i,t} + e_{i,t-1})/2$ corresponds to the total jobs in the group of firms in question.

(2) It should be noted that the job cuts in this category of firms were also accompanied by a reduction in self-employed activity – which the database used here does not cover – in the same sector. According to the national accounts, this decline came to around 2.5 p.c. per annum over the period 1997-2005.

average annual rates of gross job creation and destruction calculated at the level of the firms over the 1997-2005 period for the various categories of firms.

In general, the gross job creation and destruction rates display the same tendencies in terms of net changes in employment as those already described. Thus, in manufacturing, the gross job destruction outweighs the gross job creation in most categories of firms, the centre of the circle representing them usually being situated below the diagonal. The net destruction, which can be estimated approximately by the difference between the job destruction rate and the job creation rate, was more pronounced in firms not engaging in any form of international activity. On the other hand, gross job creation exceeded the gross job destruction among importers and, to a lesser extent, among two-way traders. The data therefore suggest that imports of intermediate goods by manufacturing firms contribute to their development, and hence to the creation of new jobs.

In the service activities, almost all categories of firms created more jobs than they destroyed. Among the various types of firms in wholesale and retail trade, only the purely domestic ones – which represent the largest percentage of employment in the sector – reduced the number of their employees.⁽²⁾ In other words, involvement in foreign trade in goods and the establishment of foreign subsidiaries also favour the development of this type of activity.

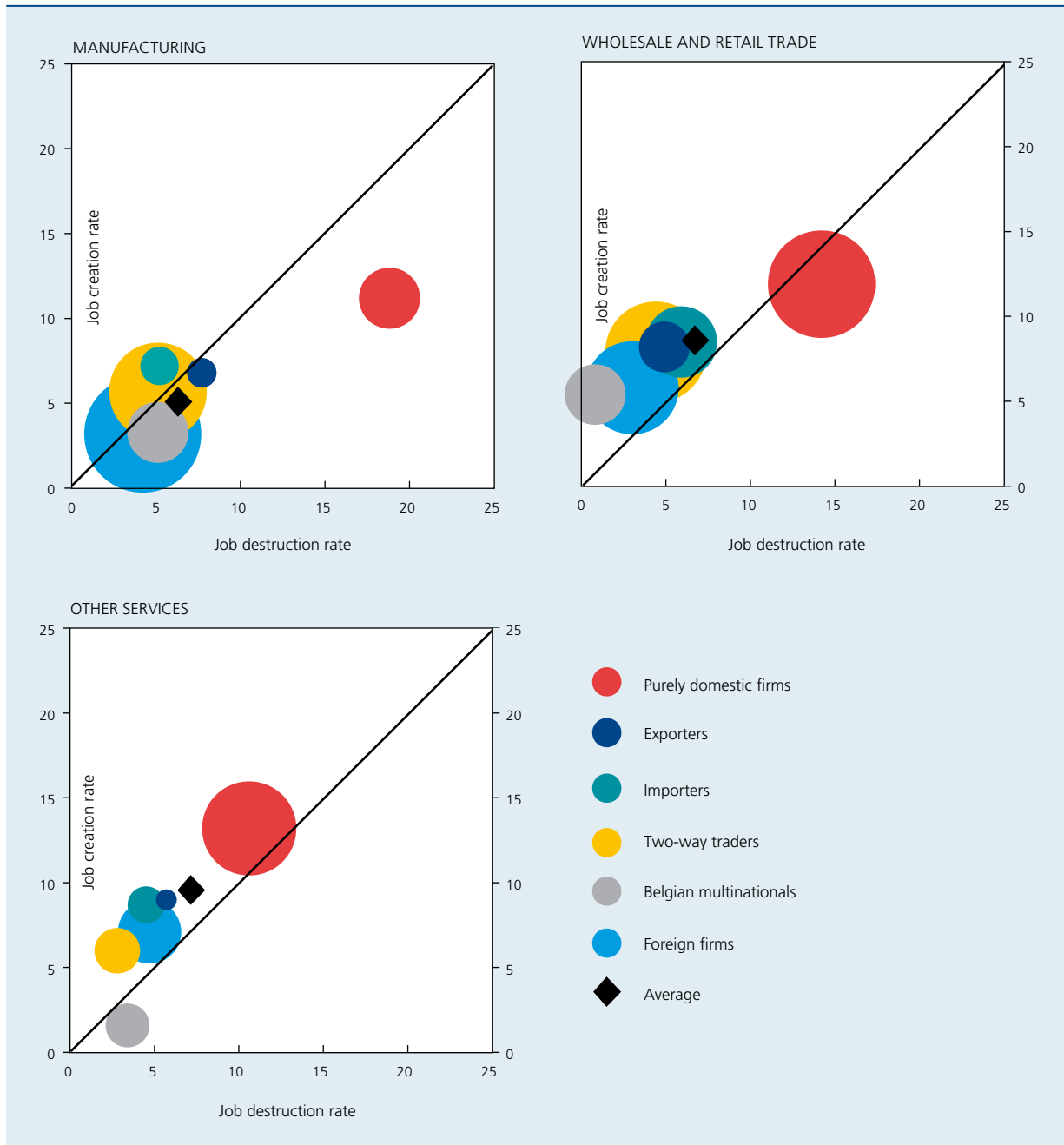
The distinction between firms which are involved in international trade and those which are not is less relevant in the case of other service firms. In contrast to what is seen in the trade sector, there is also no significant difference in terms of net changes in employment between the former and the latter, as gross job creation usually outweighs gross job destruction. The sole exception concerns Belgian multinationals, which reduced their workforce overall between 1997 and 2005. As previously mentioned, it is however important to note that these job losses concern only a small number of large firms, and are concentrated mainly in transport and communication services; moreover, Belgian multinationals represent a relatively small proportion of total employment in service activities.

To sum up, in the sectors concerned with international trade in goods, namely manufacturing industry and distribution, exports and – to a greater extent – imports therefore seem to be associated with more favourable trends in terms of employment. This result partly mirrors the findings of a study by Coucke and Sleuwaegen (2006) based on data relating to Belgian manufacturing firms. Those authors show that firms using foreign suppliers have a greater chance of survival. The link between the

CHART 3

GROSS JOB CREATION AND DESTRUCTION

(averages of the annual percentage changes between 1997 and 2005)



Source : NBB.

Notes: The size of the circle is in proportion to the number of FTEs in each group of firms. The diamonds indicate the intersections between the average job creation and job destruction rates in each sector, taking all categories of firms together. The diagonals represent all the points where job creation equals the job destruction.

trend in employment and direct investment appears more ambiguous, as it varies between sectors.

Looking at the charts, while the position of the circles in relation to the diagonal reflects the net change in employment, the distance from the origin represents the size of the gross flows. The differences between purely domestic

firms and other types of firms are much more marked in this regard. In each of the three industries, the job creation and job destruction rates are much higher in purely domestic firms, which implies that these firms have a higher rate of employment turnover than firms belonging to the other categories. In addition, staff turnover declines as involvement in international trade increases. Thus, in

both manufacturing and trade, two-way traders have lower turnover rates than firms which are purely exporters or purely importers. Similarly, foreign firms and Belgian multinationals generally have lower rates of turnover than other types of firms.

The greater volatility of employment in firms focusing solely on the Belgian market may cause greater uncertainty regarding the security of employees' jobs. International trade, and to a greater extent foreign direct investment, tend to reduce that uncertainty. The lower employment turnover in firms active at international level suggests that being present simultaneously on different markets helps to limit the risks firms face. In the case of exporters, that means that stronger sales growth on foreign markets can compensate for a possible weakness of local demand. This concept of risk diversification also applies to importers, which can use the intermediate goods produced by a foreign-based subcontractor as substitutes for those available from local suppliers, in order to cope with possible price increases or a shortage of inputs supplied locally. Multinationals are the ones with the greatest scope for diversification. In fact, they are generally present on a larger number of markets than exporters who have no subsidiaries outside their country of origin.

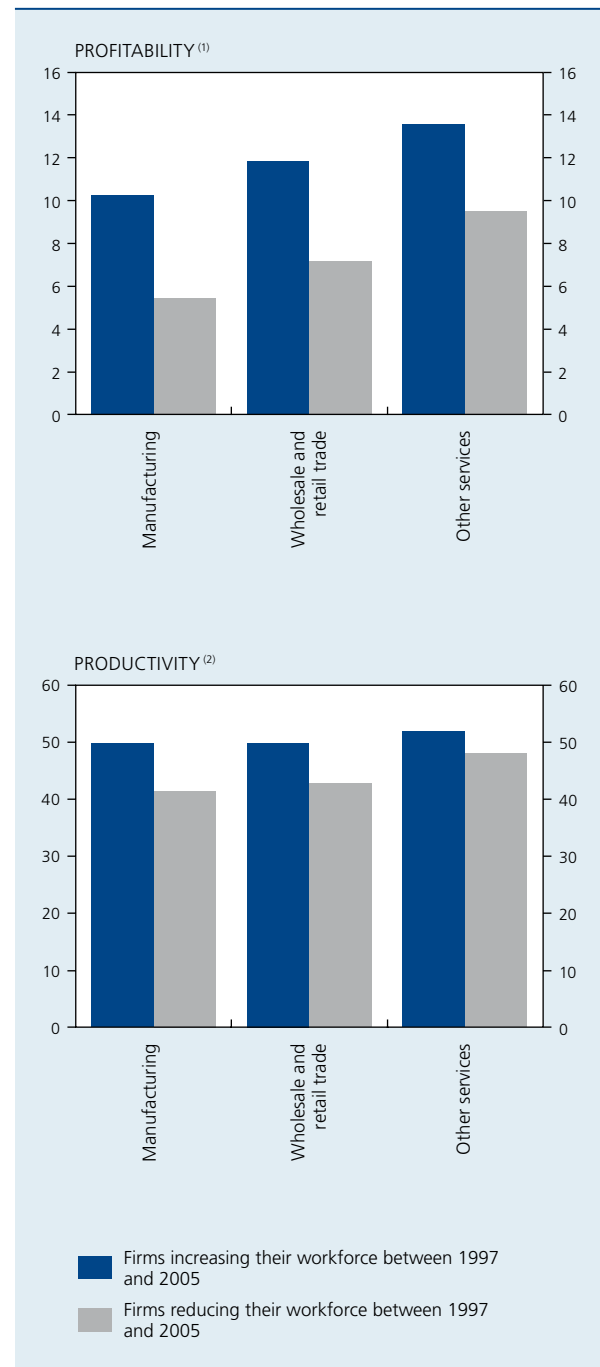
4. Econometric analysis

The results of the descriptive analysis presented in the previous section highlighted employment trends which differ according to the degree of internationalisation of the firms. However, job creation and job destruction can obviously be affected by factors other than foreign trade and FDI.

Those factors may be connected in particular with the economic environment, which depends, for example, on the business situation in the industry where firms operate, as some of them have better development prospects than others. The way in which a firm adjusts its workforce also depends very much on its own characteristics, such as its level of profitability. Thus, the most profitable firms are more likely to have financial resources available to expand and create new jobs while the least profitable firms usually have to curtail their activities or even cease operating, thus generating job losses. The same applies to firms' ability to compete and the efficiency with which they organise their production chain, as the most productive firms have more promising profitability prospects.

The data bear out these assertions, as the firms which increased their number of employees between 1997 and 2005 generally have higher levels of profitability and

CHART 4 LINK BETWEEN EVOLUTION IN EMPLOYMENT, PROFITABILITY AND PRODUCTIVITY
(median values)



Source : NBB.

(1) Measured by the ratio between net profits after taxes and equity capital.

(2) Measured on the basis of value added per full-time equivalent employee and expressed in thousands of euro.

productivity than the firms which reduced their workforce over the same period. However, the link is more pronounced with regard to profitability.

Another characteristic which may be linked to the divergences in employment trends between different firms is the firm's size, as this often reflects its stage of development. As a general rule, large firms are often older and more firmly anchored in their markets than those just starting up. Their growth prospects are therefore less uncertain, so that they can offer their staff greater job security. Firms starting up in business tend to expand their workforce faster in their initial years of operation, if they succeed in securing a foothold in a market. Conversely, they destroy proportionately more jobs if they fail.

By controlling for the effects of these various factors, the econometric analysis provides a more reliable assessment of the impact of foreign trade and FDI on changes in employment. The approach followed here consists in using the ordinary least squares method to estimate a series of equations linking changes in employment in each firm to the firm's degree of involvement in the international markets, and to the other factors mentioned above. The equation for the employment growth rate in an individual firm, designated by the index "i", is therefore specified as follows:

$$g_{i,t} = \alpha + \beta \text{type}_{i,t} + \gamma \text{size}_{i,t} + \delta \text{profitability}_{i,t} + \eta \text{productivity}_{i,t} + \theta \text{industry}_i + t + \varepsilon_{i,t}$$

where $g_{i,t}$ represents the rate of employment growth in the firm in year t , calculated using the Davis and Haltiwanger method.

The results for the various categories of firms covered by the variable "type", namely exporters, importers, two-way traders, Belgian multinationals and subsidiaries of foreign firms, are expressed as the difference in the growth rate in relation to the category comprising purely domestic firms, which acts as the benchmark.

With regard to the other explanatory variables, "size" is measured on the basis of the number of employees, profitability is measured by the ratio between the net profits after taxes and the equity capital. Productivity is defined as the value added per worker. Finally, the variable "industry", which constitutes a set of binary variables for each industry in the NACE 4-digit nomenclature, and the time dummy "t" were included among the explanatory variables in order to control for the sectoral and cyclical effects.

This equation was estimated both for the net employment growth rate and for the gross job creation and destruction rates. The objective is to permit better identification of the channels through which international trade and FDI influence employment. The results of the estimates produced

for each of the three sectors considered are presented in Table 6. In order to verify their robustness, the same estimates were produced on the basis of a sample excluding business start-ups and closures.

The econometric results generally confirm those of the descriptive analysis. In most cases, after controlling for the effects of other factors, firms active on foreign markets record net employment growth which is significantly greater than that of purely domestic firms. In other words, a firm's participation in foreign trade in goods and/or direct investment is in fact usually associated with stronger expansion in the number of its employees.

Taking account of business start-ups and closures, the results obtained for manufacturing indicate stronger employment growth among importers, with an annual rate of change in the number of employees 5.9 percentage points higher than the figure for purely domestic firms. This difference is also very substantial for two-way traders, whose employment growth differential is 5.2 percentage points. It is smaller in firms which only export, as their employment growth is only 1.9 percentage points higher than in purely domestic firms. The fact that an industrial firm owns foreign subsidiaries or is itself wholly or partly owned by a foreign company is also associated with stronger employment growth. This means, in particular, that the establishment of foreign subsidiaries by Belgian manufacturing firms does not generally damage the preservation of jobs in Belgium but, on the contrary, tends to speed up the expansion of firms' activities.

The amount of additional employment market growth associated with international trade and FDI is less marked in service activities than in manufacturing, but remains greater in importers, whether or not they engage in export as well. In the trade sector, it is not significant for Belgian multinationals and subsidiaries of foreign firms, i.e. the latter expand their workforce at the same rate as purely domestic firms. In other service activities, their growth rate is actually lower.

The estimates of the separate equations for gross job creation and destruction also confirm one of the findings of the descriptive analysis, namely that firms active on the international markets exhibit lower employment volatility than purely domestic firms, in both manufacturing and services. In fact, the coefficients relating to the various types of firms indicate that those with trade or direct investment links with other countries have, on average, much smaller job creation and job destruction rates than purely domestic firms, leaving aside the size effect. In manufacturing and trade, that effect is more marked for Belgian multinationals and branches of foreign

TABLE 6 IMPACT OF INTERNATIONAL ACTIVITIES ON JOB CREATION AND JOB DESTRUCTION

(ordinary least squares estimates over the period 1998-2005; coefficients expressed as percentage points)

	Results including business start-ups and closures			Results excluding business start-ups and closures		
	Net job creation	Gross job creation	Gross job destruction	Net job creation	Gross job creation	Gross job destruction
Manufacturing						
Exporters	1.9	-6.9	-14.0	6.7	-0.8	-15.7
Importers	5.9	-5.2	-17.5	9.9	-	-18.8
Two-way traders	5.2	-6.8	-19.6	9.7	-0.8	-21.4
Belgian multinationals	4.2	-10.0	-23.0	8.2	-4.1	-23.4
Foreign firms	2.6	-12.4	-23.8	7.5	-5.0	-24.6
Wholesale and retail trade						
Exporters	1.7	-7.4	-13.5	7.0	-0.9	-15.4
Importers	3.1	-6.6	-16.4	8.3	-	-17.8
Two-way traders	2.4	-7.5	-16.9	8.4	-	-19.6
Belgian multinationals	-	-10.1	-16.6	3.7	-4.0	-18.1
Foreign firms	-	-10.2	-19.0	4.9	-2.8	-19.9
Other services						
Exporters	-	-7.0	-11.5	5.3	-	-12.3
Importers	2.5	-4.8	-10.2	7.2	1.4	-11.4
Two-way traders	1.6	-6.5	-11.7	7.4	1.0	-13.2
Belgian multinationals	-4.7	-11.4	-12.2	-	-2.9	-9.4
Foreign firms	-5.4	-10.0	-9.5	-1.2	-4.0	-9.6

Notes: The figures in this table are to be interpreted in terms of the difference in relation to purely local firms. The dashes indicate coefficients whose value is not significantly different from zero at the 5 p.c. level, i.e. the cases where the impact on employment of the type of international activity concerned is not significantly different from that of a purely domestic activity. For the sake of brevity, the coefficients relating to the firms' size, profitability and productivity and those relating to effects specific to each industry and time effects are not reported.

firms, where employment turnover is consequently lower. The econometric results also show that the positive influence of foreign trade and FDI on employment operates more through a reduction in job losses – the effect being more apparent on gross job destruction – than through an increase in job creation.

The results are slightly different if business start-ups and closures are excluded. Compared to the findings on the basis of the sample including them, the most striking differences concern the coefficients of the equations relating to the rates of net and gross job creation, which are higher. In fact, as most new businesses are concentrated in the category of purely domestic firms, the main effect of excluding job flows due to the demography of firms is to reduce the employment turnover rates for that category. As a corollary, in relation to that benchmark, the results for the other categories of firms are higher.

Despite these quantitative differences, the conclusions concerning the effects of foreign trade and FDI on employment in firms remain the same. The findings of stronger employment growth and lower employment turnover in internationally active firms can therefore be considered robust to entries and exits of firms.

Conclusion

Traditionally, the role of foreign trade in the operation of the economy is examined by a macroeconomic approach. It concerns in particular the global position of the economy as regards international openness, competitiveness or export performance. As in other fields of economic research, a microeconomic approach evidently strengthens the foundation of that analysis by taking account of the diversity of firms' individual situations.

The results presented here for Belgium broadly confirm those available for other countries. By merging the Central Balance Sheet Office data with the foreign trade figures and the data from the direct investment survey, they are based on a very large – or virtually exhaustive – sample of non-financial corporations, whereas other studies tend to concern large firms in manufacturing industry.

The results show that only a relatively small proportion of firms established in Belgium are involved in international trade. An even smaller percentage of those belong to multinational groups. However, these firms are notable for their higher level of productivity and larger size than firms focusing solely on the domestic market.

Even after controlling for the effects of other factors, such as the industry, the general business situation or the firm's size, it is evident that firms having trade or direct investment links with other countries exhibit stronger employment growth. This difference is more particularly pronounced in the case of importers, whether they operate in manufacturing or in the trade sector. Thus, importers have attenuated somewhat the decline in employment in the Belgian manufacturing sector. This suggests that the use of international outsourcing enables firms to move to the production of higher value added products for which they have greater competitive advantages. However, it must be emphasised that the results relating

to job creation or job destruction set out in this article may present divergent trends for different skill levels in the workforce. International outsourcing, such as the establishment of foreign production units, may in fact increase the demand for highly skilled labour to the detriment of less skilled workers.

This study also reveals a robust link between the international activities of Belgian firms and a lower rate of employment turnover. On average, multinationals and firms active in foreign trade exhibit lower job creation and job destruction rates than firms focusing solely on domestic markets. This lower employment volatility is attributable to the scope for diversification available to firms present on foreign markets in addition to their domestic market. As a result of that diversification, both foreign trade and direct investment provide employees with more stable jobs.

In all, the results therefore indicate that firms participating in the trend towards globalisation obtain better results than those ignoring it. However, the initial costs associated with international openness require them to have first attained an adequate level of productivity. To foster foreign expansion and hence to anchor activities and employment in the economy, firms and governments should therefore endeavour both to augment productivity and to reduce the barriers to foreign trade.

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Foreign financial transactions of Belgian non-financial sectors

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Introduction

Belgium is a small, open economy which not only exports and imports goods and services on a substantial scale, but also records significant financial flows in relation to other countries. Yet recent analyses have rarely addressed the financial transactions of resident sectors with the rest of the world. However, in the past few years, and more specifically since the introduction of the euro, these transactions have profoundly altered the structure of the financial wealth of Belgian sectors. The purpose of this article is to examine the foreign assets held and foreign liabilities contracted by Belgian non-financial sectors, and describe how they have changed over time. It therefore provides some information on the way in which these sectors have participated in the international financial integration.

First, the article analyses Belgium's net external position, and how it has changed in the past ten years, thus identifying price effects in the developments observed.

The rest of the article details the transactions of households, non-financial corporations and Belgian general government with the rest of the world. It examines the movement in the market share of the rest of the world in the assets and liabilities of these sectors, and the instruments and transactions underlying those movements.

1. Belgium's net external position

1.1 Situation at the end of 2007

Defined as the difference between the assets and liabilities of resident sectors vis-à-vis the rest of the world, Belgium's net external position is decidedly positive. At the end of 2007, it stood at 147.1 billion euro, thanks to the net external position of households and financial corporations, as at that time their financial balances vis-à-vis the rest of the world came to 146.8 and 243.9 billion euro respectively. Conversely, at the end of 2007, non-financial corporations and general government recorded net financial liabilities of 91.3 and 152.3 billion euro respectively in relation to other countries.

1.2 Movement over the past ten years

In the past ten years, Belgium's net external position has grown, rising from 84.1 billion euro at the end of 1997 to 147.1 billion euro, representing 38 and 44.4 p.c. of GDP respectively.

At the end of 1997, this position was attributable solely to the positive financial balance of households in relation to other countries, totalling 179.8 billion euro. The other economic sectors recorded a negative net external position of 28.5 billion for non-financial corporations, 60.2 billion for general government and 7.1 billion for financial corporations.

TABLE 1 BELGIUM'S NET EXTERNAL POSITION: SITUATION AT THE END OF 1997 AND AT THE END OF 2007
(billions of euro, unless otherwise stated)

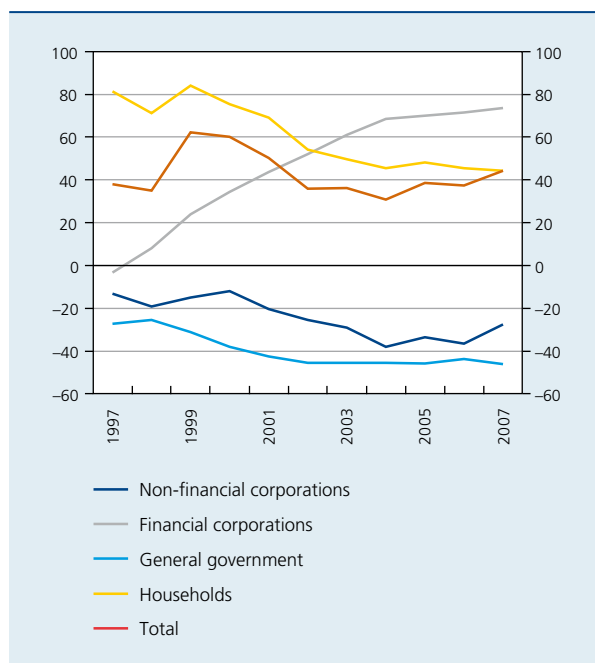
	Assets		Liabilities		Balance		Balance as p.c. of GDP	
	1997	2007	1997	2007	1997	2007	1997	2007
Households	179.8	146.8	-	-	179.8	146.8	81.3	44.3
Non-financial corporations	101.5	444.7	130.0	536.0	-28.5	-91.3	-12.9	-27.5
General government	1.2	3.1	61.4	155.4	-60.2	-152.3	-27.2	-45.9
Financial corporations	304.0	1,087.1	311.1	843.2	-7.1	243.9	-3.2	73.6
Total	586.5	1,681.7	502.5	1,534.6	84.1	147.1	38.0	44.4

Source : NBB.

There were notable changes between 1997 and 2007. The main one concerned financial corporations which, in the space of ten years, moved from a slightly negative net external position in 1997 to a very positive net external position. If credit institutions are considered on their own, it is evident that this change occurred over a smaller number of years, broadly speaking from 1999 to 2004.

Various factors contributed to this development. First, the steadily advancing internationalisation of the financial institutions played an active part. In recent years, Belgian credit institutions have progressively expanded their foreign activities owing to the limited scope for growth on the domestic market. That international expansion had already taken the form of the establishment of binational groups in the 1990s, with credit institutions from neighbouring countries, and more recently led to acquisitions in Central and Eastern Europe and in Turkey. Moreover, following the changeover to the euro, the Treasury increased the diversification of investments in government securities. Belgian financial institutions also diversified their portfolio of securities and replaced Belgian government paper with foreign instruments.

CHART 1 MOVEMENT IN THE NET EXTERNAL POSITION OF THE BELGIAN SECTORS
(percentages of GDP)



Source : NBB.

All these changes explain the considerable increase in both the financial assets and the financial liabilities of Belgian credit institutions vis-à-vis the rest of the world. While their gross financial assets came to 249.3 billion euro at the end of 1997, they totalled 786.7 billion at the end of 2007. Similarly, their gross financial liabilities increased from 284.5 billion euro at the end of 1997 to 677 billion at the end of 2007.

The growth of the banks' foreign liabilities was outstripped by the increase in their assets, a primary factor being the profound change which has taken place in recent years in Belgium's special financial relationships with Luxembourg and the Netherlands. The substantial investments by Belgian residents in Luxembourg and the Netherlands brought the banks in those countries an inflow of Belgian francs which they used to grant interbank loans to Belgian banks.⁽¹⁾

(1) The Luxembourg banks were also able to use these funds to subscribe directly to Belgian Treasury certificates.

The changeover to the euro, and particularly the implementation of the European savings tax directive (see section 2.1) curbed that practice and therefore reduced the external debts of the Belgian financial sector.

It must also be said that, over the years, both investments and liabilities in relation to the rest of the world have steadily expanded for all the various Belgian sectors, except for households. While the latter's net external position at the end of 1997 represented 81.3 p.c. of GDP, it was down to 44.3 p.c. of GDP at the end of 2007. Conversely, the net financial liabilities of non-financial corporations vis-à-vis the rest of the world came to 12.9 p.c. of GDP at the end of 1997, compared to 27.5 p.c. of GDP ten years later. The government also focused more on other countries: at the end of 1997, its net financial liabilities equalled 27.2 p.c. of GDP, against 45.9 p.c. at the end of 2007. As already mentioned, the biggest change concerned the situation of financial corporations: while their net financial liabilities came to 3.2 p.c. of GDP at the end of 1997, by the end of 2007 Belgian financial corporations held net financial assets in relation to the rest of the world worth the equivalent of 73.6 p.c. of GDP.

1.3 Financial transactions and price effects

The financial accounts record the outstanding amount of the financial wealth at the end of a period and the flows of financial assets and liabilities (or the financial transactions, according to the ESA 95) during a period. However, the change in the stock of financial assets and liabilities between one year and the next does not correspond to the flows recorded between those dates. The total figure for equities as recorded in the financial accounts is calculated at the end of each year at market prices⁽¹⁾

(i.e. on the basis of the values recorded at the end of each period). Apart from the recorded volume of transactions, it includes changes in the valuation of assets and liabilities occurring during the year. Those changes may be due to revaluation of the assets or to exchange rate fluctuations. The changes in the outstanding amounts also include other volume changes (e.g. sectoral reclassifications, shifts between financial instruments or exceptional events).

To analyse the financial position of the various economic sectors it is necessary to be able to separate the price effects from the volume of transactions when observing financial movements. Depending on their size, fluctuations in financial prices in either direction will often have a significant impact on the outstanding amount of the financial portfolio of Belgian sectors.

To estimate the effect of revaluations over the past ten years, it is necessary to reconstruct, on the basis of the outstanding total at the end of 1997, a theoretical total which takes account only of the amounts invested each year (in other words, the cumulative flows from 1998 to 2007, or the effect due exclusively to transactions). Comparison of the respective changes in the theoretical and recorded totals provides an estimate of the size of the fluctuations in financial prices (i.e. the price effect) in the movement in the recorded outstanding total.

If the change in the total is smaller (greater) than the cumulative flows, that implies that the total at the end of the period has been driven down (up) by a negative

(1) Other instruments (fixed-income securities, loans) are recorded at their acquisition cost. However, they may be subject to price changes via exchange rate fluctuations.

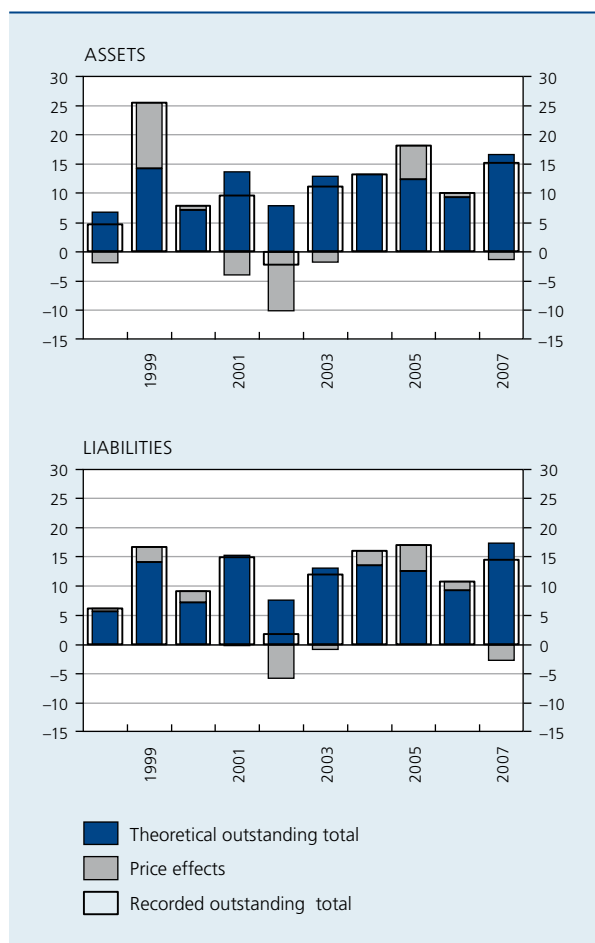
TABLE 2 CHANGES IN OUTSTANDING AMOUNTS BETWEEN THE END OF 1997 AND THE END OF 2007,
BROKEN DOWN INTO PRICE EFFECTS AND FINANCIAL TRANSACTIONS
(billions of euro)

	Assets		Liabilities	
	Financial transactions	Price effects	Financial transactions	Price effects
Households	-6.0	-27.0	-	-
Non-financial corporations	331.4	11.8	358.3	47.7
General government	2.6	-0.7	83.3	10.7
Financial corporations	793.1	-10.0	567.8	-35.7
Total	1,121.1	-25.9	1,009.4	22.8

Source: NBB.

CHART 2 IMPORTANCE OF PRICE EFFECTS AND FINANCIAL TRANSACTIONS IN THE CHANGES OF OUTSTANDING TOTALS DURING THE PAST DECADE

(annual percentage change)



Source : NBB.

(positive) price effect. For the assets, these revaluations are put at -25.9 billion euro over the past ten years, for the Belgian economic sectors as a whole. For the liabilities, the figure is 22.8 billion euro.

The sectors facing significant negative price effects are households, in asset formation, and financial corporations, in the formation of assets and liabilities. That probably reflects the fact that households are attracted by high-yield assets, particularly those denominated in foreign currencies, but with risks (e.g. the exchange rate risk) that may prove considerable if the euro appreciates, as has happened in the past few years. The various

(1) In 1998, a new data collection system was set up for the financial accounts, which affected in particular the recording of changes in volume other than flows. The entry into force of this new system causes a break in the data series.

episodes of financial turbulence at the end of the period considered seem to have affected the foreign transactions of financial corporations (drop in their share prices and in the US dollar exchange rate).

Chart 2 illustrates the importance of price effects on the changes in the outstanding totals during the past decade. In 1999⁽¹⁾ the price effects were positive, reflecting the stock market boom. These price effects diminished in 2000 following the bursting of the technology bubble and the stock market crash, thus driving down the recorded outstanding total. Between 2001 and 2003 they became negative. In 2002, at the bottom of the cycle, financial asset prices fell by 10.2 p.c., causing a 2.3 p.c. decline in the recorded outstanding total, despite positive financial flows. During that same year, financial liability prices also dropped by 5.8 p.c., tempering the expansion in flows by a corresponding amount.

Between 2004 and 2006, the increase in the recorded outstanding total of the financial assets is due both to the expansion of the flows and the price recovery. The same applies to the growth of the financial liabilities over the same period.

In 2007, while the volume of transactions increased fairly strongly, the price effects were again negative for both assets and liabilities, probably owing to the various episodes of financial market turbulence.

2. Financial transactions vis-à-vis the rest of the world

2.1 Households

2.1.1 Foreign financial liabilities

Owing to the absence of information, the financial accounts do not record the foreign financial liabilities of Belgian households. In all probability, they are negligible, reflecting the current segmentation of the household credit market at European level. Conversely, Belgian households have long been in the habit of acquiring financial assets from foreign counterparties. The next section is devoted to analysis of these financial instruments held in other countries.

2.1.2 Foreign financial assets

This section looks at recent developments concerning foreign financial assets held by Belgian households, in the light of the many events which may have influenced

saving patterns over the past ten years: introduction of the euro, creation of Euronext, the one-off regulation securing release from tax liability, the European savings tax directive, etc.

2.1.2.1 Comments on methodology

According to the methodology of the financial accounts, the foreign character of an asset is determined exclusively by the debtor's country of residence: neither the currency in which it is denominated nor the place where it is held is taken into account. For example, a dollar deposit on an account held with a Belgian bank will be regarded as a domestic asset, while American bonds or shares held on a securities account with the same bank will be recorded as foreign assets. This method causes a problem in the case of undertakings for collective investment (UCIs): units in Belgian UCIs are recorded as domestic assets even if those UCIs hold a portfolio of foreign securities; conversely, units in foreign UCIs held by Belgian residents are classed as foreign assets even if the portfolio consists of Belgian securities. This rule will therefore be disregarded for the purpose of the analysis: investments by households in units of Belgian or foreign UCIs investing in foreign securities will be regarded as foreign assets, and investments in units in Belgian or foreign UCIs investing in Belgian securities will be regarded as domestic assets.⁽¹⁾

In general, the figures relating to household assets in other countries have to be interpreted with caution, as the Belgian financial accounts usually estimate the assets of households as a residual figure, which implies that any error in the recording of financial assets of other sectors inevitably affects the household data. Moreover, the figures for the outstanding totals are mostly based on the cumulative flows in the balance of payments, which are then revalued on the basis of various assumptions. Consequently, portfolio switches between assets held abroad (e.g. the acquisition of foreign shares financed via a sight deposit with a foreign bank) go unrecorded, and that probably introduces some distortion in the analysis of the breakdown by instruments of claims on other countries.

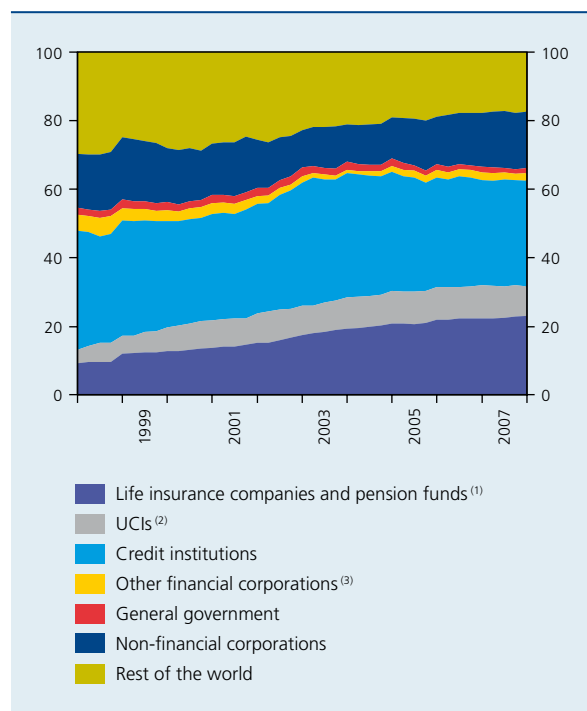
2.1.2.2 Overall movement in the holding of foreign assets

At the end of 2007, foreign claims represented 17 p.c. of the financial portfolio of Belgian households. The rest of the world is thus the third largest channel for

investment by individual investors, coming behind two domestic subsectors: credit institutions (31 p.c. of assets) and life insurance companies and pension funds (23 p.c.). Disintermediated investments in equities and bonds issued by non-financial corporations came to 16 p.c. on 31 December 2007, and units in Belgian UCIs stood at 9 p.c. Finally, the liabilities of general government and entities in the "other financial corporations" category represented only a minor direct counterpart to the financial assets of households at the end of 2007.

Although still substantial, the share of external assets has declined very sharply in the past ten years: at the end of 1997, claims on the rest of the world still represented 30 p.c. of the household portfolio. In the space of ten years, the proportion of foreign assets has therefore fallen by over 10 percentage points. That decline is also perceptible in the absolute value: as stated in section 1.2, the total stock of foreign financial assets held by households was down from 179.8 billion euro at the end of 1997 to 146.8 billion at the end of 2007.

CHART 3 FINANCIAL ASSETS OF HOUSEHOLDS:
BREAKDOWN BY COUNTERPARTY SECTOR
(end-of-quarter data, percentages of the outstanding total)



Source: NBB.

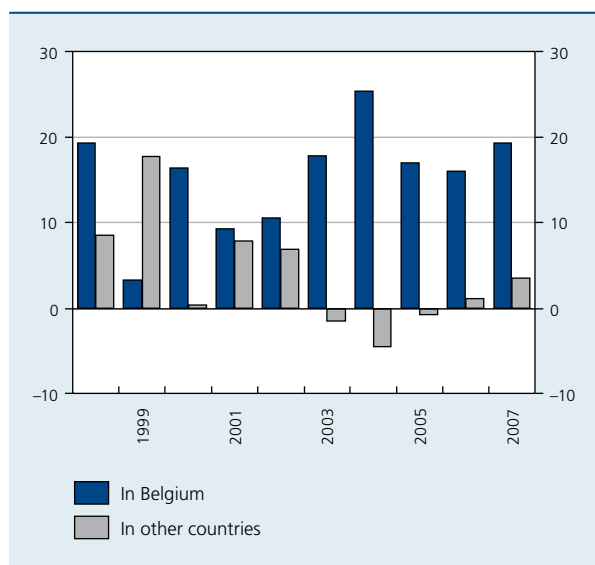
(1) Including pension savings funds.

(2) Excluding pension savings funds.

(3) This category comprises the NBB, financial auxiliaries, the "non-life" branches of insurance companies, and financial intermediaries not included under other headings.

(1) This adjustment is made only in the subsequent analysis of the financial transactions. To maintain consistency with the financial accounts in general, and with section 1 of this article in particular, the figures for the outstanding totals are not adjusted.

CHART 4 FORMATION OF FINANCIAL ASSETS BY HOUSEHOLDS
(flows, billions of euro)



Source : NBB.

In the past ten years, the financial transactions of Belgian households with other countries can be divided into two phases:

- up to 1999, the amount of Belgians' capital exports was similar to the amount of financial assets constituted in Belgium;
- since the year 2000, foreign investment flows have been systematically – and often very considerably – smaller than the formation of domestic assets.

2.1.2.3 Movement per asset category

However, this overall picture conceals changes which were diametrically opposed, depending on the asset category considered. Thus, the weight of the total stock of interest-bearing assets (deposits, fixed-income securities and monetary or bond UCIs), which represented around 70 p.c. of the foreign portfolio of households in 1997, has since halved. Conversely, equities and units in equity UCIs, which ten years ago represented only 12 p.c. of foreign assets, now form the dominant category in the foreign portfolio of households (42 p.c.). Finally, technical insurance reserves, which were still negligible in 1997, now account for 13 p.c. of the foreign financial assets of Belgian households.

To identify the factors determining these changes, the following paragraphs endeavour to give a year-by-year breakdown of the flows of financial transactions between Belgian households and the rest of the world according to the type of financial instrument used. The analysis thus compares successively the formation of interest-bearing assets, equities and units in equity UCIs, and technical insurance reserves in Belgium and in other countries.

a) Interest-bearing assets

Examination of the movement in the interest-bearing assets of Belgian households reveals that the formation of foreign financial assets slowed sharply from 1998 and that it rapidly lost its predominance over the formation of domestic interest-bearing assets. In 2001, for the first time, Belgian households showed a very marked preference for domestic investments in their portfolio of

TABLE 3 FOREIGN FINANCIAL ASSETS OF HOUSEHOLDS: BREAKDOWN BY INSTRUMENT
(end-of-period outstanding totals)

	1997			2007		
	billions of euro	p.c. of the total	p.c. of GDP	billions of euro	p.c. of the total	p.c. of GDP
Interest-bearing assets	126.8	70.5	57.4	49.3	33.6	14.9
Equities and units in equity UCIs	22.2	12.3	10.0	61.6	42.0	18.6
Technical insurance reserves	2.7	1.5	1.2	19.1	13.0	5.8
Other ⁽¹⁾	28.1	15.6	12.7	16.8	11.4	5.1
Total	179.8	100.0	81.3	146.8	100.0	44.3

Sources: NAI, NBB.

(1) This item consists mainly of errors and omissions, as well as units in UCIs not included in other categories in the table and cash.

interest-bearing assets. From 2002 to 2006, households repatriated this type of capital each year, exchanging their foreign interest-bearing assets for Belgian assets of the same type, as is evident from the symmetry of the chart showing flows of funds. These opposing movements in foreign and domestic interest-bearing investments probably reflect the anticipation of the European savings tax directive, which thus influenced the saving habits of Belgian households even before it actually came into force on 1 July 2005. In 2007, flows of investments in foreign interest-bearing assets became positive again.

In this comparison, the interest-bearing assets comprise deposits, fixed-income securities and units in monetary UCIs or UCIs investing mainly in bonds. These categories of instruments were not put together at random, as they constitute an approximation of the interest-bearing assets governed by the European savings tax directive.⁽¹⁾ Since political agreement had already been reached in 2000 on the main points of the directive, many households were able to adjust their portfolio of financial assets in advance, despite the uncertainty over the date of entry into force of the directive. The one-off tax regulation may also have encouraged some households to adjust their assets before the directive was actually implemented.

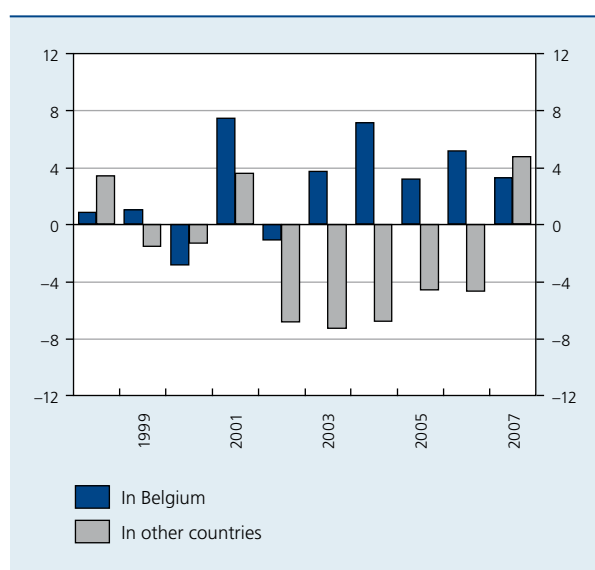
However, it is difficult to identify how any anticipation of the entry into force of the savings tax directive influenced the investment behaviour of Belgian households, since

other factors may also have been at work. Households' decisions are determined not only by their appraisal of the opportunities on the financial markets but also by technical or fiscal factors: the development of tax-free domestic products, whether or not the household prefers dematerialised securities, the effectiveness of the efforts to control fraud and tax evasion, the application of inheritance tax rules of varying stringency, etc. It must be said that, for some years now, a number of changes concerning these factors have made it less attractive for households to hold foreign financial assets.

b) Equities and units in equity UCIs

Comparison of the net acquisitions of Belgian and foreign equities and units in equity UCIs by Belgian households provides further interesting information. Thus, the very marked preference for foreign investments in 1999 is attributable to massive purchases of equities and units in equity UCIs issued by foreign enterprises. These investments seem to have been financed in particular by the sale of Belgian equities and units in equity UCIs. It is not by chance that this surge of enthusiasm coincided with the introduction of the euro. Owing to the elimination of the foreign exchange risk and exchange commission fees, the universe of household investments now extended to a far more varied and liquid range of securities than just those quoted on the Brussels stock exchange. Investors therefore turned away from Belgian stocks and took more interest in the leading euro area equities.

CHART 5 FORMATION OF INTEREST-BEARING ASSETS⁽¹⁾
BY HOUSEHOLDS
(flows, billions of euro)



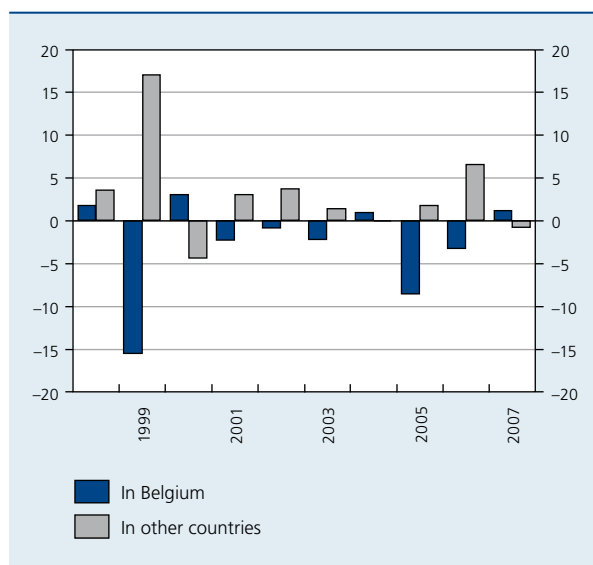
Source : NBB.

(1) Namely deposits, fixed-income securities and units in monetary and bond UCIs.

It must be said that the end of the 1990s was a period of euphoria regarding businesses involved in technology and telecommunications, two sectors which at that time were very under-represented on the Brussels stock exchange, which was dominated by financial corporations. Logically therefore, the bursting of this speculative bubble should have curbed investors' interest in foreign equities and units in equity UCIs. That seems to have happened in the year 2000, when households reverted, albeit cautiously, to net acquisitions of Belgian equities and units in equity UCIs. However, on 22 September 2000, a further step was taken towards the integration of the financial markets with the creation of Euronext, which provided somewhat easier access to the French and Dutch stock markets. In almost every year since 2001, households have therefore preferred foreign securities to those issued by Belgian firms.

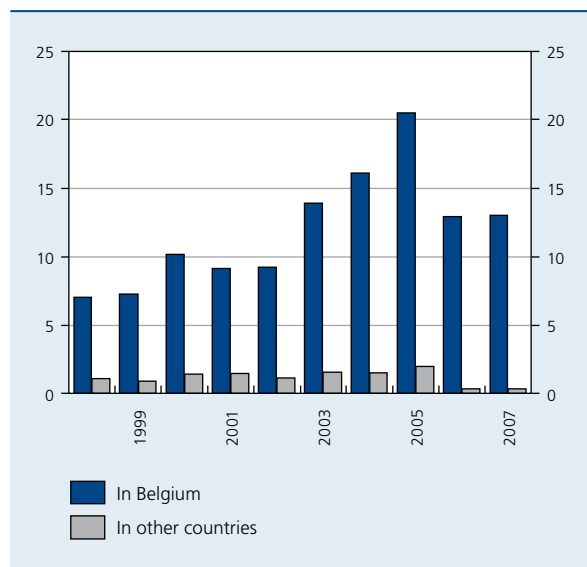
(1) In reality, all fixed-income securities were taken into account, including bonds issued before 1 March 2001, which are not covered by the directive. Conversely, investments in mixed funds which place over 40 p.c. of their assets in bonds are not covered by the definition used in this part of the analysis concerning interest-bearing assets.

CHART 6 NET ACQUISITION OF EQUITIES AND UNITS IN EQUITY UCIS BY HOUSEHOLDS
(flows, billions of euro)



Source : NBB.

CHART 7 FORMATION OF INSURANCE TECHNICAL RESERVES
(flows, billions of euro)



Source : NBB.

The last decade has also seen a number of Belgian listed companies being taken over by major foreign firms. These developments led to shifts between domestic and foreign counterparties in the equity portfolio of Belgian households. For example, in 2005 the public offer by Suez for shares in Electrabel resulted in the sale of Belgian shares in exchange for foreign shares. Adjustments of this type, which also concerned Petrofina and Total shares in 1999, were undeniably a factor in strengthening the position of foreign stocks in the portfolio of Belgian households. However, they do reflect a genuine desire for international diversification of their portfolio on the part of households, as once their positions had become foreign they did not dispose of them on a large scale in order to reinvest in Belgian stocks.

c) Technical insurance reserves

The financial accounts provide only a partial picture of foreign subscriptions to insurance technical reserves. Indeed, owing to a lack of information, only the amounts subscribed with companies established in Luxembourg are currently recorded, via the data from the *Commissariat luxembourgeois aux assurances*. Be that as it may, it seems that the formation of foreign technical insurance reserves is still very limited in comparison with the premiums paid to companies based in Belgium and supervised by the CBFA, which often qualify for a favourable tax regime.

It is interesting that reserves formed in both Belgium and Luxembourg have tended to increase in the past ten years. Investments in insurance therefore seem to have escaped the “Belgium versus the rest of the world” portfolio adjustments which affected both interest-bearing assets and equities or units in equity UCIs, though in opposing directions. Thus, the marked fall which ended this upward trend in 2006 applied to investments in both Belgian and foreign insurance products. This downturn was due to the introduction, on 1 January 2006, of a 1.1 p.c. tax on premiums for individual life insurance policies. Although some households had anticipated this measure, by effecting at the end of the previous year payments originally scheduled for 2006, it nevertheless seems that many savers preferred to put their savings into alternative financial products.

2.2 Non-financial corporations

2.2.1 General

The outstanding amount of foreign liabilities of Belgian firms has soared in the past decade, increasing from 130 billion euro at the end of 1997 to 536 billion at the end of 2007, at which point approximately three-quarters of these liabilities took the form of equities.

TABLE 4 FOREIGN FINANCIAL LIABILITIES OF BELGIAN FIRMS: BREAKDOWN BY INSTRUMENT
(outstanding amount at end of period)

	1997			2007		
	billions of euro	p.c. of the total	p.c. of GDP	billions of euro	p.c. of the total	p.c. of GDP
Equities	74.0	57.0	33.5	404.9	75.5	122.2
Non-bank loans	32.5	25.0	14.7	56.2	10.5	16.9
Bank loans	10.8	8.3	4.9	50.9	9.5	15.4
Fixed-income securities	3.6	2.8	1.6	24.0	4.5	7.2
Other ⁽¹⁾	9.0	7.0	4.1	0.0	0.0	0.0
Total	130.0	100.0	58.8	536.0	100.0	161.7

Source: NBB.

(1) This item includes errors and omissions on Belgium's financial account with the rest of the world.

In absolute terms, the gross external assets of Belgian firms stood at 444.7 billion euro at the end of 2007 compared to 101.5 billion at the end of 1997. On 31 December 2007, around 46 p.c. of those assets consisted of equities and 38 p.c. inter-company loans.

The share of the non-resident sector in the total liabilities of non-financial corporations has thus increased from 24 to over 37 p.c. during the past ten years. The corollary to that increase was a decline in the share of resident sectors, particularly the financial sector (including credit institutions and other financial corporations), which dropped from 25 to 10 p.c. of the total, and that of households, down from 17 to 10 p.c. of the total. That partly reflects

the marked deceleration – and even contraction from 2002 to 2004 – of lending by Belgian banks to resident enterprises, and partly the succession of negative price effects incurred by Belgian households on their holdings of equities issued by Belgian firms, more particularly from 2000 to 2003.

On the assets side of the balance sheet of Belgian firms, the share of other countries also increased in relation to other counterparty sectors, rising from 28 to 39 p.c. of the total between 1997 and 2007. Here, too, it was the resident financial sector that saw the most significant drop in its relative share, down from 27 to 12 p.c. of the total.

TABLE 5 FOREIGN FINANCIAL ASSETS OF BELGIAN FIRMS: BREAKDOWN BY INSTRUMENT
(outstanding amount at end of period)

	1997			2007		
	billions of euro	p.c. of the total	p.c. of GDP	billions of euro	p.c. of the total	p.c. of GDP
Equities	46.5	45.8	21.0	205.7	46.3	62.1
Non-bank loans	23.5	23.1	10.6	169.9	38.2	51.2
Bank loans	6.2	6.1	2.8	36.1	8.1	10.9
Fixed-income securities	1.2	1.2	0.5	7.6	1.7	2.3
Other ⁽¹⁾	24.2	23.8	10.9	25.4	5.7	7.7
Total	101.5	100.0	45.9	444.7	100.0	134.2

Source: NBB.

(1) This item includes errors and omissions on Belgium's financial account with the rest of the world.

Finally, it should be pointed out that the financial links between Belgian firms – essentially links between associated companies forming part of the same group and recorded in full in the non-consolidated financial accounts drawn up by the Bank – have intensified in the past ten years. Thus, on 31 December 2007 an estimated 42 p.c. of the liabilities of Belgian firms had another resident non-financial enterprise as their counterparty (compared to 32 p.c. at the end of 1997), while in the case of their financial assets the figure was 52 p.c. (compared to 48 p.c. at the end of 1997).

The net external position of Belgian firms deteriorated steadily between 2001 and 2004, and then stabilised. As at 31 December 2007, it stood at 91 billion euro, or 28 p.c. of GDP, against 28 billion, or 13 p.c. of GDP, ten years previously.

2.2.2 Direct investment and inter-company loans: the role of the coordination centres

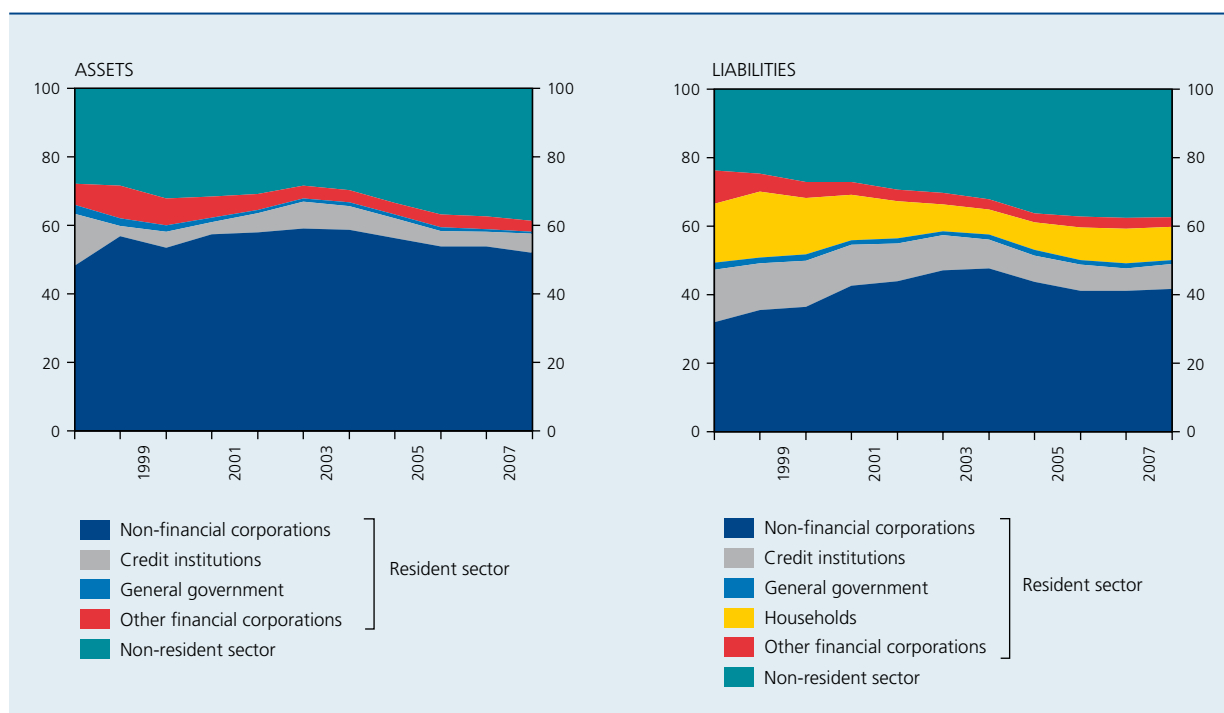
As explained in section 1.3, the movement in the net external position expressed as an outstanding amount is due to the accumulation of net financial flows and possible price effects. In the past decade, except in the years 1998, 2000 and 2005, the value of new liabilities has

systematically exceeded the value of new foreign asset formation. In other words, net capital inflows have generally been recorded, giving rise to the steady increase in the net external debt of Belgian firms.

Examination of the breakdown by instrument of the financial flows in relation to other countries shows that the net external liabilities are dominated by shareholdings in the form of foreign direct investment (FDI), while inter-company loans are significant at the level of the net external assets. This situation is due partly to the presence in Belgium of the coordination centres, though their particularly attractive tax status is currently being dismantled.

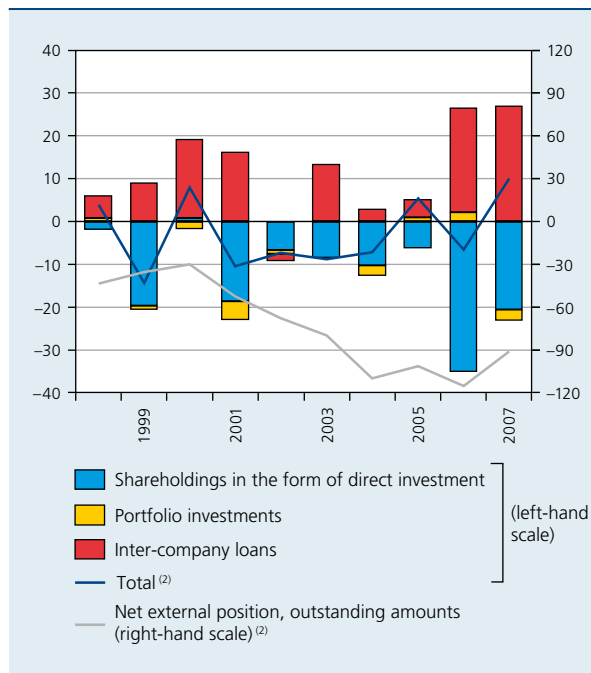
Under a preferential tax regime, Belgium-based coordination centres generally acted as the “internal banker” for a multinational group. Firms acquired shares in their coordination centre and received tax-free dividends from it. When they needed new money, they borrowed from the centre at interest, which was deductible as an expense. On the basis of the Bank’s internal estimates, the financial flows passing through the coordination centres represented around 33 p.c. of foreign direct investment in Belgium and 36 p.c. of direct investment by Belgium in other countries over the period 1995-2005.

CHART 8 FINANCIAL ASSETS AND LIABILITIES OF NON-FINANCIAL CORPORATIONS: BREAKDOWN BY COUNTERPARTY SECTOR
(outstanding amounts at end of period, percentages of the total)



Source: NBB.

CHART 9 MAIN NON-BANK TRANSACTIONS AFFECTING THE NET EXTERNAL POSITION OF FIRMS
(net flows ⁽¹⁾, billions of euro, unless otherwise stated)



Source : NBB.

- (1) A positive figure corresponds to the formation of a net external asset following a capital outflow. A negative figure corresponds to a net external liability and gives rise to a capital inflow.
- (2) The Total and Net External Position lines take account of all foreign transactions, and not only those detailed here. This means that they also include transactions between Belgian firms and foreign banks (loans and deposits) and issuances of fixed-income securities by Belgian firms with foreign subscribers.

Apart from the funds channelled through the coordination centres, in the past decade there has been extensive trading of shareholdings between Belgian and foreign firms, on account of mergers and acquisitions. These operations, which often led to the absorption of large Belgian companies by European (often French) multinationals, resulted in FDI inflows and contributed to the deterioration in the net external position of the target Belgian companies whose shares were transferred to foreign ownership. Following completion of the merger/acquisition, it is possible that the foreign company now controlling the Belgian company may continue to inject capital into the company and its subsidiaries, if any, causing additional FDI inflows and contributing still further to the deterioration in the net external position of firms.

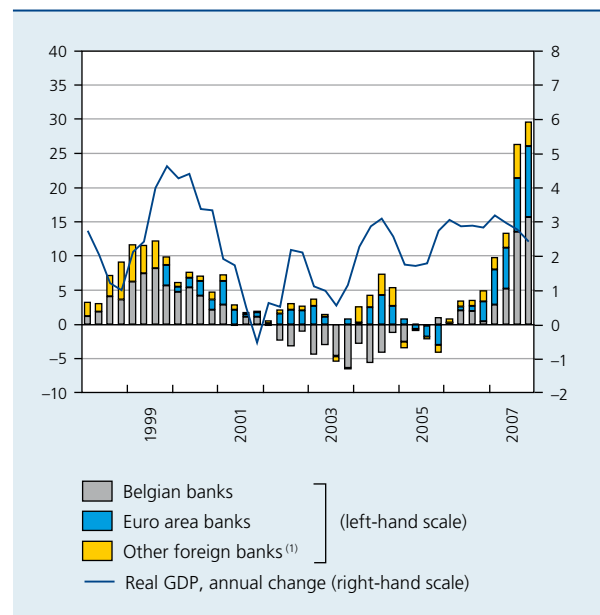
2.2.3 The expanding role of bank transactions with the rest of the world

The net external position of firms also depends on the loans granted to them by foreign banks and the formation of any deposits with those same banks. Belgian firms

have made increasing use of foreign banks to meet their financing needs in the past decade. Thus, from 1998 to 2007, foreign banks granted the equivalent of 51 billion euro in new bank loans to Belgian firms, while Belgian banks lent only 36 billion. From 2002 to 2004, the funds supplied by foreign banks (9.6 billion euro) to Belgian firms more or less offset the 10 billion decline in loans granted by Belgian banks. Consequently, the share of foreign lenders in the outstanding total of bank loans to Belgian firms increased from 12 p.c. at the end of 1997 to 35 p.c. at the end of 2007.

The increasingly international character of businesses, the mergers and acquisitions, the elimination of barriers to freedom to provide services and the introduction of the euro are important factors which have contributed to this development. Banks based elsewhere in the euro area have in fact been the main source of lending to Belgian firms, accounting for around two-thirds of bank loans subscribed abroad. It should also be remembered that the internationalisation of bank services is probably even farther advanced than indicated by the figures, since loans granted to resident enterprises by subsidiaries of foreign banks established in Belgium are regarded as transactions between residents. Section 1.2 shows that, during the

CHART 10 BANK LENDING TO NON-FINANCIAL CORPORATIONS, GEOGRAPHICAL BREAKDOWN OF LENDERS AND CYCLICAL DEVELOPMENTS
(contribution to the annual growth of bank lending, unless otherwise stated)



Source : NBB.

- (1) Up to the third quarter of 1999, lending by "other foreign banks" includes lending by banks in the euro area.

past decade, Belgian banks have also exhibited a desire to diversify and extend their operations beyond the national market.

2.3 General government

At the end of 2007, the gross financial liabilities of general government stood at 337 billion euro (or 101.7 p.c. of GDP). The two principal holders of Belgian public debt are resident financial institutions, with 116.3 billion, and the rest of the world with a total of 155.4 billion. However, there has been a major change in their relative shares over the past ten years. Estimated at 61.4 billion at the end of 1997, the financial assets of the rest of the world on Belgian general government (the vast majority, over 95 p.c., being securities issued by the Belgian State) have grown steadily since 1999, and that growth has been at the expense of Belgian credit institutions.

At the end of 2007, 46 p.c. of the Belgian public debt was held by the rest of the world, 35 p.c. by resident financial corporations, 13 p.c. by general government, 4 p.c. by households and 2 p.c. by resident non-financial corporations.

For comparison, the financial assets held by Belgian general government on the rest of the world are very modest in scale. At the end of the year, public authorities are in fact encouraged⁽¹⁾ to place their long-term assets in Belgian public securities and their short-term assets in a current account opened with the NBB in the name of the Treasury, to minimise Belgium's consolidated gross debt and facilitate compliance with the Maastricht targets for the public debt.

The assets of Belgian general government on the rest of the world represented 3.1 billion euro at the end of 2007. They consisted mainly of loans between States, investments by local authorities in UCI units, and claims on the European Union.

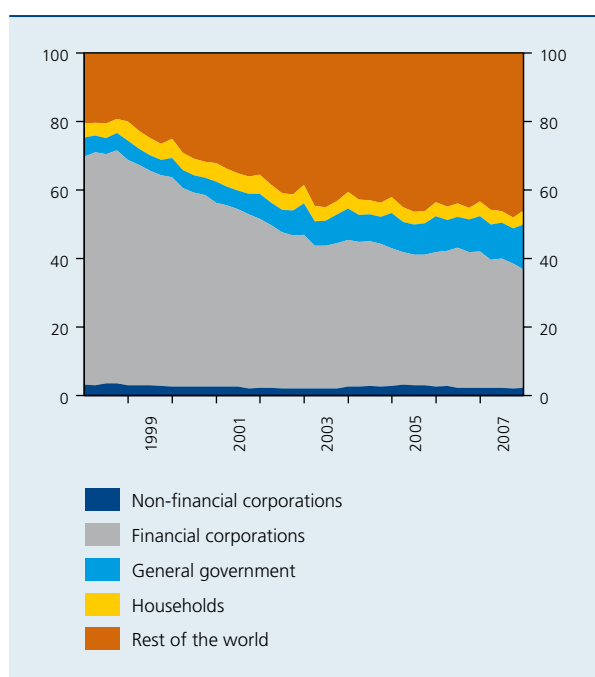
Regarding the financial liabilities of Belgian general government, the federal authority is responsible for 99.1 p.c. of the public debt held by the rest of the world, or 154 billion euro. The debt of the communities and regions in relation to other countries is very small, representing only 1.4 billion at the end of 2007. Local authorities and social security bodies had no financial liabilities in relation to the rest of the world at the end of that period.

It should be remembered that the general government debt consists essentially of securities, linear bonds (OLOs) and Treasury certificates. Some loans are also taken into account.

The share of Belgian public debt securities held by the rest of the world has grown steadily in recent years. While the proportion of foreign-held OLOs was around 20 p.c. at the beginning of 1999, it came to almost 55 p.c. at the end of 2007. The share of Treasury certificates held by the rest of the world has also followed an upward trend, rising from 42 p.c. at the beginning of 1999 to almost 77 p.c. at the end of 2007. This situation reflects the strong foreign demand engendered by the relative scarcity of short-term government securities in euro with a good rating from the rating agencies.

This development calls for several comments. First, the Treasury established some years ago a strategy for the more efficient management of the public debt. That strategy was motivated partly by a desire to diversify the debt securities, in order to ensure the liquidity of the securities issued for professional investors (OLOs and Treasury certificates). To ensure that liquidity, the Treasury concluded contracts with primary dealers and recognised dealers, who are responsible for promoting Belgian public debt

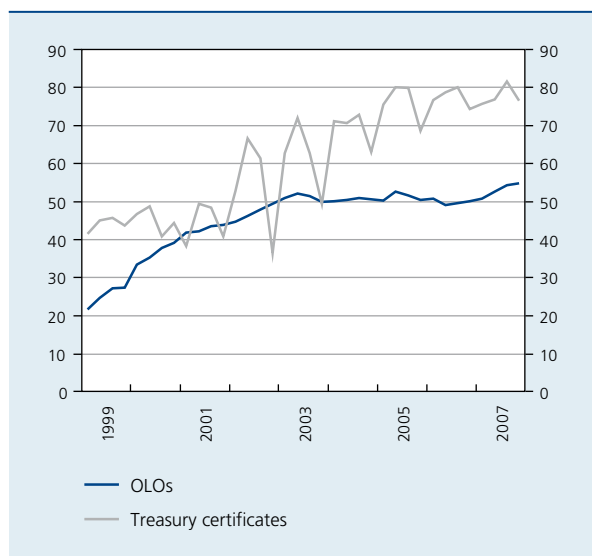
CHART 11 FINANCIAL LIABILITIES OF GENERAL GOVERNMENT : BREAKDOWN BY COUNTERPARTY SECTOR
(end-of-quarter data, percentages of the outstanding total)



Source : NBB.

(1) Royal Decree of 15 July 1997 modifying the legal framework for government investments (M.B. of 25 July 1997).

CHART 12 PROPORTION OF FOREIGN-HELD OLOS AND
TREASURY CERTIFICATES ISSUED BY THE BELGIAN
STATE
(end-of-quarter data, percentages of the total)



Source : NBB.

securities and stimulating activity on the primary and secondary markets (for more details, see NBB Report 2007, box 16). Improved liquidity for the securities in fact has a positive effect on the pricing of financial instruments and hence on the cost of the debt.

Finally, it is evident that foreign investors have maintained their interest in Belgian public debt securities in recent years, particularly owing to the pursuit of a relatively sound policy on public finances, which led the rating agencies to upgrade the rating of Belgian public debt securities.

Conclusion

The openness of the Belgian economy is equally apparent in the financial links which Belgium has formed with other countries. At the end of 2007, Belgium's net external assets totalled 44.4 p.c. of GDP.

In the past ten years, Belgium's net financial assets have grown considerably, in the context of the switch to the single currency and the ongoing process of financial integration and globalisation. The extent to which the various non-financial sectors have adapted to these developments varies greatly from one sector to another.

General government is the sector which has seen the biggest increase in the share of the debt held by the rest of the world: that share in fact increased from almost 20 p.c. at the end of 1997 to around 46 p.c. at the end of 2007. At the time of the introduction of the euro on the financial markets, it was essential for the Treasury to widen its investment base: appropriate diversification of the group of primary dealers and recognised dealers was one of the ways in which it achieved that.

Non-financial corporations, which traditionally maintain very close international financial contacts, saw a steady increase in the share of the rest of the world in their financial transactions between 1997 and 2007: in the case of financial liabilities, the figure was up from 24 p.c. to over 37 p.c. and for financial assets it was up from 28 p.c. to 39 p.c. However, these orders of magnitude are subject to a strong upward influence exerted by the coordination centres based in Belgium, which perform the function of a financial intermediary for the multinational group to which they belong. In the past decade, there have been frequent exchanges of shareholdings between Belgian and foreign companies, reflecting the process of mergers and acquisitions, and these have also contributed to the growth of direct investment between Belgium and the rest of the world. Finally, it should be noted that foreign banks, and more particularly those located in the euro area, are granting a growing volume of loans to Belgian firms.

The share of foreign assets in the household portfolio dropped from 30 p.c. at the end of 1997 to 17 p.c. at the end of 2007. Naturally, that is due partly to the introduction on 1 July 2005 of the European savings tax directive; it has now ceased to be possible for individuals to avoid the tax on income from interest-bearing assets held in other countries, and that has ultimately led to the repatriation of those assets. In contrast, in the case of non interest-bearing assets, foreign investment flows have been positive in the past ten years. Finally, it should be pointed out that the share of the rest of the world in the liabilities of households is still negligible.

The use and effectiveness of fiscal rules and independent fiscal institutions

L. Van Meensel
D. Dury

Introduction

It is widely acknowledged that sound public finances are essential to create the necessary conditions for price stability and strong, sustained growth conducive to employment. Moreover, past experience, particularly in Belgium, has shown how much an economy could ultimately suffer owing to a lack of fiscal discipline. In addition, it is increasingly recognised that fiscal rules and independent fiscal institutions other than governments and parliaments could make a major contribution to sound fiscal policy. In the context of the reform of the stability and growth pact, the European Council stressed in March 2005 that the commitments entered into by the Member States under the stability and growth pact needed to be supplemented by national budgetary rules, and that national institutions should be given a greater role in budgetary surveillance.

The article analyses the use and effectiveness of fiscal rules and independent fiscal institutions. Chapter 1 runs through the arguments put forward by the specialist literature on political economy in favour of such rules and institutions. Chapter 2 focuses on fiscal rules, examining them at European level and at the level of the EU Member States, with special attention to the situation in Belgium. In particular, it assesses the extent to which these fiscal rules have genuinely helped to increase budget discipline. The chapter ends with a discussion of the characteristics which the rules should ideally have in order to be effective. Chapter 3 looks at independent fiscal institutions, reviewing the existing institutions, their influence on fiscal policy and the conditions governing their success. The article ends with a summary of the main conclusions.

1. Use of fiscal rules and independent fiscal institutions

Past experience has shown that fiscal policy did not necessarily correspond to what is considered to be good governance from a macroeconomic point of view. Thus, over the last few decades, governments in many countries have often allowed their spending to increase faster than their revenue – even in times of economic prosperity – and have therefore sometimes built up substantial debt levels. The literature often attributes this lack of fiscal discipline to a “deficit bias”, suggesting that the democratic decision-making process may encourage deviation from the optimum fiscal policy.

This deficit bias seems to be due in particular to the fact that the population and politicians take an excessively short-term view. The population apparently focuses mainly on the short-term benefits of tax cuts or higher spending without always being aware of the possible adverse long-term impact on the budget of an expansionary fiscal policy. Politicians seem inclined to play on this in order to increase their chances of re-election. They may also tend to deliberately favour current generations and transfer the debt burden to future generations. Another explanation for the deficit bias might also lie in what game theory calls the “common pool problem”. In regard to fiscal policy, this concept means that each “player” or interest group looks after his own interests without taking account of the general budget constraints. This problem is sometimes linked to coalition governments.

The risk of a lack of fiscal discipline is even greater in a monetary union. In principle, if a country is not a member of a currency area, the financial markets can

discourage the pursuit of an inappropriate fiscal policy by incorporating a higher risk premium in the interest rates payable by authorities facing budget difficulties. Within a monetary union, this sanction mechanism is virtually non-existent since the impact on interest rates of an inappropriate fiscal policy in a given country is then confined to a small increase in the common interest rate, falling well short of the interest rate increase which the country in question would see if it were not part of a monetary union. That is particularly true in the case of a relatively small Member State. This argument applies not only to a monetary union comprising several countries, but also to local authorities or federated entities within a federal state.

The constant tendency of governments to record excessive budget deficits and the characteristics of a monetary union mentioned above justify the existence of fiscal rules and independent fiscal institutions. Such rules and institutions should restore the balance in the incentives of politicians, impose limits on the fiscal policy pursued and introduce fiscal coordination mechanisms. Politicians will in fact be more inclined to take unpopular but necessary economy measures if they have the support of independent fiscal institutions or existing fiscal rules, especially if the latter are imposed by a higher authority.

2. Fiscal rules

A fiscal rule may be defined as a permanent constraint imposed on fiscal policy in the form of a synthetic indicator of budget performance (Kopits and Symanski, 1998). It consists in setting a target or a numerical limit for the key aggregates of public finances, such as the budget balance, public revenue and expenditure, and the debt level.

This chapter presents the fiscal rules which exist at the various levels of power. First, it gives a brief description of the fiscal rules applicable at EU level. Next, it examines in depth the current or former fiscal rules applied in Belgium. It then describes some interesting results obtained from a survey of the national fiscal rules in force in the various EU Member States. Finally, the last section details the characteristics which fiscal rules need to have in order to be effective.

(1) The fiscal rules at EU level are discussed only very briefly here because they have already been examined in depth in the article *The stability and growth pact: an eventful history*, Economic Review, NBB, June 2005.

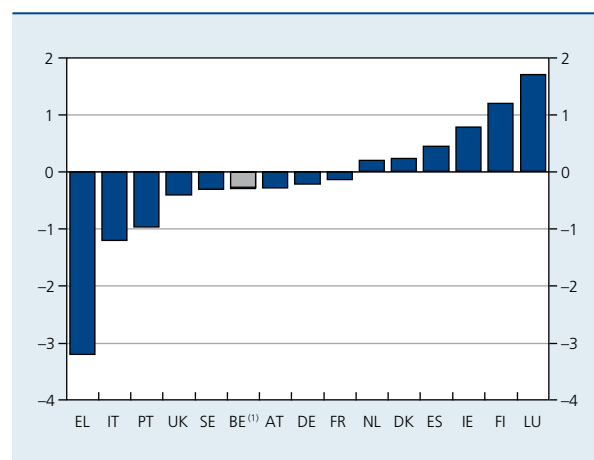
2.1 EU fiscal rules: Maastricht rules and the stability and growth pact⁽¹⁾

The Treaty establishing the European Community defines, under the convergence criteria which the Member States must satisfy in order to join the monetary union, reference values for the budget balance and the public debt. In 1992, an agreement was concluded on the subject in the form of the Maastricht Treaty. As a rule, the budget deficit must not be more than 3 p.c. of GDP and the public debt must not exceed the limit of 60 p.c. of GDP unless the ratio is sufficiently diminishing and approaching the reference value at a satisfactory pace. The Treaty introduced a correction mechanism linked to these criteria – namely the excessive deficit procedure – which aimed to ensure the maintenance of budgetary discipline after the creation of the monetary union. These fiscal rules, and the accompanying preventive and corrective procedures, were spelt out and reinforced by the stability and growth pact.

The preventive arm of the pact, which is intended to avoid excessive deficits, requires the Member States to draw up stability or convergence programmes defining the medium-term budget targets. Over the period 2001-2007, it appears that, on average, nine EU-15 Member States failed to meet the budget targets which they had set in their stability or convergence programmes. In Italy, Greece and Portugal, the actual figures even deviated substantially, on average,

CHART 1 BUDGET TARGETS UNDER THE STABILITY OR CONVERGENCE PROGRAMMES AND ACTUAL PERFORMANCE

(average difference between the budget balances achieved by the governments and the budget targets for the following year, over the period 2001-2007, as a percentage of GDP)



Source : EC.

(1) Without the effect of the assumption by the Railway Infrastructure Fund of the major part of the BNRC's debts at the time of the BNRC's restructuring on 1 January 2005, Belgium would not have deviated, on average, from its budget targets.

from the targets⁽¹⁾. Belgium did much better, but just as in the United Kingdom, Sweden, Austria, Germany and France, the actual figures fell short of the targets on average. However, it should be noted that, without the assumption of the major part of the BNRC's debt in 2005, Belgium would have achieved its budget targets overall. In contrast, in the Netherlands, Denmark, Spain, Ireland, Finland and Luxembourg, the fiscal balances achieved exceeded the stated targets.

2.2 Fiscal rules in Belgium

In Belgium, fiscal rules have been or are applied at the various levels of power. These targets or limits concern the government as a whole as well as its subsectors. These fiscal rules are described and then briefly assessed below.

2.2.1 Overview of fiscal rules in Belgium

TARGETS FOR THE GENERAL GOVERNMENT FISCAL BALANCE

In the early 1980s, the situation in Belgium's public finances was extremely worrying. The budget deficit actually exceeded 15 p.c. of GDP in 1981, a year of recession, while the debt ratio was escalating. However, great

progress has been made since then in the restoration of sound public finances. An initial consolidation phase took place from 1981 to 1987, years of significant improvement in the cyclically adjusted primary balance, which is an approximate indicator of the fiscal policy stance. A second consolidation phase began in 1992, after the adoption of the Maastricht Treaty defining the convergence criteria – the Maastricht rules – which determined whether the Member States could join the monetary union. To achieve these targets, the Member States had to draw up convergence programmes. Guided by such programmes, Belgium managed to cut the general government budget deficit below the limit of 3 p.c. of GDP in 1997, so that it could join the monetary union.

Under the stability and growth pact, Belgium then had to draw up a stability programme each year, defining the medium-term budget targets. The first stability programme – the one dated December 1998 – aimed at the gradual dismantling of the deficits which were by then relatively small. In accordance with the federal government agreement of 1999, the target then became somewhat more ambitious under the next stability programme, which aimed at a balanced budget for 2002. That balanced budget was actually achieved in 2000, thanks to highly favourable economic conditions. The targets were therefore made tougher in the next programme, setting the objective of growing budget surpluses, in view of the budgetary costs of population ageing. However, the targets previously set were later revised downwards, notably

(1) However, the fiscal balances of Greece and Portugal underwent significant downward adjustment after Eurostat detected serious shortcomings in the government accounts of those countries.

TABLE 1 TARGETS FOR THE FISCAL BALANCE UNDER BELGIUM'S SUCCESSIVE STABILITY PROGRAMMES
(percentages of GDP)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
December 1998	-1.3	-1.0	-0.7	-0.3									
December 1999		-1.1	-0.5	0.0	0.2								
December 2000			0.2	0.3	0.5	0.6	0.7						
December 2001				0.0	0.5	0.6	0.7						
December 2002					0.0	0.3	0.5						
December 2003						0.0	0.0	0.0	0.3				
December 2004							0.0	0.0	0.3	0.6			
December 2005								0.0	0.3	0.5	0.7		
December 2006									0.3	0.5	0.7	0.9	
April 2008										0.0	0.3	0.7	1.0
<i>p.m. Actual figures⁽¹⁾</i>	-0.5	0.1	0.6	0.0	0.0	0.0	-2.3	0.3	-0.2				

Sources: FPS Budget and Administrative Control, FPS Finance, NAI.

(1) Fiscal balance of general government according to the methodology used in the excessive deficit procedure.

on account of the adverse economic conditions prevailing during 2001-2003, and the primary aim was to maintain a balanced budget. However, the intention was to start creating budget surpluses from 2007. For that year, the plan was to create a budget surplus of 0.3 p.c. of GDP, which would then increase each year by 0.2 p.c. of GDP.

Up to 2004, Belgium always managed to meet its stability programme targets. However, in that connection it should be noted that, in some years, the budget balances were significantly improved by one-off measures such as capital transfers received in exchange for the assumption of the pension obligations of certain companies, the sale of fixed assets and tax regularisations. In 2005, the target was not met owing to the assumption by the Railway Infrastructure Fund of the major part of the BNRC's debts at the time of the company's restructuring. Without the impact of that exceptional operation, the public accounts would have ended with a surplus of 0.1 p.c. of GDP that year. In 2006, the result was much better than expected. In contrast, the stability programme target was not met in 2007, a year in which the public accounts ended with a small deficit.

The April 2008 stability programme aims at a balanced budget for 2008, the target for subsequent years being the gradual creation of a structural budget surplus, which should reach 1 p.c. of GDP by 2011.

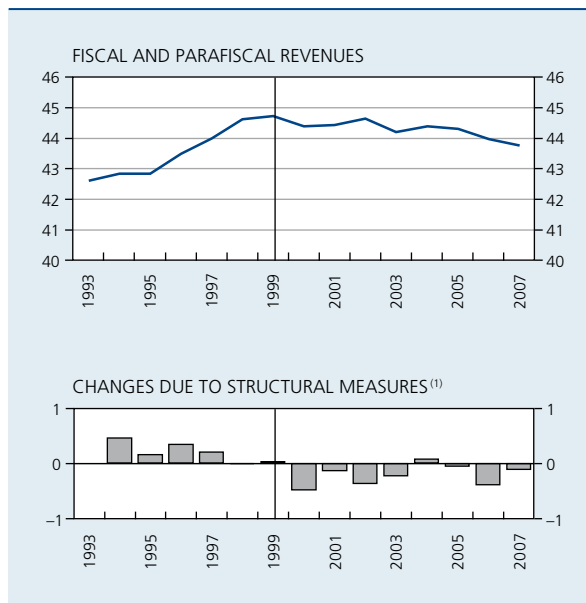
TARGETS FOR FISCAL AND PARAFISCAL REVENUES

In anticipation of the budgetary consolidation necessary to meet the criteria for joining the monetary union, the 1992 federal government agreement stipulated that fiscal and parafiscal revenues were to increase at least in line with GDP. That target was repeated in the 1995 agreement. As soon as Belgium joined the monetary union, the target for public revenues was adjusted, as the 1999 and 2003 federal government agreements specified that a budget margin was to be created in order to relieve the burden of fiscal and parafiscal levies.

Fiscal and parafiscal revenues increased from 42.6 p.c. of GDP in 1993 to 44.7 p.c. in 1999, then dropped to 43.8 p.c. in 2007. These movements are due partly to the government measures concerning taxes and social contributions, and partly to other factors.

During the period 1992-1998, fiscal and parafiscal measures boosted public revenues. The opposite occurred in the period commencing in 1999, when the measures were aimed at reducing the fiscal and parafiscal pressure. The only exception was 2004, since a number of indirect taxes were increased in that year⁽¹⁾. Overall, the measures

CHART 2 PUBLIC REVENUE TARGETS
(percentages of GDP)



Sources: NAI, FPS Finance, NBB.

(1) The 2003 corporation tax reform and the introduction of the venture capital allowance in 2006 were disregarded in calculating these figures, in view of the uncertainty surrounding their impact on the budget. When these measures were approved, it was assumed that they would be neutral for the budget.

concerning taxes and social contributions therefore conformed to the pre-set targets.

TARGET FOR FEDERAL GOVERNMENT EXPENDITURE

In Belgium, federal government spending cuts were among the main methods used for consolidating public finances. Thus, in connection with the measures designed to cut the budget deficit, the 1992 federal government agreement had aimed to limit the real growth of federal public spending excluding interest charges to zero, or actually to reduce expenditure. The 1995 government agreement confirmed this target of zero real growth, which should have been applicable, in principle, until 1999. In fact, the target was abandoned in 1998, the year following the assessment of compliance with the criteria for accession to monetary union set by the Maastricht Treaty. To permit the application of this relatively strict target, an even more stringent restriction was imposed on certain categories of expenditure. Thus, it was decided to apply zero nominal growth to the defence budget,

(1) Thus, the share of the VAT revenue collected in Belgium and accruing to the Belgian State increased by 0.1 p.c. of GDP in 2004, as a result of the reform of the method of financing the EU decided at the Berlin summit in March 1999. In addition, the energy contribution levied on electricity, heating oil, coal, petrol and diesel and the excise duty on tobacco, and on petrol and diesel (via the ratchet system) were increased, as was the advance which the pharmaceutical industry has to pay to fund the drugs budget overspend.

the public allocation to social security and the subsidies granted to public enterprises. The GNI contribution to the European Union was excluded from the scope of this target from 1996 onwards.

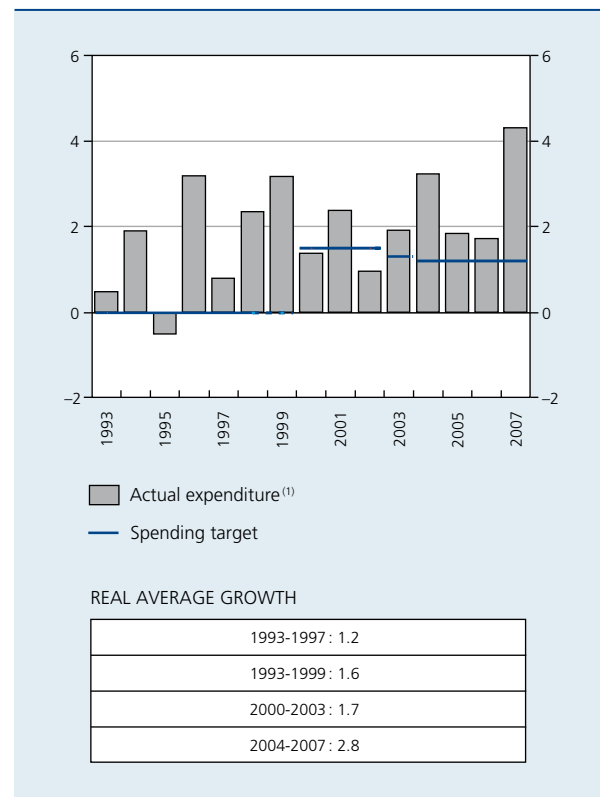
The 1999 government agreement and stability programme set a new target. Real expenditure growth was to be kept down to 1.5 p.c.⁽¹⁾. That aim was reinforced when the 2003 budget was drawn up, and it was decided to restrict the real growth of federal government expenditure to 1.3 p.c. The 2003 government agreement tightened that restriction to 1.2 p.c. This target did not apply to “reinvestment” in public enterprises. The March 2008 government agreement did not set any explicit, general target for expenditure, although the April 2008 stability programme expresses the intention to cut spending as a percentage of GDP.

In order to assess whether these spending targets achieved their objectives, a comparison was conducted with the real expenditure growth recorded in the federal government accounts according to the ESA 95. In this connection, it should be stressed that the federal expenditure target does not relate precisely to that aggregate. Most of the time, that target is defined on the basis of the expenditure recorded in the federal budget⁽²⁾. However, that comparison is highly informative. From an economic viewpoint, it is more significant to consider the expenditure as recorded in the general government accounts according to the ESA 95 than the budget expenditure in the strict sense, as the latter can be readily manipulated via operations such as de-budgeting and alternative forms of funding. That is far less true in the case of the general government accounts compiled according to the ESA 95, which are based on consolidated figures. That difference also explains why the target for federal expenditure was usually respected ex ante and on the basis of the budget performance, whereas the expenditure growth recorded in the general government accounts was often higher.

Except in 1995, the real annual growth of federal government spending as reported in the general government accounts (ESA 95) exceeded zero. In the period 1993-1997, however, the increase was only 1.2 p.c. Since that was well below the trend growth of GDP, federal expenditure expressed as a percentage of GDP declined.

CHART 3 PRIMARY EXPENDITURE OF FEDERAL GOVERNMENT

(percentage changes compared to the previous year, deflated by the HICP)



Sources: NAI, NBB.

(1) Real growth adjusted for non-recurring factors or factors which are neutral for the budget, and for the effects of indexation.

As indicated above, the target was not applied in practice in 1998 and 1999. The increase in federal expenditure was relatively substantial during those two years. During the period 2000-2003, the volume of federal expenditure increased by only 1.7 p.c. on average, barely exceeding the 1.5 p.c. growth target applicable at the time. Conversely, during the period 2004-2007, although the expenditure target was cut to 1.2 p.c., the real growth of federal government spending quickened pace during that period to reach an average of 2.8 p.c., or more than the trend growth of GDP.

HEALTH CARE EXPENDITURE TARGETS

A target for expenditure on health care was introduced in 1994, limiting the real growth of that expenditure to 1.5 p.c. per annum. The 1999 federal government agreement provided for this real growth target to be increased to 2.5 p.c. The 2003 government agreement raised this target again to 4.5 p.c. Consequently, the budget target which had originally served to impose restrictions on the

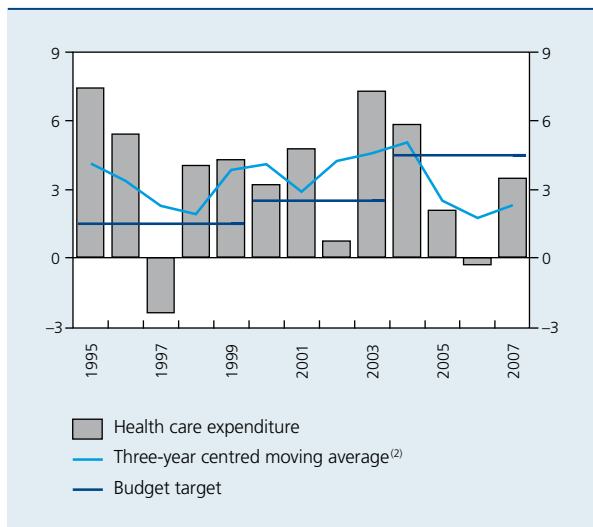
(1) The 1999 stability programme set the target of limiting real expenditure growth to 1.5 p.c. for general government. The 2000 programme restricted that target to the primary expenditure of the departments and social security. The 2001 stability programme specifies that this target applies to primary expenditure which comes under the responsibility of the federal government.

(2) The budget target also included transfers to other general government subsectors, such as the allocation to social security. The figures were compared with federal expenditure compiled according to the ESA 95, excluding transfers to other subsectors.

CHART 4

HEALTH CARE EXPENDITURE ⁽¹⁾

(percentage changes compared to the previous year, deflated by the HICP)



Sources : NAI, NBB.

- (1) Public spending on health care, excluding sickness and invalidity benefits, benefits for the disabled, transfers to institutions caring for the disabled, and spending on long-term care insurance.
- (2) Real growth of 4.5 p.c. in 2008 was assumed for the purpose of calculating the 2007 moving average.

budget gradually became a signal indicating that the authorities were prepared to invest more in health care. The March 2008 government agreement confirmed the real growth target of 4.5 p.c. for health care, although part of that budgetary scope is to be devoted to the formation of reserves.

If the budget target for health care spending is compared with actual expenditure, it is evident that there is hardly any connection between the two.

TARGETS FOR THE COMMUNITIES AND REGIONS

In a federal state, it is logical that each entity should contribute towards attaining the budget targets set at general government level. In order to ensure the necessary fiscal coordination, the “Public Sector Borrowing Requirement” Section was set up as part of the High Council of Finance under the Special Finance Act of 16 January 1989. Since then, the Section has normally issued an annual opinion in which it makes recommendations concerning the budget balances for the government in general and for each of the communities and regions considered separately. These recommendations form the basis of the cooperation agreements relating to budget targets, concluded between the federal government and the governments of the communities and regions.

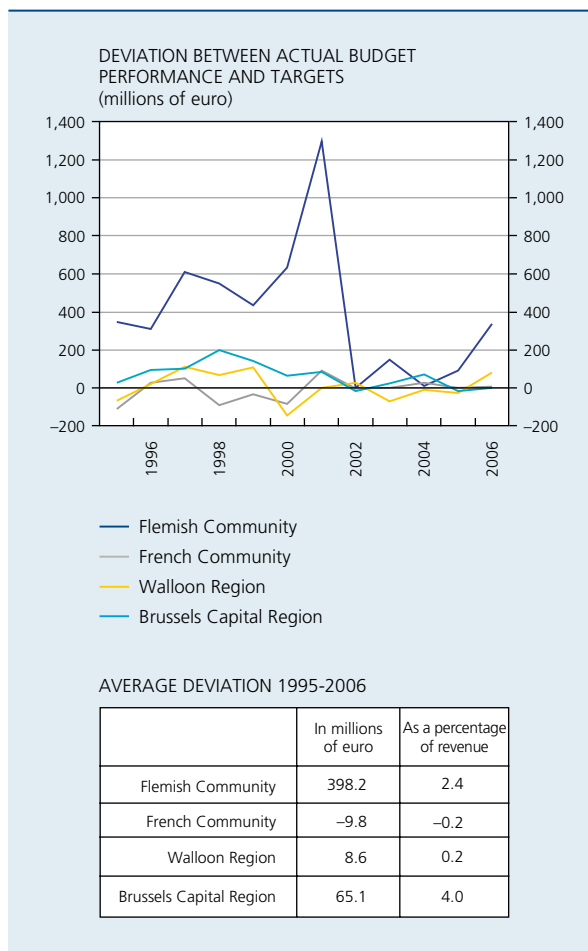
The first cooperation agreement was concluded in July 1994. That agreement defined the maximum deficits authorised in 1995 and 1996 for each community and region. These targets were intended to stabilise the debt as a percentage of the revenues in each entity from the year 2000. On the basis of the same principle, budget targets were set in the July 1996 cooperation agreement for the period up to 1999. These two cooperation agreements corresponded precisely to the convergence programmes intended to enable Belgium to join the monetary union.

The budget targets for the period 2000-2002 were incorporated in the November 1999 cooperation agreement. There was a new principle underlying those targets, namely that all the entities must achieve at least a

CHART 5

DIVERGENCE BETWEEN THE ACTUAL BUDGET PERFORMANCE OF THE COMMUNITIES AND REGIONS AND THE COOPERATION AGREEMENT TARGETS

(millions of euro, unless otherwise stated)



Sources : HCF, NAI, NBB.

balanced budget by no later than 2010. This strategy was based on the European stability and growth pact which stipulated the objective of achieving budgets which were more or less in balance or in surplus in the medium term. For the Flemish Community, this plan meant a gradual reduction in its surplus. The other entities were still recording deficits which they were required to eliminate. In December 2000, the previous agreement was supplemented by targets applicable up to 2005, according to the same principle. There were a few subsequent adjustments to that agreement, which were mainly technical. The targets for certain years were also revised upwards for a number of entities, owing to the favourable movement in their resources.

As a result of these repeated adjustments, due in particular to the frequent budget consultations between the federal state and the communities and regions in recent years, the original plan was modified considerably. But as is evident from the latest cooperation report dated October 2005, the principle governing the budget targets of the communities and regions was nevertheless upheld: all the entities must achieve at least a balanced budget by no later than 2010.

Overall, the targets defined in the successive cooperation agreements were respected by the communities and regions. During the period 1995-2006, the Flemish Community systematically outperformed the target, sometimes by a large margin⁽¹⁾. On several occasions up to the year 2000, the French Community failed to meet its targets; nonetheless, it did in fact achieve them from 2001. As a general rule, the Walloon Region managed to meet its targets although there was some shortfall in certain years. Finally, in the past the results of the Brussels Capital Region have been systematically better than the targets, and even significantly so in terms of percentages of revenue.

LEGAL LIMITS ON THE BUDGET BALANCES OF THE LOCAL AUTHORITIES

The budget slippage confronting the local authorities in the early 1980s – the financing deficit of this subsector of general government had grown to 1 to 1.5 p.c.

(1) However, for 2002 the assessment is unclear. In the agreement of 21 March 2002 the federal State and the communities and regions had agreed that the budget outcomes would in future be assessed on the basis of the ESA methodology. For 2002, a transitional scheme was set up taking account of the balances of certain institutions which, according to the ESA are consolidated in general government. The balance thus calculated for the Flemish Community corresponded to the set target. However, the agreement also provided that the communities and regions could not take any decision which might cause a deterioration in the balances of other institutions consolidated in general government, but this last arrangement was not respected.

(2) However, the Flemish municipal decree of 15 July 2005 stipulates that the current system will ultimately be abolished in the course of the amendment of the provisions on local authority accounting (scheduled for 2013). The new definition of financial balance to be used in that connection has not yet been made clear.

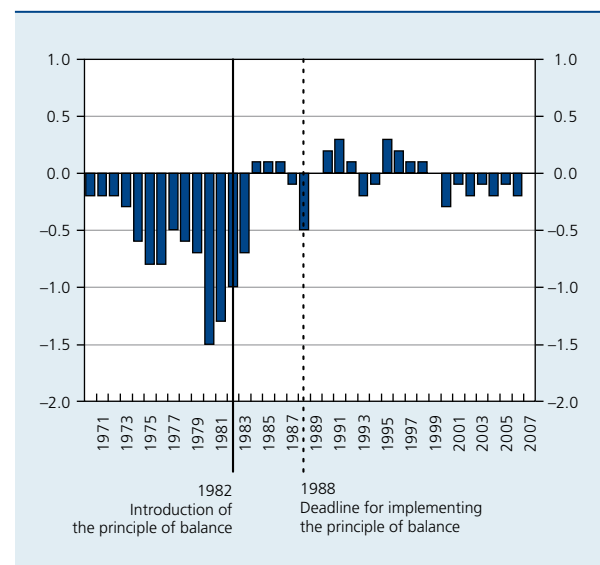
of GDP – led to the imposition of strict limits on their finances. The balanced budget principle was introduced by Special Powers Decree N° 110 of 13 December 1982; it was then incorporated in the municipal law and was to be implemented by 1988 at the latest.

The budget restriction refers to the obligation to balance the budget for “ordinary services”. Apart from current expenditure and revenue, this comprises expenditure on interest and repayments relating to loans, so that the capital transactions were also indirectly limited. This principle of balance does not have to be respected every year, since it is possible to take account of any surpluses achieved in previous years. That approach offers some flexibility and permits shifts across several years. For the Public Social Welfare Centres and police districts, the budget is balanced in practice, since any deficits have to be absorbed by local authority grants.

Although the reform of the Belgian State has now brought the local authorities under the control of the regions, the principle of a balanced budget still applies, and its implementation is monitored by the supervisory authorities⁽²⁾.

Thanks to this budget constraint which is based on the law, the slippage in local authority finances during the late 1970s and early 1980s was rectified. Since then, the finances of the local authorities as a whole – though not those of certain municipalities – have been more or less

CHART 6 FINANCING BALANCE OF LOCAL AUTHORITIES (percentages of GDP)



Sources: NAI, NBB.

in balance if the electoral cycles are disregarded; these cycles are typical of this level of power and they influence the pattern of local investment expenditure⁽¹⁾.

2.2.2 Assessment of the fiscal rules in Belgium

The fiscal rules which were or are applied in Belgium have a number of advantages and drawbacks. The most notable features are discussed below, although this account is not exhaustive.

The target of a balanced budget for general government is a very strict rule. This target, which is at the heart of fiscal policy, is actually respected overall. In recent years, however, relatively large amounts have been devoted to one-off measures designed to achieve that. Moreover, the budget target was not met in 2007.

In contrast, the assessment of the spending targets is less favourable. Yet robust rules on expenditure would do much to underpin the balanced fiscal rule applicable to general government and its subsectors. There is little if any link between federal government expenditure and, especially, health care spending and the targets. In the case of health care, the main reason is undeniably the open nature of the relevant budget, which is more of an estimate, so that in practice expenditure is difficult to control. In regard to federal expenditure, which largely consists of a fixed budget whereby the amount entered as expenditure represents a ceiling which can not be exceeded, the explanation is less obvious. However, the fact that this target is not clearly defined and the scope for circumventing it do constitute weaknesses. It also seems that this spending target has sometimes been used largely as window dressing, and that it has not always enjoyed the convincing support of the government. Nevertheless, the opinion on these targets is not entirely negative. Although it is difficult to judge, there are signs that they have led to restrictions on federal expenditure and on health care spending.

The targets for the communities and regions are fairly well respected. They have therefore been effective in that the budget position of the communities and regions can now be called sustainable. Nonetheless, there is no severe penalty in the event of failure to comply with these targets. Although the Finance Act of 16 January 1989 enables the Federal Finance Minister to prevent the issue of new loans, it is clear that such a severe penalty can be applied only in extreme cases of budget slippage. Parliamentary control and the pressure exerted by the other communities and regions and by the federal government have apparently been effective. However, there is scope for considerable further improvement in the transparency

of the fiscal rules of the communities and regions. The cooperation agreements and budget targets are not published. Moreover, the many agreements in principle which have been concluded in recent years between the federal government and the communities and regions have not always been translated into targets for specific amounts; that is a potential source of differences of interpretation and disputes.

Finally, the statutory budget constraint applicable to local authorities has yielded the desired results in that the budget of this subsector has almost always balanced in the past twenty years.

2.3 National fiscal rules in the EU Member States

In 2005 and 2006, the European Commission conducted a survey on the fiscal rules applied in the various EU Member States⁽²⁾. This showed that the number of fiscal rules in force in those countries has constantly increased over the past twenty years. The fiscal rule coverage, defined as the percentage of total public revenue or expenditure covered by the rules, has thus risen from around 25 p.c. in the early 1990s to roughly 75 p.c. today. However, there are significant differences between EU Member States.

This survey also shows that the characteristics of the numerical fiscal rules vary greatly according to the level of power to which they relate. Thus, most of the rules relating to regional or local authorities are laid down by law, or even by the Constitution. There are often severe sanctions to ensure the proper implementation of these rules. Conversely, the rules concerning the central government or general government are based mainly on coalition agreements or political undertakings. The rules applicable at central government level are not generally accompanied by any formal sanction mechanism.

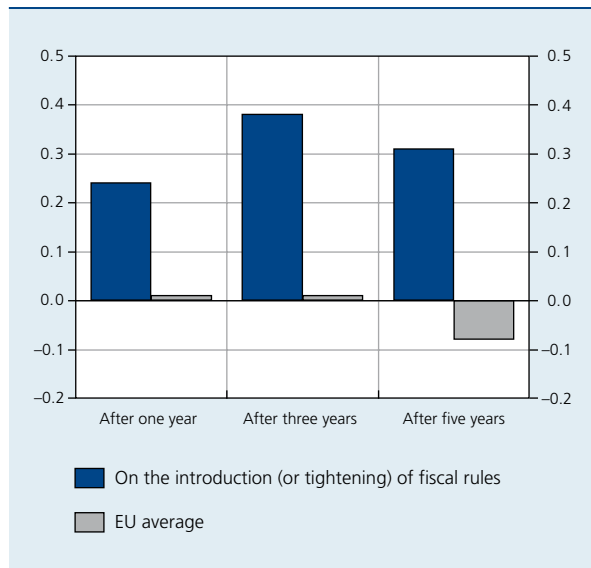
The characteristics of the fiscal rules also seem to depend on the form of government in the various EU Member States. In that regard, a distinction is sometimes made between “delegation countries” and “contract countries”. The former are countries where the government consists of only one party or of several parties with the same political leanings. In that case, the Minister of Finance often has very extensive responsibility for the budget. In contrast, in the latter case, several parties have

(1) In this connection, it should be pointed out that the balanced budget principle refers to the local authority definition, which does not necessarily correspond to equilibrium on the basis of the financing balance of the general government accounts drawn up according to the ESA 95.

(2) The results of this survey and the accompanying analysis are set out in detail in the report entitled *Public Finances in EMU – 2006* (European Commission, 2006).

CHART 7 CHANGE IN THE CYCLICALLY ADJUSTED PRIMARY BALANCE DURING THE PERIOD FOLLOWING THE INTRODUCTION OR TIGHTENING OF FISCAL RULES IN THE EU MEMBER STATES

(change as percentage of GDP during the period 1990-2005)



Source : EC.

seats in the government and conclude mutual coalition agreements. On average, the number of rules is broadly similar in the two types of country, but it should be pointed out that in the delegation countries, the rules mainly concern the regional and local levels, whereas in the contract countries they are more concerned with the central government level and social security⁽¹⁾.

The statistical and econometric observations confirm that there is a link between fiscal rules and budget outcomes. Thus, on average, a noticeable improvement in the structural primary balance is apparent in the period following the introduction of the rules, whereas that balance is on average fairly stable during the period considered. The average improvement in the cyclically adjusted primary balance exceeds 0.2 p.c. of GDP in the first year following the introduction or tightening of fiscal rules. After three years it is actually almost 0.4 p.c. of GDP, and after five years it is still 0.3 p.c. of GDP. It is also apparent that the growth of primary expenditure slows down after the introduction of rules on spending.

Anticipating the section on the properties inherent in any ideal fiscal rule, it can already be pointed out that this survey by the European Commission also shows that the

characteristics of the fiscal rules are extremely important. Thus, strict rules based on the law, being subject to severe sanction mechanisms and receiving much attention from the media, evidently exert a greater beneficial influence on budget outcomes than rules which lack those characteristics.

2.4 Properties of an ideal fiscal rule

This account has made it clear that, while there are very large numbers of fiscal rules, they are not all equally successful. That is why the criteria which the fiscal rules should ideally satisfy are set out in more detail below. The specialist literature presents a broad consensus on a number of requirements, in which connection there are frequent references to the eight criteria advocated by Kopits and Symanski (1998). According to those authors, an ideal fiscal rule should have the following properties: it must be clearly defined, transparent, relevant, coherent, simple, credible, flexible and efficient. These various requirements are explained and discussed below.

A fiscal rule must be clearly defined and transparent. That implies that its scope is clear-cut and there is, in principle, no way round it. It must also form the subject of a clear presentation based on statistical conventions. That applies, for example, to the general government financing balance derived from the national accounts drawn up in accordance with the ESA 95, which is the main target budget figure both in Belgium and in the other EU Member States. The fact that the 3 p.c. deficit limit set by the Maastricht Treaty and the stability and growth pact refers to this aggregate undoubtedly counts for something. The characteristics of this fiscal policy criterion are clearly superior to those of, for example, the Treasury's net borrowing requirement, which was the key aggregate of Belgian fiscal policy up to the early part of the 1990s. Since the latter is a straightforward cash concept, it can easily be influenced by financial transactions or by shifts over time. That is far less true of the general government accounts compiled according to the ESA 95, for which – over the years – Eurostat has developed jurisprudence intended in particular to make these accounts coincide as closely as possible with economic reality.

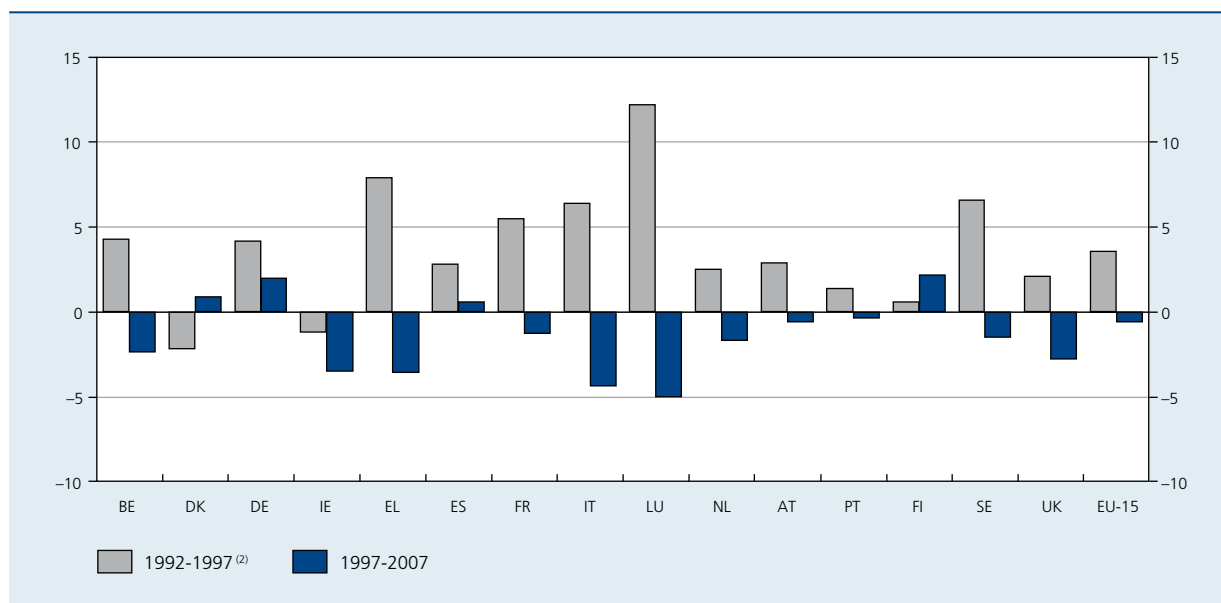
A fiscal rule must also be relevant to the objective pursued. This implies that the rule must concern the *ex post* budget outcomes rather than the targets set in the budget.

Furthermore, a fiscal rule must be consistent with the other rules and objectives of public policies.

(1) In Belgium, the fiscal rules seem to be distributed fairly evenly between the regional and local levels, on the one hand, and the central level on the other.

CHART 8 INFLUENCE OF THE MAASTRICHT TREATY CONVERGENCE CRITERIA ON FISCAL POLICY

(cyclically adjusted primary balance⁽¹⁾, percentages of GDP)



Source : EC.

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

(2) From 1995 for Spain, from 1993 for Sweden ; for the EU-15, the average for the period 1992-1997 was calculated without these two Member States.

It should also preferably be simple, so that politicians and the general public can readily identify with it, thus increasing its influence.

Another property for an ideal fiscal rule is that it should be enforceable. That is the case if sanctions can be imposed for failure to comply with the fiscal rule. It is not absolutely essential to have a formal sanction mechanism ; the damage to reputation may also be regarded as a sanction. Obviously, the incentive to respect the fiscal rule increases the more severe the sanction.

In this regard, the divergent trends in the cyclically adjusted primary balance of the EU-15 Member States before and after permission to join the monetary union are revealing. Failure to comply with the Maastricht rules would in fact have attracted an extremely severe sanction, namely refusal of admission to the monetary union. While almost all the EU-15 Member States succeeded in making substantial improvements to their cyclically adjusted primary balance between 1992 and 1997, that ceased to be the case subsequently.

The fiscal rules must also be flexible. That means that, when the rules are implemented, allowance should be made for unforeseen circumstances, such as cyclical variations. In fact, it is obvious that economic growth

and its main components can exert a considerable influence on certain aggregates, such as the primary balance or the general government financing balance. In order to neutralise the impact of the cycle, it is therefore often advisable to specify budget targets based on cyclically adjusted budget balances or – if the impact of one-off factors is also excluded – structural budget balances⁽¹⁾.

However, it is extremely important to take account of the constraints inherent in the calculation of budget balances adjusted for cyclical and structural factors. It is in fact extremely difficult to calculate these balances, as it is not easy to determine the output gap, namely the difference between actual and potential growth. Since in the past the estimated output gap has sometimes been subject to major revisions, the estimation of the budget balances adjusted for cyclical and structural factors changes considerably over time. Even though fiscal rules based on structural budget balances are preferable in theory, it is therefore necessary in practice to apply them with all due caution.

(1) That was the case, in particular, when the stability and growth pact was reformed in March 2005. The report by the "Public Sector Borrowing Requirement" Section of the High Council of Finance (July 2007) also made a similar recommendation.

Finally, the fiscal rules must be efficient in the sense that the criterion to which they relate must not be biased in any way. On this subject, the specialist literature refers to Goodhart's Law, whereby a statistical indicator ceases to be useful as an indicator once it becomes a political instrument. In other words, a criterion ceases to be valid once it becomes an objective.

Goodhart's Law clearly applies to budget targets; a number of examples may illustrate this. It applies to the numerous one-off measures used by the federal government in some recent years to achieve the target set for the financing balance. There are also alternative forms of funding which, in many cases, aim to prevent investment expenditure from having an adverse influence on the general government financing balance. The impact on the budget is then spread over several years via rental payments effected by the government.

Some of the transactions effected in the period preceding 1997 in order to bring down the consolidated gross debt ratio as quickly as possible may be viewed in that light. At that time, the declared intention was in fact to cut the debt ratio, since that was one of the ratios referred to by the criteria for joining the monetary union. Apart from the endogenous debt reduction, the process was speeded up considerably by such measures as privatisation, the transfer by the National Bank of Belgium of the proceeds from gold sales, and the obligation imposed on certain

public bodies to invest their surplus cash in public debt instruments or to place it in Treasury accounts. The impact of this type of operation can be illustrated by means of the adjustments between deficit and debt, which were systematically very negative during this period. That was also the case in 2003, when the federal government had set the explicit objective of reducing the debt ratio below 100 p.c. of GDP⁽¹⁾.

However, it should be pointed out that it is not easy for a rule to conform to all these properties. Thus, making a rule more flexible reduces its simplicity. Also, a simple rule which makes no distinction between the policy actually conducted and the budgetary impact of events which are beyond the direct influence of governments is likely to be difficult to impose. Fiscal rules are therefore necessarily the outcome of an imperfect compromise between the various concerns mentioned.

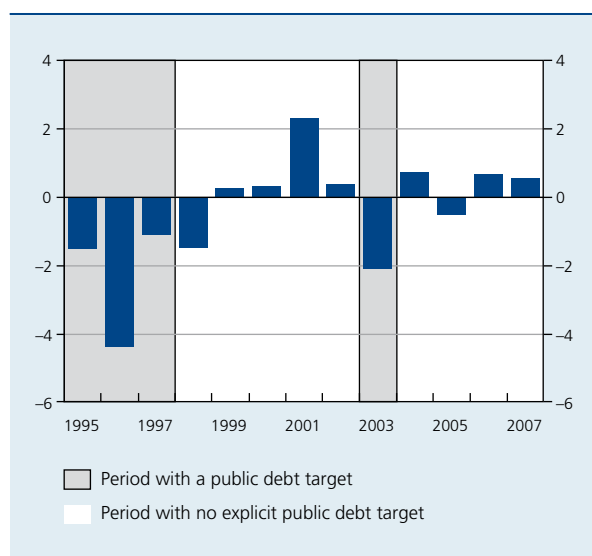
3. Independent fiscal institutions

This chapter deals with independent fiscal institutions – other than governments and parliaments – which play a key role in fiscal policy. These fiscal institutions may have positive or normative powers. Institutions such as those supplying macroeconomic forecasts, for example, belong to the first category while the second comprises institutions which make recommendations on the fiscal policy to be adopted and which in some cases assess budgetary developments. This chapter begins with a very brief description of the independent fiscal institutions in Belgium. It then presents some comments on similar institutions in the EU-15 Member States, first considering those which produce macroeconomic projections, after which it looks at normative fiscal institutions. Finally, it examines the conditions governing the success of independent fiscal institutions.

3.1 Independent fiscal institutions in Belgium

Various institutions supply macroeconomic forecasts in Belgium. The two leading institutions in the field of fiscal policy are the National Accounts Institute (NAI) and the Study Group on Ageing. Established in 1994, the NAI links three institutions: the Federal Planning Bureau, the Directorate General of Statistics and Economic Information of the FPS Economy, SMEs, the Self-employed and Energy,

CHART 9 IMPACT OF DEFICIT/DEBT ADJUSTMENTS ON THE DEBT RATIO IN BELGIUM
(percentages of GDP)



Source : NBB.

(1) Specific operations effected in that year concerned in particular the repayment by the regional housing companies of the bulk of their debt to the Social Housing Loan Amortisation Fund (SHLAF) and the sale of the mortgage loan portfolio managed by Credibe, an institution which was created in 2001 by the reorganisation of the Central Mortgage Credit Office and which has since then formed part of the general government sector.

and the National Bank of Belgium. On behalf of the NAI, the Federal Planning Bureau draws up the economic budget, an estimate of the main national accounts aggregates which are used for the preparation of the initial budget and for budget surveillance. The transfers of revenues generated by personal income tax and VAT to the communities and regions, organised under the Finance Act, are also based on parameters relating to economic growth and inflation derived from the economic budget. The Study Group on Ageing was set up by the law of 5 September 2001⁽¹⁾. Its task is to produce an annual report setting out the budgetary and social impact of population ageing.

The normative aspect is the responsibility of the High Council of Finance, and in particular its "Public Sector Borrowing Requirement" section. As already stated, this Section was established under the Finance Act of 16 January 1989. In the context of Belgium's conversion to a federal state, the presence of an independent advisory body in the public finance sphere was deemed desirable and, in some ways, essential in the light of the country's complex institutional structure. The Section assesses fiscal policy and issues an annual opinion formulating medium- and long-term budget objectives. The said law of 5 September 2001 specifies that, in so doing, the Section must take account of the expected budgetary effects of demographic changes, as estimated by the Study Group on Ageing.

The NAI and the High Council of Finance are both closely associated with the budget process in Belgium, although they have no power to take decisions on the subject.

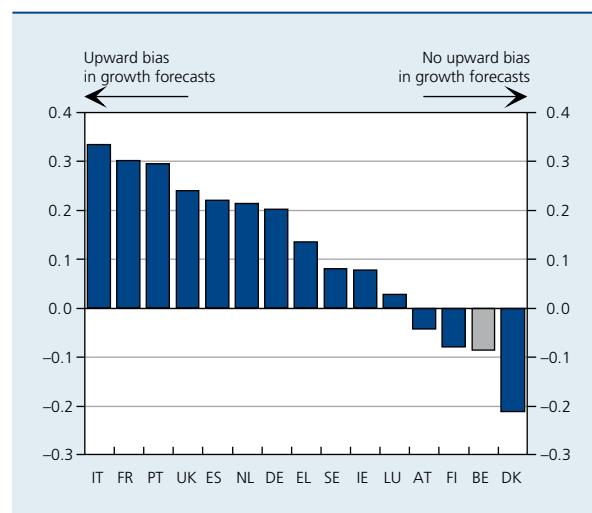
3.2 Macroeconomic forecasting institutions

There are independent fiscal institutions which regularly publish macroeconomic forecasts in ten of the EU-15 Member States: Austria, Belgium, Denmark, France, Germany, Greece, Italy, Luxembourg, the Netherlands and Sweden. However, the governments of most of these countries use their own calculations when drawing up the budget. In Belgium, the government makes systematic use of the macroeconomic forecasts of an independent institution in order to draw up the budget. The same applies in Austria (*Österreichisches Institut für Wirtschaftsforschung*) and the Netherlands (*Centraal Planbureau*).

Although uncommon, the systematic use of projections issued by independent fiscal institutions for the purpose of drawing up the budget does have theoretical advantages. Governments may in fact be tempted to use over-optimistic growth forecasts, increasing their budgetary scope and hence avoiding – *ex ante* – difficult consolidation measures. However, such practices subsequently have a negative impact on the budget balance, which will logically be worse than expected if real growth falls short of the forecasts. The authorities then often deny responsibility by attributing the less favourable budget outcome to bad luck, i.e. growth which was weaker than predicted.

In principle, independent institutions have no incentive to act in that way. They can therefore remedy a potential tendency on the part of governments to inflate the estimates of economic growth on which the budgets are based. In these circumstances, it could be useful to oblige governments to refer to growth estimates issued by an independent institution when drawing up their budget, a practice which applies to some extent in Belgium. However, in the absence of such a formal obligation, the temptation to over-estimate growth can still be curbed by the fact that the projections issued by the independent institution are a benchmark against which the government projections can be compared.

CHART 10 AVERAGE DIVERGENCE BETWEEN THE ESTIMATES OF ECONOMIC GROWTH IN THE STABILITY OR CONVERGENCE PROGRAMMES AND THE EC ESTIMATES
(GDP growth in volume, annual average percentage change over the period 2001-2006)



Source : EC.

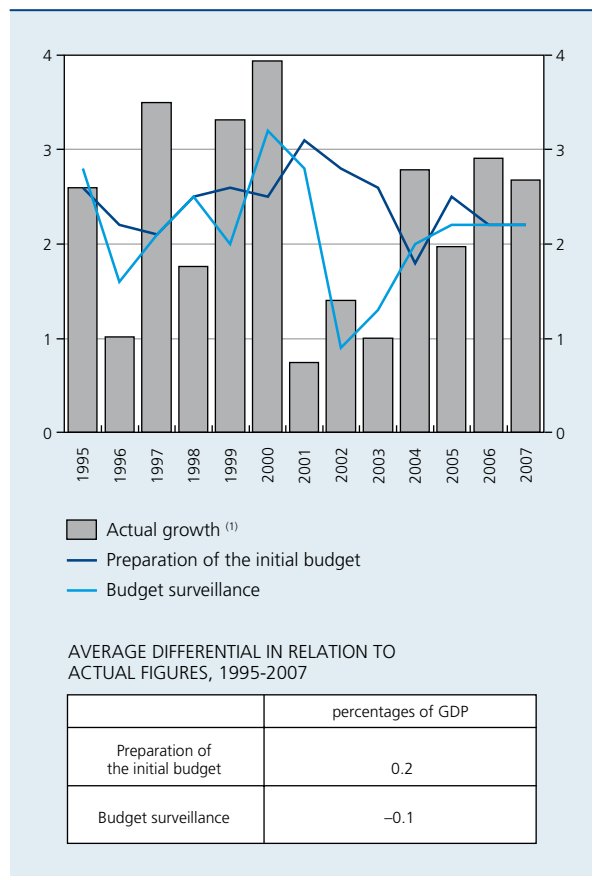
(1) Law of 5 September 2001 guaranteeing a continuous reduction in the public debt and creating an Ageing Fund.

In order to verify whether the economic growth forecasts used by the governments of the EU-15 countries to produce their budgets are too optimistic, the forecasts are checked against the European Commission projections. The growth forecasts are obtained from the successive stability or convergence programmes of each Member State covering the same period. Here it should be noted that the growth estimates forming the basis of the budgets are compared with the European Commission's estimates drawn up at more or less the same time⁽¹⁾.

This comparison shows that in the period 2001-2007 at least half of the EU-15 Member States exhibited excessive optimism, particularly Italy, France, Portugal and Germany. Having long been under severe pressure not to exceed the limit of a 3 p.c. deficit fixed by the stability and growth pact, these countries showed a tendency

to estimate economic growth by an over-optimistic approach. However, there were some countries which did not introduce an upward bias into their forecasts, or which even based their forecasts on estimates that were more cautious than those of the European Commission. Belgium and Austria, where the macroeconomic framework used as the basis for drawing up the budget is estimated by independent institutions, are among that group of countries. This seems to indicate that independent institutions can do much to help counteract the temptation to introduce an upward bias in the estimates used to draw up the budget. Conversely, the Netherlands which – like Belgium and Austria – uses independent projections for drawing up the budget, seems to have used over-optimistic forecasts for the period under review. Luxembourg, Finland and Denmark also used relatively cautious growth forecasts for drawing up their budgets. These countries in fact have little inclination to bias the forecasts since they have recorded large budget surpluses and low debt ratios in recent years.

CHART 11 NAI FORECASTS AND ACTUAL ECONOMIC GROWTH
(GDP growth, in volume, percentage changes compared to the previous year)



Source : NAI.

(1) These are the latest figures. In order to neutralise any effect of changes of method, the data are sometimes compared with the earliest available figures. Even in that case, the conclusions concerning the average deviation in relation to actual growth are the same.

Although the Belgian government does not tend to produce more optimistic estimates of GDP growth for the ensuing year than the European Commission, it seems worth comparing the NAI's growth estimates with the actual growth figures. Looking at the figures for the period 1995-2007, we find that the growth estimates used to draw up the initial budget are higher, on average, than the actual growth achieved. The average differential is around 0.2 p.c. of GDP. This difference is due largely to cyclical developments and more particularly to the unforeseen and unexpectedly long downturn in business activity from 2001 to 2003. The growth estimates used for budget surveillance are closer to the actual figures than the estimates which the governments used to draw up the initial budget, which is not surprising. Over the period as a whole, the growth estimates used for budget surveillance deviate little overall from the actual growth achieved.

3.3 Institutions making normative recommendations

Normative fiscal institutions are a useful and necessary complement to positive fiscal institutions. They influence budget discipline by setting targets and by measuring budget outcomes against the targets. They also help to encourage debate on public finances via various other recommendations which they make.

(1) A comparison with the growth actually achieved was considered inappropriate in view of the relatively brief period for which data are available and the very protracted period of weak economic activity extending from 2001 to 2003. Comparison with the European Commission estimates is also recommended from an institutional viewpoint, since it performs the function of guarding the stability and growth pact and therefore plays a leading role in EU budget surveillance.

According to the survey conducted by the European Commission in 2005 and 2006, there are independent institutions issuing normative recommendations on fiscal policy in twelve EU Member States (European Commission, 2006). These institutions differ considerably in their status and their mandate. Overall, they can be divided into three categories: advisory bodies, research institutions and audit offices.

The High Council of Finance is among the advisory bodies. Apart from Belgium, other countries which also have similar institutions are Denmark (*Økonomiske Råd*), Germany (*Wissenschaftlicher Beirat beim Bundesministerium der Finanzen*) and Austria (*Ausschuss für die Mitwirkung an der Verwaltung der Staatsschuld*).

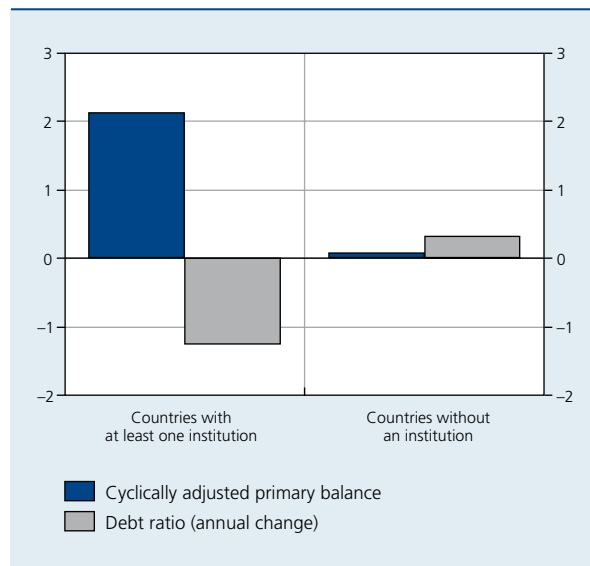
The Swedish *Konjunkturinstitutet* is the only one to belong to the research institution category. It regularly issues normative recommendations even though it has no formal mandate. However, in practice its recommendations influence the implementation of the budget via the public debates which it helps to stimulate.

Finally, some audit offices can also be regarded as normative fiscal institutions. This third category of institutions nevertheless requires a different approach, since their status and mandate – generally anchored in the Constitution – differ considerably from those of other normative fiscal institutions. Thus, there are audit offices in all EU Member States and their main task is to audit the public accounts. In seven Member States, the audit office is not confined to that function, but also assumes normative powers in regard to fiscal policy. This applies to Estonia, France, Hungary, Luxembourg, Portugal, Spain and the United Kingdom.

3.4 Impact of independent fiscal institutions and conditions governing their success

Independent fiscal institutions seem capable of making a substantial contribution to the necessary fiscal discipline. The results of the survey conducted by the European Commission in 2005 and 2006 in fact show that the countries which have at least one independent fiscal institution perform significantly better in terms of consolidating public finances (European Commission, 2006). Thus, these countries managed to improve their cyclically adjusted primary balance by around 2 p.c. of GDP, on average, during the period 1995-2005, whereas the balance remained virtually unchanged in the other countries. The movement in the debt ratio bears out these findings. In countries with at least one independent fiscal institution, the debt ratio declined fairly considerably over the period under review

CHART 12 BUDGETARY DEVELOPMENTS IN EU MEMBER STATES WITH OR WITHOUT INDEPENDENT FISCAL INSTITUTIONS DURING THE PERIOD 1995-2005
(change as a percentage of GDP during the period 1995-2005, unless otherwise stated)



Source: EC.

– by an average of just over 1 p.c. of GDP *per annum* – whereas it edged upwards in the other countries.

However, these results need to be interpreted with caution since it is not possible to make any pronouncement on the direction of the causal link between the variables considered. Did the independent fiscal institutions lead to greater budget discipline, or is the opposite the case? The institutional reforms accompanying the creation of such independent fiscal institutions are usually undertaken because there is a political will in favour of consolidation in a climate of disapproval of the prevailing laxity in fiscal policy. However, one might object that most of the institutions concerned were established long before the period considered and have changed little since then, which confirms the theory that independent fiscal institutions have encouraged budget discipline.

The impact – and consequently the success – of the independent fiscal institutions depends on various factors. For instance, the fiscal institution's mandate must be clear and unequivocal. The NAI, whose tasks and structure are clearly defined, is a good example. Although the Belgian public authorities are not under any formal obligation to use the NAI's estimates in drawing up their budgets, they do so systematically in practice. A second factor concerns the independence of the fiscal institution, which has to be ensured by both legal and financial guarantees.

The influence of an independent fiscal institution also clearly depends on its credibility. There may be various contributory factors here. A high degree of transparency is very important. It can be guaranteed by publication of the models and data used. The presence of representatives of various independent institutions – as is the case at the NAI – makes it possible to allocate the responsibilities among several fiscal institutions, thus reducing any political pressure on the individual institutions. For the same reason, it is preferable to separate the normative institutions from the positive institutions.

One final factor which determines the influence of an independent fiscal institution is its degree of involvement in the budget process. That is greater if the fiscal institution is heard by parliament and is regularly consulted by the government, if independent forecasts are used to draw up the budget, or if the government is required to justify deviations from the estimates or recommendations.

Conclusion

Fiscal rules can be extremely useful in the context of a sound fiscal policy. There are in fact clear indications that they facilitate the maintenance of budget discipline and encourage consolidation efforts, where necessary. In order

to attain that objective, however, it is essential for the fiscal rules to conform to the principal properties inherent in any ideal fiscal rule.

In Belgium, certain fiscal rules are strictly respected while in other cases there appears to be virtually no connection between the rule and what actually happens. There is still room for improvement in some of Belgium's fiscal rules.

Independent fiscal institutions can also play a key role in fiscal policy. Thus, it is evident that making such institutions responsible for the economic growth forecasts used in drawing up the government budget is an effective way of curbing excess optimism in those forecasts. Moreover, institutions issuing normative budgetary recommendations have fostered fiscal discipline in the countries where such institutions exist.

Belgian independent fiscal institutions – namely the NAI and the “Public Sector Borrowing Requirement” section of the High Council of Finance – are often cited as good examples, particularly by the European Commission and the IMF. They do in fact enjoy a good reputation, but it must also be clear that their credibility depends largely on the degree to which the decision-making bodies take account of their findings and opinions.

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Summaries of articles

Inflation and indexation in Belgium : causes and possible effects of the current acceleration in inflation

The particularly rapid acceleration in inflation in Belgium and the fact that it is currently outpacing inflation in the euro area has, in some circles, raised questions as to the role of the indexation mechanism. A first question which might arise concerns the extent to which that mechanism lies behind the current acceleration in inflation. A second question is whether that mechanism will maintain the current inflationary process by triggering a price-wage spiral.

The article – which is based on the available HICP data up to April 2008 – examines these two questions, first analysing the factors at the root of the current acceleration in inflation and the positive gap between Belgium and the euro area, and then discussing the potential repercussions of the current inflationary process on wage setting.

Regarding the first question, the analysis presented in the article provides a clear answer : neither the acceleration in inflation nor the positive gap in relation to the euro area can so far be attributed to the Belgian indexation mechanism. The acceleration in inflation is in fact due entirely to the strong pressure from prices of energy and processed food, whereas there has so far been no sign of any rise in inflation for three-quarters of the products making up the consumption basket, particularly non-energy goods and services. What is more, it is precisely for this last category of goods that labour costs are most important as a determinant of inflation.

On the second question, it appears that, in the current circumstances, and despite an undeniable moderating influence, the use of the health index did not prevent an acceleration in wage increases resulting from indexation in the first quarter of 2008. However, the law of 1996 on the promotion of employment and the safeguarding of competitiveness places Belgium's indexation practice in a broader framework governing the movement in private sector wages. More particularly, the cycle of pay negotiations relating to 2009 and 2010, scheduled for the autumn, offers the social partners the opportunity to take account of the indexation when determining the pay increases, and thus to continue the tendency of recent years, which consists in reconciling indexation with responsible pay settlements. In these conditions it will be possible to prevent the triggering of a price-wage spiral, to contribute to the preservation of competitiveness and employment and to ensure that Belgian inflation does not remain permanently above the level in the euro area.

JEL Codes: E24, E31, E64

Key words: inflation, indexation, second-round effects

Gross employment trends and international involvement at firm level

This article sums up the findings of an empirical study into the link between firms' involvement in international markets – via international trade and direct investment – and employment developments in Belgium. The main novelty of the analysis lies in the use of a microeconomic database on non-financial corporations.

This information notably makes it possible to analyse trends in employment by distinguishing between the job gains attributable to certain enterprises and, at the same time, the losses ascribed to others. Thus, besides the impact of international trade and foreign direct investment on domestic employment levels, it also enables an assessment of their role in the process of reallocating labour between firms.

An examination of the microeconomic data, supplemented by an econometric analysis, shows that a relatively small proportion of Belgian firms is involved in international trade and that an even smaller fraction of them has foreign direct investment links. These firms can be distinguished by the large number of people they employ, as well as by their productivity levels, which are generally higher than those of firms geared exclusively towards the local market. Moreover, in comparison to the latter, they saw a higher average growth in the number of their employees between the years 1997 and 2005. This difference is all the more pronounced in the case of importing firms.

Lastly, these companies are also characterised by job rotation on a smaller scale than that found in purely local firms. This lower degree of employment volatility can be explained by opportunities for diversifying the risks involved for firms operating on foreign markets as well as the domestic market. This diversification therefore enables workers to enjoy more stable employment conditions.

JEL Codes: F16, F23, J63

Key words: trade and labour market interactions, multinational firms, job turnover

Foreign financial transactions of Belgian non-financial sectors

The open character of the Belgian economy is also reflected in its financial relations with other countries. At the end of 2007, Belgium's net foreign assets totalled around 44.4 p.c. of GDP.

In the past decade, Belgium's net financial assets have shown a marked increase, against the backdrop of the introduction of the common currency and the progressive financial integration and globalisation.

The degree to which the various non-financial sectors have responded to these developments varies greatly between sectors.

The public sector is the one which has done most to adjust its financing and seen the biggest rise in the share of the rest of the world in its total debt, namely from 20 p.c. at the end of 1997 to around 46 p.c. at the end of 2007. When the euro was introduced on the financial markets, it was imperative for the Treasury to widen its investment base: appropriate diversification of the corps of Primary Dealers and Recognised Dealers was one of the ways in which it achieved that.

Non-financial corporations, which traditionally maintain very close international financial contacts, still saw a steady increase in the share of the rest of the world in their financial transactions between 1997 and 2007: during that period, in the case of financial liabilities, the figure was up from 24 p.c. at the end of 1997 to over 37 p.c. at the end of 2007; for financial assets, the share was up from 28 p.c. to 39 p.c. However, these orders of magnitude are subject to a strong upward influence

exerted by the coordination centres based in Belgium, which perform the function of a financial intermediary for the multinational group to which they are attached. In the past decade, there have been frequent exchanges of shareholdings between Belgian and foreign companies, reflecting the process of mergers and acquisitions, and these have also contributed to the growth of direct investment between Belgium and the rest of the world. Another point worth mentioning is that the past decade has brought a strong rise in loans granted by foreign financial institutions as a percentage of total bank lending to Belgian firms: that figure increased from 12 p.c. at the end of 1997 to 35 p.c. at the end of 2007.

The share of foreign assets in the household portfolio dropped from 30 p.c. at the end of 1997 to 17 p.c. at the end of 2007. Naturally, that is due partly to the introduction on 1 July 2005 of the European directive on the taxation of savings; it has now ceased to be possible for individuals to avoid the tax on income from interest-bearing assets held in other countries, and that has ultimately led to the repatriation of those assets. In contrast, in the case of non interest-bearing assets, foreign investment flows increased between 1997 and 2007. Finally, it should be pointed out that the share of the rest of the world in the liabilities of households is still negligible.

JEL Codes: E50, F30, F36

Key words: flow of funds, financial flow

The use and effectiveness of fiscal rules and independent fiscal institutions

It is increasingly recognised that fiscal rules and independent fiscal institutions other than governments and parliaments can make a major contribution to sound fiscal policy. The main arguments put forward by the specialist literature on political economy in favour of such rules and institutions are the tendency shown by governments to record excessive budget deficits (deficit bias) and the characteristics of a monetary union. Such rules and institutions should restore the balance in the incentives of politicians, impose limits on the fiscal policy pursued and introduce fiscal coordination mechanisms.

Fiscal rules can be extremely useful within the scope of a sound fiscal policy. There are clear indications that such rules can facilitate the maintenance of budget discipline and encourage consolidation efforts, where necessary. In order to attain that objective, however, it is essential for the fiscal rules to conform to the principal properties inherent in any ideal fiscal rule. Certain current or former fiscal rules applied in Belgium are strictly complied with, whereas in other cases there appears to be virtually no connection between the rule and what actually happens. There is therefore still room for improvement in some of Belgium's fiscal rules.

Independent fiscal institutions can also play a key role in fiscal policy. For instance, making such institutions responsible for the economic growth forecasts used in drawing up the government budget is an effective way of curbing excess optimism in those forecasts. Moreover, institutions

issuing normative budgetary recommendations have fostered fiscal discipline in the countries where such institutions exist. Belgian independent fiscal institutions – namely the National Accounts Institute and the “Public Sector Borrowing Requirements” Section of the High Council of Finance – are often cited as good examples.

JEL Codes: E61, E62, H30, H61

Key words: fiscal rules, independent fiscal institutions, budgetary surveillance

Abstracts of the working papers series

123. Failure prediction models : performance, disagreements, and internal rating systems, by J. Mitchell, P. Van Roy, December 2007.

The authors address a number of comparative issues relating to the performance of failure prediction models for small, private firms. They use two models provided by vendors, a model developed by the NBB, and the Altman Z-score model to investigate model power, the extent of disagreement between models in the ranking of firms, and the design of internal rating systems. They also examine the potential gains from combining the output of multiple models. They find that the power of all four models in predicting bankruptcies is very good at the one-year horizon, even though not all of the models were developed using bankruptcy data and the models use different statistical methodologies. Disagreements in firm rankings are nevertheless significant across models, and model choice will have an impact on loan pricing and origination decisions. They find that it is possible to realize important gains from combining models with similar power. In addition, they show that it can also be beneficial to combine a weaker model with a stronger one if disagreements across models with respect to failing firms are high enough. Finally, the number of classes in an internal rating system appears to be more important than the distribution of borrowers across classes.

124. Downward wage rigidity for different workers and firms : an evaluation for Belgium using the International Wage Flexibility Project (IWFP) procedure, by Ph. Du Caju, C. Fuss, L. Winttr, December 2007.

The paper evaluates the extent of downward nominal and real wage rigidity for different categories of workers and firms using the methodology recently developed by the IWFP (Dickens and Goette, 2006). The analysis is based on an administrative data set on individual earnings, covering one-third of employees of the private sector in Belgium over the period 1990-2002. The results show that Belgium is characterised by strong real wage rigidity and very low nominal wage rigidity, consistent with the Belgian wage formation system of full indexation. Real rigidity is stronger for white-collar workers than for blue-collar workers. Real rigidity decreases with age and wage level. Wage rigidity appears to be lower in firms experiencing downturns. Finally, smaller firms and firms with lower job quit rates appear to have more rigid wages. The results are robust to alternative measures of rigidity.

125. [Economic importance of Belgian transport logistics](#), by F. Lagneaux, January 2008.

The paper is the outcome of a first research project on the Belgian transport logistics sectors. In the past few years, the logistics business has turned out to play a significant part in wealth creation in our country, whose economy is driven by services. The study can be seen as an extension of Working Paper No. 115 on Belgian ports, issued in May 2007, as the activities under review are closely tied to transport in general and maritime transport in particular.

Considering that this is a first attempt to estimate the economic importance of Belgian transport logistics, it was decided to favour a sectoral approach, by focusing on some freight transport logistics sectors clearly defined in the NACE classification. The impact is presented in two parts: the direct and indirect effects. Furthermore, a short analysis is provided about the economic impact of other activities, such as in-house logistics and European distribution centres.

An overview of some developments per sub-sector is provided for the period 2000-2005, with the emphasis on 2005. The core of the analysis looks more specifically into developments in terms of value added, employment, investment and the financial situation of the companies concerned. A first estimate of developments over the 2005-2006 period is also provided for value added and employment.

Annual accounts data from the Central Balance Sheet Office (financial ratios, social balance sheet) are used for the calculation of direct effects. Also worth mentioning is that the indirect effects of the activities concerned have been estimated in terms of value added and employment on the basis of data from the NAI (National Accounts Institute). A comprehensive analysis of the linkages between the sectors under review and the other Belgian sectors is presented.

The activities under review accounted for no less than 3.1 p.c. of the Belgian GDP and 3.4 p.c. of the country's domestic employment in 2005. Including indirect effects, these percentages respectively amounted to 5 and 5.3 p.c. in the same year. Taking some survey data into account, the overall impact would reach roughly 8 p.c. of the Belgian economy, if transport logistics business provided by external branches on the one hand and in-house transport logistics on the other were added to these above-mentioned sectoral percentages.

126. [Some evidence on late bidding in eBay auctions](#), by L. Wintr, January 2008.

Bidding in the last seconds or minutes of an auction is a common strategy in Internet auctions with fixed end-times. This paper examines the three explanations of late bidding in eBay auctions that survived the first scrutiny in Roth and Ockenfels (2002). There is no indication that late bidding could lead to collusive gains for bidders. Late bidding is a strategic response to the presence of bidders placing multiple bids. Experts protecting their private information are typically the last to bid while collectors are often the first. As bidders gain familiarity with eBay rules, they tend to bid slightly earlier.

127. [How do firms adjust their wage bill in Belgium? A decomposition along the intensive and extensive margins](#), by C. Fuss, January 2008.

The paper decomposes wage bill changes at the firm level into components due to wage changes, and components due to net flows of employment. The analysis relies on an administrative employer-employee dataset of individual annual earnings matched with firms' annual accounts for Belgium over the period 1997-2001. Results point to asymmetric behaviour depending on economic conditions. On average, wage bill contractions result essentially from employment cuts in spite of wage increases. Wage growth of job stayers is moderated but still positive; and wages of entrants

compared with those of incumbents are no lower. The labour force cuts are achieved through both reduced entries and increased exits. Higher exits may be due to more layoffs, especially in smaller firms, and wider use of early retirement, especially in manufacturing. In addition, the paper points up the role of overtime hours, temporary unemployment and interim workers in adapting to short-run fluctuations.

128. Exports and productivity – comparable evidence for 14 countries, by The International Study Group on Exports and Productivity, February 2008.

Consisting of teams working with firm level data, the International Study Group on Exports and Productivity has used comparable micro level panel data for 14 countries and a set of identically specified empirical models to investigate the relationship between exports and productivity. The overall results are in line with the big picture that is by now familiar from the literature: exporters are more productive than non-exporters when observed and unobserved heterogeneity are controlled for, and these exporter productivity premia tend to increase with the share of exports in total sales; there is strong evidence in favour of self-selection of more productive firms into export markets, but nearly no evidence in favour of the learning-by-exporting hypothesis. The authors document that the exporter premia differ considerably across countries in identically specified empirical models. In a meta-analysis of the results they find that countries that are more open and have more effective government report higher productivity premia. However, the level of development per se does not appear to be an explanation for the observed cross-country differences.

129. Estimation of monetary policy preferences in a forward-looking model: a Bayesian approach, by P. Ilbas, March 2008.

The author adopts a Bayesian approach towards the estimation of the monetary policy preference parameters in a general equilibrium framework. She starts from the model presented by Smets and Wouters (2003) for the euro area where, in the original set up, monetary policy behaviour is described by an empirical Taylor rule. She abandons this way of representing monetary policy behaviour and assume, instead, that monetary policy authorities optimize an intertemporal quadratic loss function under commitment. Two alternative specifications are considered for the loss function. The first specification includes inflation, output gap and difference in the interest rate as target variables. The second loss function includes an additional wage inflation target. The weights assigned to the target variables in the loss functions, i.e. the preferences of monetary policy, are estimated jointly with the structural parameters in the model. The results imply that inflation variability remains the main concern of optimal monetary policy. In addition, interest rate smoothing and the output gap appear to be, to a lesser extent, important target variables as well. Comparing the marginal likelihood of the original Smets and Wouters (2003) model to the paper's specification with optimal monetary policy indicates that the latter performs only slightly worse. Since the author faced with the time-inconsistency problem under commitment, she initializes her estimates by considering a presample period of 40 quarters. This allows her to approach, empirically, the timeless perspective framework.

130. Job creation, job destruction and firms' international trade involvement, by M. Pisu, March 2008.

One of the most important predictions made in recent international trade literature based on heterogeneous firms concerns the within-industry job reallocation from firms not involved in international markets to those that are. This paper quantifies the extent of this reallocation using a dataset of Belgian manufacturing firms from 1998 to 2004 providing information on their international trading activities. The results suggest that, at three-digit industry levels, the shifts in

employment between firms having different trading status account for 6 to 30 percent of total job reallocation. This effect is stronger for large than for small firms.

131. [Do survey indicators let us see the business cycle? A frequency decomposition](#), by L. Dresse and Ch. Van Nieuwenhuyze, March 2008.

This paper uses a frequency domain approach to gain insight into the correlation between survey indicators and year-on-year GDP growth. Using the Baxter-King filter, the authors split up each series into three components: a short-term, a business cycle (oscillations between 18 and 96 months) and a long-term component. They then calculate how much of the variation of the survey series and GDP growth can be ascribed to these different components. Finally, they use this information together with an analysis of the correlation between survey indicators and year-on-year GDP growth at the different frequencies to explain their overall correlation.

It is shown that survey indicators, similar to year-on-year GDP growth, do not perfectly reflect business cycle movements but contain cycles of other frequencies. Long-term cycles, in particular, are a nontrivial part of the series' variance. Furthermore, there exist some clear relations between the weight of these cycles in the survey indicators and their correlation with GDP growth. In general, the larger the business cycle component, the larger the correlation, while the opposite is true for the short-term component. The evidence for the long-term component is mixed: although a long-term component seems necessary as the correlation at this frequency is the highest, strong or weak long-term components are typically idiosyncratic, dragging down the overall correlation between the indicator and year-on-year GDP growth.

The paper applies this methodology to the euro area countries (EC survey indicators) and to Belgium separately (NBB business survey indicators). The results are highly comparable.

132. [Searching for additional sources of inflation persistence: the micro-price panel data approach](#), by R. Raciborski, April 2008.

It is often argued that the baseline New-Keynesian model, which relies solely on the notion of infrequent price adjustment, cannot account for the observed degree of inflation sluggishness. Therefore it is a common practice among macro modellers to introduce an ad hoc additional source of persistence to their models. Yet, the empirical validity of this practice has never been formally tested. This paper attempts to examine whether there is some additional persistence present in the data on micro-prices, beyond that implied by infrequent price adjustment. The author considers two distinct sets of assumptions consistent with the existence of an intrinsic or extrinsic source of sluggishness and builds and estimates two alternative models based on these assumptions. It is shown that in the case of certain product categories, particularly food, there is evidence of less sluggishness than what the standard assumptions underlying the New-Keynesian model would imply. The author finds certain support for the existence of an additional source of sluggishness for some industrial goods and services. Importantly however, the results are sensitive to the choice of the model. He concludes that some inconsistencies with the baseline New-Keynesian assumptions may be tracked in the price behavior. Yet, it is too early to assess their strength or the effect on macro aggregates. Therefore, at the current stage it would be premature to discard the baseline version of the New-Keynesian model based on evidence from micro-data. Similarly, the micro support for introducing an extra source of inflation sluggishness to macro-models is still relatively weak.



Conventional signs

–	the datum does not exist or is meaningless
e	estimate by the Bank
n.	not available
p.c.	per cent
p.m.	pro memoria

List of abbreviations

Countries

BE	Belgium
DE	Germany
IE	Ireland
EL	Greece
ES	Spain
FR	France
IT	Italy
LU	Luxembourg
NL	Netherlands
AT	Austria
PT	Portugal
FI	Finland
DK	Denmark
SE	Sweden
UK	United Kingdom
EU-15	European Union excluding the countries which joined in 2004 and 2007
US	United States

Others

BNRC	Belgian National Railway Company
CAP	Common Agricultural Policy
CBFA	Commissie voor het Bank- Financie- en Assurantiewezen, Commission bancaire, financière et des assurances (Banking, Finance and Insurance Commission)
CREG	Commission for Electricity and Gas Regulation
DGSIE	Directorate-general Statistics and Economic Information Belgium

EC	European Commission
ECB	European Central Bank
EDP	Excessive Deficit Procedure
EMU	Economic and Monetary Union
Eonia	Euro Overnight Index Average
ESA	European System of Accounts
ESCB	European System of Central Banks
EU	European Union
Euribor	Euro Interbank Offered Rate
FDI	Foreign Direct Investment
FPB	Federal Planning Bureau
FPS	Federal Public Service
FTE	Full-time equivalents
GDP	Gross Domestic Product
HICP	Harmonised Index of Consumer Prices
HCF	High Council of Finance
IMF	International Monetary Fund
Libor	London Interbank Offered Rate
MB	Moniteur belge (Belgian official journal)
MIR	Monetary Financial Institutions Interest Rates
NACE	Statistical Classification of Economic Activities in the European Community
NAI	National Accounts Institute
NBB	National Bank of Belgium
NBER	National Bureau of Economic Research
NEMO	National Employment Office
NSSO	National Social Security Office
PSWC	Public Social Welfare Centre
OECD	Organisation for Economic Cooperation and Development
OLO	Linear bond
S&P	Standard & Poor's
SHLAF	Social Housing Loan Amortisation Fund
SME	Small and Medium-sized Enterprise
UCI	Undertaking for Collective Investment
VAT	Value Added Tax

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