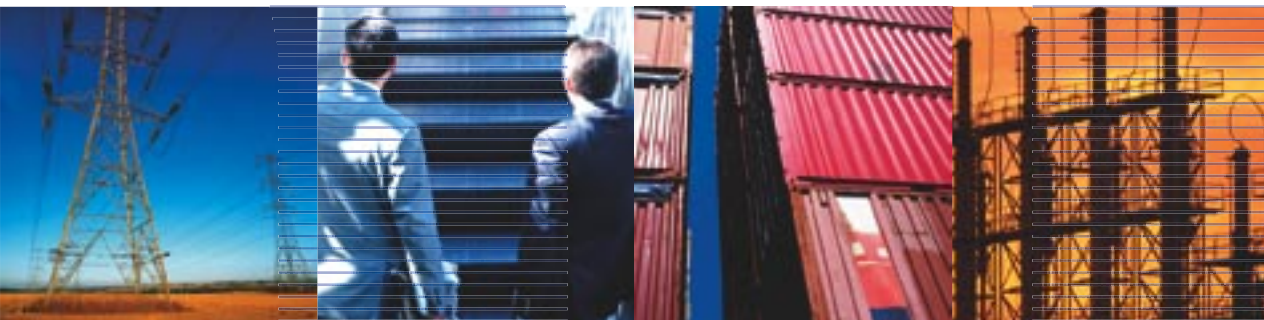


Economic Review

2 - 2004



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Economic projections for Belgium, 2004-2005

Introduction

There has been a marked improvement in the economic situation in Belgium since mid 2003, driven mainly by foreign demand. This improvement followed a long period of weak growth extending over almost three years and harming employment and investment, while this weakness of economic activity curbed inflation, which was also tempered by the appreciation of the euro. That is the context surrounding the Bank's economic projections for 2004 and 2005, presented in this article.

The projections were produced as part of twice-yearly exercises carried out jointly by experts from the ECB and from the national central banks within the Eurosystem. Using a procedure which is intended to ensure a common basis of assessment for the various countries while taking account of their specific characteristics, the national central banks are responsible, in particular, for producing projections for their own economy: following aggregation, these give the projections for the euro area⁽¹⁾. The latter are published in June and December by the ECB. Up to now, the results for Belgium have only been published in June, and have been confined to the estimates for the current year. In a desire for transparency, the Bank has decided to publish in the Economic Review the projections for the current year and the subsequent year twice yearly, on the same date as the ECB.

The Bank's economic projections provide a framework for a coherent summary of the available information on recent developments and the outlook, and the appraisal of that information. They combine the results of econometric models⁽²⁾ and experts' judgements. They are based on the assumptions adopted within the Eurosystem concerning the international environment and on the movement in

interest rates, exchange rates and commodity prices, and on the results for the euro area. In this case, the projections for the euro area assume that the gradual recovery which began in mid 2003 will continue in 2004 and 2005, and that inflation will remain relatively moderate.

Furthermore, assumptions specific to the Belgian economy also need to be drawn up for the variables whose movement is largely determined on a discretionary basis by the economic agents. That applies, for example, to the wage agreements arrived at by collective bargaining, and government decisions concerning the budget.

As regards labour costs in the private sector, the movements assumed for 2005 are based on application of the current system of wage-fixing, in which the norm is based on the movement expected in Germany, France and the Netherlands. The as yet fragmentary and indefinite indications available for these three countries suggest a relatively modest rise in labour costs, which would aid the recovery of employment and help to contain the pressure on costs and prices.

The figures for public finances are derived automatically, taking account of the endogenous effect of the macroeconomic environment, of a movement in expenditure based on historical patterns and of measures which have already been decided on. New government measures relating to revenue or expenditure would modify these

(1) For more information on Eurosystem procedures, see ECB (2001) "A Guide to Eurosystem Macroeconomic Projection Exercises", *ECB Occasional Paper*, June 2001

(2) The Bank's quarterly model is central to this framework. A description of it may be found in Ph. Jeanfils (2000), "A Model with Explicit Expectations for Belgium", *NBB Working Paper*, No. 4, National Bank of Belgium, March 2000. Since that paper was published, the model has been re-estimated and some of the behaviour equations have been reformulated.

figures. In particular, the 2005 budget to be drawn up in the autumn is not included in this exercise. The measures that could be taken could in turn affect the projections for the economy as a whole.

Like any forecast, the projections presented here must be viewed as the most likely outcome, given the assumptions made. However, they are surrounded by uncertainty. For instance, the current recovery in Belgium and the euro area could be slightly stronger than predicted in the immediate future. At the same time, the main risks concern the future movement in exchange rates and long-term interest rates, in a context of persistent deficits on the balance of payments and public finances in the United States. Furthermore, if the recent price rises on the oil markets were to persist or even accelerate, that could curb growth and fuel inflation.

The first chapter of the article focuses on the international environment. It contains a description of recent developments and of the spring forecasts issued by the leading international institutions for the main economic areas, including the Eurosystem projections for the euro area. The assumptions made within the Eurosystem are discussed in a box; they apply to both the euro area and Belgium. The next three chapters give a detailed account of the recent situation and the projections for the national economy. They deal with activity, employment and the main components of expenditure (chapter 2), movements in prices and costs (chapter 3) and the figures for public finances (chapter 4). Finally, the last chapter presents a summary of the results of other institutions.

The projections for Belgium were drawn up on the basis of the information available on 25 May 2004.

Box 1 – Seasonal variations and calendar effects in the projections

Besides the influence of the seasons, economic observations may be affected by the variation in the numbers of the different days of the week in successive periods under consideration – months, quarters or even years – since the level of output or consumption is not the same on Sundays as on Mondays or Tuesdays, etc. To prevent the analysis from being distorted by this bias, statistical institutions use methods which enable them to filter out these effects. Thus, the NAI has for some years been publishing quarterly accounts adjusted for seasonal variations and calendar effects.

In accordance with Eurosystem practice, the projections for activity, employment and the volume of labour and for demand are produced on a quarterly basis without taking account of the specific effects connected with the seasons and calendar irregularities. Thus, the series presented in chapter 2, including the annual data obtained by aggregating the quarterly results, are of the same type as the NAI's statistics adjusted for seasonal variations and calendar effects. In principle, the movement in these series reflects only fundamental economic developments, due in particular to cyclical movements or trends.

On the other hand, the sectoral accounts, and particularly the general government accounts presented in chapter 4, are compiled and presented taking account of calendar effects, in accordance with the practice prevailing in the compilation of the government account in the set of national accounts.

The calendar effects cause only temporary deviations in the level of the economic variables and are soon eliminated over time. Nonetheless, they may have a perceptible effect on the variations between two successive periods. Thus, the actual GDP growth rate would be increased by around 0.1 percentage point in 2004 owing to the leap year, and would be decreased by around 0.25 percentage point in 2005, which is one day shorter than the previous year, as well as containing 53 Saturdays.

1. International environment

The outlook for the international environment in 2004 and 2005 has become more favourable in recent months, as there have been increasingly clear signs of a global revival, accompanied by robust expansion of international trade, since mid 2003.

1.1 Revival in world economic growth in 2003

In the United States, growth strengthened further in 2003. Private consumption continued to underpin activity throughout the year, and there was a surge in both investment and exports in the second half of the year. However, there was also a sharp rise in imports in the fourth quarter. In Japan, growth exceeded expectations in 2003, particularly in the final quarter, driven by a steep rise in exports and the recovery of investment. In the other Asian countries, economic growth was in the region of 7 p.c. in 2003; for China the figure was actually around 9 p.c., while India recorded over 7 p.c. growth. In the countries of the Commonwealth of Independent States, and especially in Russia, economic growth also exceeded 7 p.c. GDP continued its strong expansion in central and eastern Europe, and in the Middle East. Furthermore, an acceleration was also recorded in other parts of the world, such as Latin America and Africa.

Economic activity also improved in the euro area, which a certain delay. Having stagnated in the first half year, activity picked up in the second half of 2003. Exports rose sharply in the third quarter, as export markets strengthened. Investments revived in the fourth quarter. On the other hand, private consumption remained subdued. The recovery in the euro area lagged well behind that in the United States in terms of both timing and scale: GDP grew by only 0.4 p.c. over the year as a whole.

Apart from the fiscal measures stimulating the economy in the United States, the acceleration in world growth in 2003 drew substantial support from low financing costs, attributable in particular to the low level of interest rates in the main industrialised countries, in a context of moderate inflation. Moreover, the spread between corporate and government bond yields narrowed considerably.

Interest rates remained low during the first four months of 2004. Thus, in the United States the target for the federal funds rate was held at 1 p.c. In the euro area, the Governing Council of the ECB kept the minimum bid rate on the main refinancing operations of the Eurosystem unchanged at 2 p.c., that decision reflecting its assessment that the monetary policy stance was

appropriate for maintaining price stability in the euro area in the medium term.

In the main economies, ten-year benchmark bond yields were at a low level, on average, in 2003 compared to the preceding years. After halting their decline in the second half of 2003, they fell further in the United States and in the euro area during the first three months of 2004. However, signs of raising yield expectations emerged recently. In a context of strengthening activity, the ten-year bond yield in the United States increased by around 50 basis points, on average, in April compared to the previous month, and that movement continued in the first half of May. Rates also recovered in the euro area and in Japan, although to a lesser extent. Moreover, the US monetary authorities announced on 4 May 2004 that policy accommodation could be removed at a pace that is likely to be measured.

For 2004 and 2005, international institutions consider that the recovery will continue to be bolstered in the world in general, and in the euro area in particular, by the low level of financing costs in a context of moderate inflation. In the United States, the past depreciation of the dollar and the expected improvement on the labour market should have a relatively limited impact on prices, thanks to such factors as the sustained growth of productivity and the scope still available in the utilisation of production capacity. In Japan, the easing of deflationary pressure is expected to be only gradual; according to some international institutions, it is not until 2005 that the rate of increase in consumer prices will become slightly positive. As regards the euro area, the negative output gap, the low pressure of wages and the past appreciation of the euro look set to exert a moderating effect on prices.

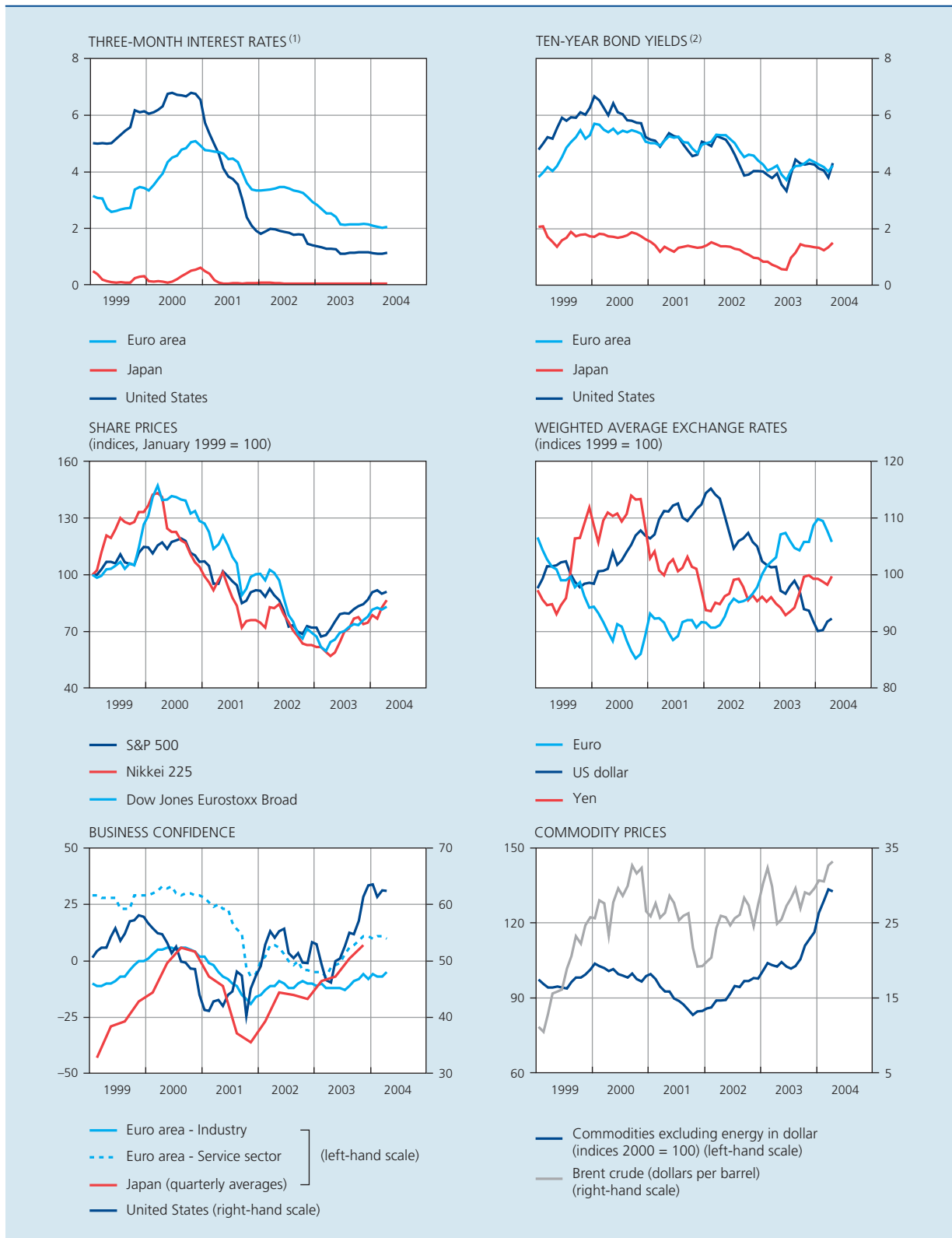
From the second quarter of 2003 to February 2004, prices picked up again on the main stock markets. In March 2004, however, substantial downward pressure on prices was observed on some markets and, following a recovery in April, prices dropped again in the first half of May.

The weighted average exchange rate of the euro, which had continued to make strong gains in 2003, strengthened further at the beginning of 2004 before dipping in March and April. The nominal effective exchange rate of the US dollar moved in the opposite direction. From March, the dollar was clearly bolstered by the more positive assessment of market operators regarding the economic outlook in the United States. The yen appreciated in the second half of 2003, in view of the signs of a sustained recovery by the Japanese economy. In April 2004 the weighted average exchange rate of the yen was still roughly at its December 2003 level.

CHART 1

DEVELOPMENTS ON THE FINANCIAL AND COMMODITY MARKETS AND DEVELOPMENT OF CONFIDENCE IN THE MAIN ECONOMIES

(Monthly averages, unless otherwise stated)



Sources: BIS, EC, ECB, HWWA, ISM, OECD, NBB.

(1) Interest rate on three-month interbank deposits.

(2) Yield on ten-year government bonds (benchmark loans).

Moreover, the global recovery in 2003 was in line with the strengthening confidence apparent in the main economies. In the United States, the business confidence indicator showed a marked rise from May 2003, reaching a high level by the end of the year. Since the beginning of 2004 it has fluctuated around that high level, indicating a continuing economic expansion. In Japan, business confidence has been improving almost continuously since the beginning of 2002. In the euro area, it has strengthened from the spring of 2003. This improvement came to a halt in November 2003, in both industry and the service sector; however, business confidence did improve in industry in April 2004.

Prices of crude oil and other commodities rose by an average of around 14 p.c. in 2003, compared to the previous year. Nonetheless, this increase occurred mainly in the second half of the year; it also encouraged expansion in certain countries, such as Russia and the OPEC members. Oil prices continued to rise during the first four months of 2004, so that the price of Brent crude peaked at 38.7 dollars per barrel on 14 May. The reason for this increase is the buoyancy of demand in the United States and Asia, the low level of commercial inventories in the United States, the OPEC announcement of cuts in production in anticipation of the expected seasonal downturn in demand and – in May – the growing concern about the continuity of oil supplies. At the same time, the surge in

prices of other commodities expressed in US dollars continued, driven mainly by increasing world demand.

1.2 Outlook for 2004 and 2005

The figures for the initial months of the year suggest that the world recovery will broaden and gain momentum in 2004. The main international institutions expect global economic activity to expand by an average of around 4.5 p.c. The average growth achieved during the year will anyhow be boosted by the carry-over effect due to the strengthening of activity in the second half of 2003. In 2005, growth is expected to moderate slightly, reverting to a more sustainable rate.

Stimulated by investment and the persistent strong growth of productivity, expansion in the United States looks set to continue in 2004. The gradual improvement on the labour market should provide support for private consumption. However, growth is expected to weaken in 2005. In Japan, growth will also strengthen in 2004 before faltering slightly in 2005. The recovery will likely be sustained by the expansion of exports to an important extent, while domestic demand will be underpinned by the maintenance of short-term interest rates at zero. According to the projections, the expansion will continue in the other Asian countries in 2004 and 2005 at a rate

TABLE 1 SPRING FORECASTS BY INTERNATIONAL INSTITUTIONS FOR 2004 AND 2005

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

	2003	2004			2005		
	Actual figures	EC	IMF	OECD	EC	IMF	OECD
GDP at constant prices							
United States	3.1	4.2	4.6	4.7	3.2	3.9	3.7
Japan	2.7	3.4	3.4	3.0	2.3	1.9	2.8
Euro area	0.4	1.7	1.7	1.6	2.3	2.3	2.4
Inflation ⁽¹⁾							
United States	2.3	1.4	2.3	2.3	1.2	2.2	2.0
Japan	-0.3	0.0	-0.4	-0.2	0.2	-0.1	0.1
Euro area	2.1	1.8	1.7	1.7	1.6	1.6	1.4
Unemployment rate ⁽²⁾							
United States	6.0	5.6	5.5	5.5	5.6	5.4	5.2
Japan	5.3	4.8	4.9	5.0	4.7	4.9	4.6
Euro area	8.8	8.8	9.1	8.8	8.6	8.9	8.5

Sources: EC, IMF, OECD.

(1) Consumer price index.

(2) Percentages of the labour force.

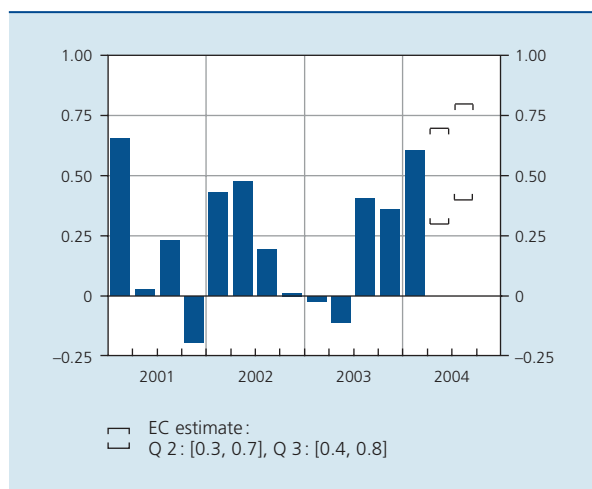
of at least 7 p.c., fuelled by exports – particularly to the United States – and the robustness of domestic demand. In Russia and in other members of the Commonwealth of Independent States, economic growth is expected to reach around 6 p.c. in 2004 and 5 p.c. in 2005. The United Kingdom and the countries which joined the EU on 1 May are likely to record strong growth in 2004 and 2005, driven by domestic demand and on-going structural changes in the case of the new EU members. Activity growth is expected to improve markedly in other parts of the world, such as Latin America and Africa.

The acceleration in world growth in 2004 and 2005 should be accompanied by vigorous expansion of world trade, which was already in evidence in the second half of 2003. All in all, the international institutions expect volume growth in world trade in goods and services to reach around 7 to 8.5 p.c. in 2004 and approximately 7 to 10 p.c. in 2005, driven in particular by the dynamism of growth in Asia and the expansion of intra-regional trade relations in that area, which will also encourage trade with the rest of the world. This strong expansion of world trade will generate substantial growth in the euro area's export markets.

The low growth recorded on average in the euro area in 2003 masks a recovery during the year. According to an initial provisional estimate, the recovery continued in early 2004, with GDP growing by 0.6 p.c. in the first quarter. The expansion of activity in the euro area is expected

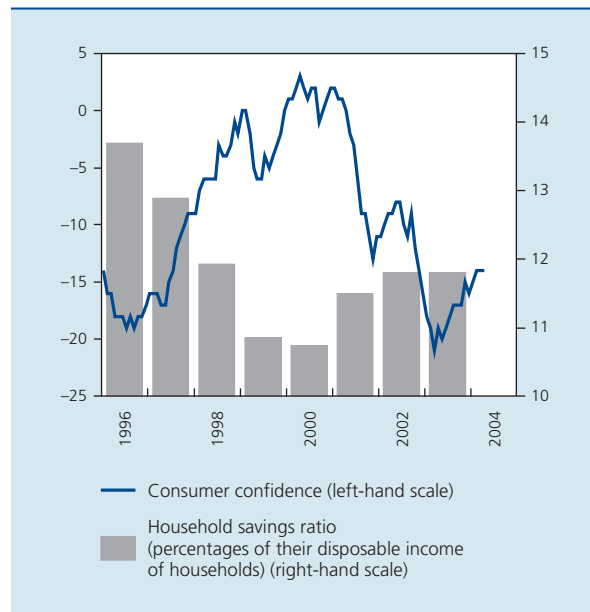
CHART 2 CYCLICAL PROFILE OF GDP IN THE EURO AREA

(Seasonally adjusted data; percentage changes at constant prices compared to the preceding quarter)



Source : EC.

CHART 3 HOUSEHOLD SAVINGS RATIO AND CONSUMER CONFIDENCE IN THE EURO AREA



Sources : EC, OECD.

to accelerate gradually in 2004 and 2005, with growth rising from 0.4 p.c. in 2003 to around 1.7 p.c. in 2004 and 2.3 p.c. in 2005.

The rapid growth of the export markets should stimulate the euro area's exports substantially in 2004 and 2005, as the positive impact of the expansion in world trade is expected to outweigh the negative effects of the past appreciation of the euro. The EC is therefore expecting the volume of exports of goods and services to grow by 4.9 and 5.9 p.c. respectively in 2004 and 2005. However, this expansion is likely to be accompanied by a comparable increase in imports of goods and services, so that net exports would not contribute to GDP growth during those two years.

Encouraged in particular by the recovery of foreign demand, investments are forecast to give a substantial boost to growth in the euro area in 2004 and 2005. In line with the growth of this expenditure component in the fourth quarter of 2003, the EC estimates that investment will expand by 2.4 and 3.6 p.c. respectively in those two years. In addition, the increase in gross fixed capital formation is likely to be supported by the low level of financing costs. If such an investment revival is to materialise, the financial position of non-financial corporations will have to have improved sufficiently to cease acting as a brake.

Private consumption increased only modestly in the past three years, partly because of a rise in the household savings ratio. Having exhibited a downward trend in the 1990s, the savings ratio has in fact been climbing again since 2001. This rise was accompanied by a decline in consumer confidence in 2001 and 2002, followed by an only very gradual improvement in 2003. This higher propensity to save could be due to increased precautionary savings, particularly on account of the growing concern over the fiscal consequences of population ageing and the sustainability of the existing pension systems.

Private consumption is expected to increase only gradually in 2004 and 2005: according to the EC forecast, it will expand by just 1.6 p.c. in 2004, but this growth should accelerate in 2005 to reach 2.3 p.c. In 2004, private consumption will probably still be curbed by the absence of any marked improvement on the labour market. Normally, favourable trends on the share and property markets in 2003 would trigger positive wealth effects, but in view of the relatively low propensity to consume out of wealth in the euro area, in comparison with the United States and the United Kingdom, for example, the effects on private consumption are likely to be modest in 2004. Employment is expected to expand more rapidly in 2005. Combined with a further fall in inflation, this should generate stronger growth in the real disposable income of households, which should stimulate private consumption.

EUROSYSTEM PROJECTIONS FOR THE EURO AREA

The assessment of the growth of the main economies and world trade according to the Eurosystem projections is much the same as that made by the other international institutions. Thus, foreign demand has been the main engine of the recent revival of activity in the euro area.

The economy is expected to strengthen gradually during 2004, in a context of sustained world growth and relatively accommodating macroeconomic policies. The internal dynamism of the economy should be progressively augmented, initially through business investment. With a certain delay, employment should also pick up, contributing to the growth of household disposable income and bolstering consumer confidence. In all, although GDP growth was only 0.5 p.c. in 2003, it is expected to range between 1.4 and 2.0 p.c. in 2004 and between 1.7 and 2.7 p.c. in 2005.

Having reached 2.1 p.c. in 2003, inflation measured by the harmonised index of consumer prices (HICP) should be between 1.9 and 2.3 p.c. in 2004, dropping to between 1.1 and 2.3 p.c. in 2005. Domestically generated inflationary pressure should in fact remain weak in view of the gradual progress of the economic recovery, and as the restrained rise in labour costs associated with the cyclical expansion in productivity leads to a slower rise in unit labour costs. Despite the rising price of petroleum products and non-energy goods, import prices should continue to feel the effects of the earlier appreciation of the euro.

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

	Euro area			p.m.: Belgium		
	2003	2004	2005	2003	2004	2005
Inflation (HICP)	2.1	1.9 – 2.3	1.1 – 2.3	1.5	1.8	1.7
GDP volume	0.5	1.4 – 2.0	1.7 – 2.7	1.1	2.3	2.6
of which :						
Private consumption	1.0	1.0 – 1.4	1.4 – 2.6	1.7	1.8	2.3
Public consumption	2.0	0.9 – 1.9	0.4 – 1.4	2.8	2.3	2.2
Investment	-0.8	0.7 – 2.9	1.9 – 5.1	1.1	1.3	4.5
Exports	-0.2	3.2 – 6.0	5.0 – 8.2	2.1	4.9	5.4
Imports	1.7	2.8 – 6.2	5.0 – 8.4	3.8	4.4	5.0

Sources: ECB, NBB.

Box 2 – The Eurosystem assumptions

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

- **short-term interest rates** are set for the projection period at the level prevailing when the projections are produced, so as to indicate the potential consequences of maintaining the intervention rates of monetary policy. As a result, these projections are not necessarily the best unconditional forecasts, particularly for the long term, in that monetary policy will always respond in order to maintain price stability. In the projections under review, the three-month interbank rates are set at 2.1 p.c.;
- the assumed **long-term interest rates** in euro are based on market expectations; when the projections were produced, they stood at 4.3 p.c. and are expected to edge upwards to 4.5 p.c. by the end of 2005;
- the **bilateral euro exchange rates** are kept constant at the value recorded at the beginning of May, namely 1.19 dollars to the euro in the case of the US currency;
- in accordance with the implicit price movements reflected in forward contracts, **world oil prices** should fall slightly during the projection period, from the level of almost 37 dollars per barrel reached in the first half of May 2004. Taking the average for the year, a barrel of Brent is likely to cost 34.6 dollars in 2004 and 31.8 dollars in 2005, against 28.9 dollars in 2003.

The external conditions for the Belgian economy can be deduced from the expected developments in world trade and from the results of the projections produced by partners in the euro area as regards prices and the volume of trade in goods and services. The export markets, calculated via the weighted sum of imports from third countries, are expected to expand by more than 5 p.c. in 2004 and almost 7 p.c. in 2005. While the appreciation of the euro had weighed heavily on competitors' prices in 2003, that effect should moderate during the projection period. Taking an annual average, competitors' prices are expected to fall by a further 1.5 p.c. in 2004 and to rise by 1.5 p.c. in 2005.

ASSUMPTIONS ADOPTED FOR THE EUROSISTEM PROJECTIONS

	2003	2004	2005
	<i>(Annual averages)</i>		
Three-month interbank rates in euro	2.3	2.1	2.1
Ten-year bond yields	4.2	4.3	4.4
Euro exchange rate against the US dollar	1.13	1.20	1.19
Oil price (US dollars per barrel)	28.9	34.6	31.8
	<i>(Percentage changes)</i>		
Export markets relevant to Belgium	2.5	5.3	6.9
Competitors' export prices	-7.1	-1.5	1.5
of which:			
Competitors in the euro area	-0.3	0.3	0.8

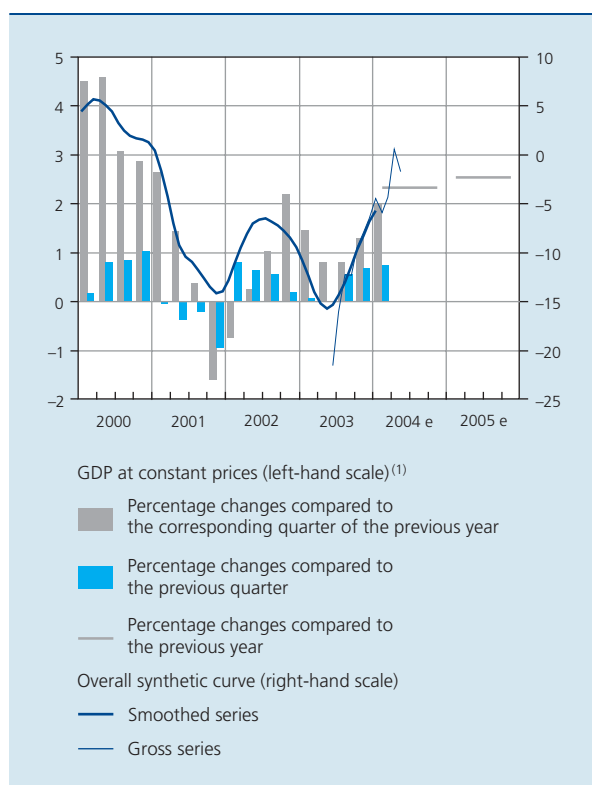
Source: ECB.

2. Activity, employment and demand in Belgium

2.1 Development of activity

The strengthening of activity seen in the euro area since the second half of 2003 also occurred in Belgium. From the third quarter of 2003 to the first quarter of 2004, the latest figure available when these projections were produced, GDP grew by an average of 0.6 to 0.7 p.c. per quarter, or around 2.5 p.c. on an annual basis. The recent movements in the economic indicators and the forecasts for the European economy suggest that this trend should be maintained over the projection period, putting an end to three years of growth hovering around 1 p.c. or less, well below the economy's potential. The real GDP growth rate is thus expected to rise from 1.1 p.c. in 2003 to 2.3 p.c. in 2004 and 2.6 p.c. in 2005.

CHART 4 GDP AND ECONOMIC INDICATORS
(Seasonally adjusted data)



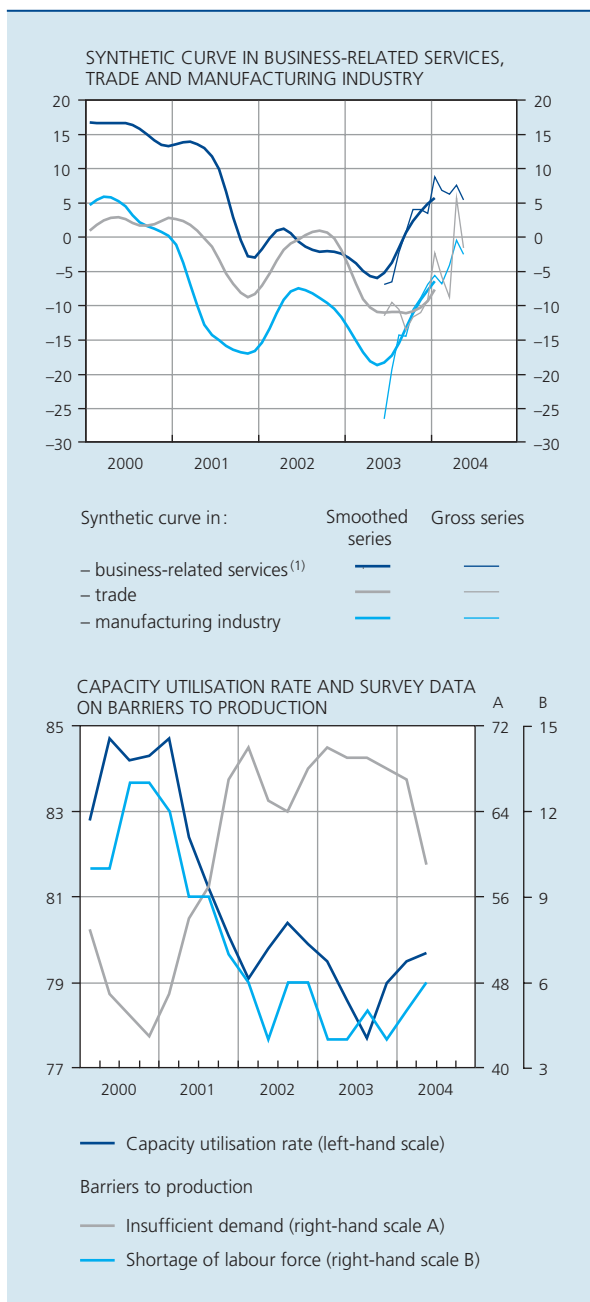
Sources: NAI, NBB.
(1) Calendar adjusted data.

Although broadly affected by the same circumstances as neighbouring countries, particularly the appreciation of the single currency and the contrasting movements in external demand, the Belgian economy demonstrated greater dynamism than that of the euro area in 2003. The slackening of activity had been less marked in the first part of the year, and the recovery recorded since then has also been stronger. Consequently, the annual average rate of GDP growth was well ahead of the figure for the euro area as a whole, and that should be the case again in 2004. In particular, it seems that the state of public finances and the fears concerning the reforms in the area of social protection and pensions have depressed domestic demand to a greater extent in certain euro area countries. However, a sustained and substantial divergence between Belgium's growth and that of the euro area is not very likely in the medium term, owing to the high degree of integration of the various economies and relatively comparable situations in terms of trends in labour force and productivity.

The dynamism of the export markets clearly started to outweigh the effects of the euro appreciation from mid 2003. Accordingly, exports mainly triggered the revival in activity. That revival was principally apparent in manufacturing industry, the branch which had been hardest hit by the tensions and uncertainty associated with the launch of the military operations in Iraq. In the market services sector, activity expanded steadily after the trough of 2001.

The pattern indicated by the results of the Bank's business surveys reflects these developments. After pursuing a downward trend in the first part of the year, which also featured large monthly fluctuations in the gross series caused by geopolitical events in particular, the synthetic indicator for manufacturing industry rose steeply from July 2003. That rise was maintained in the initial months of 2004, and was further supported by a fall of the euro, which was down by around 6 p.c. in relation to its peak against the dollar, reached in mid February 2004. Business confidence aside, the improvement in the economic climate is also apparent in the increasing rate of capacity utilisation during the last nine months. Although, in contrast to the cyclical indicators, this rate of capacity stayed until April 2004 below the average of recent years, there has been a marked fall in the proportion of firms citing insufficient demand as the reason for under-utilisation of their factors of production. Apart from manufacturing industry, it is the business-related services sector that has seen the biggest improvement in business confidence. Having remained subdued in 2003, it also recovered in the trade sector at the beginning of 2004.

CHART 5 BUSINESS SURVEY INDICATORS AND CAPACITY UTILISATION IN MANUFACTURING INDUSTRY
(Seasonally adjusted data)



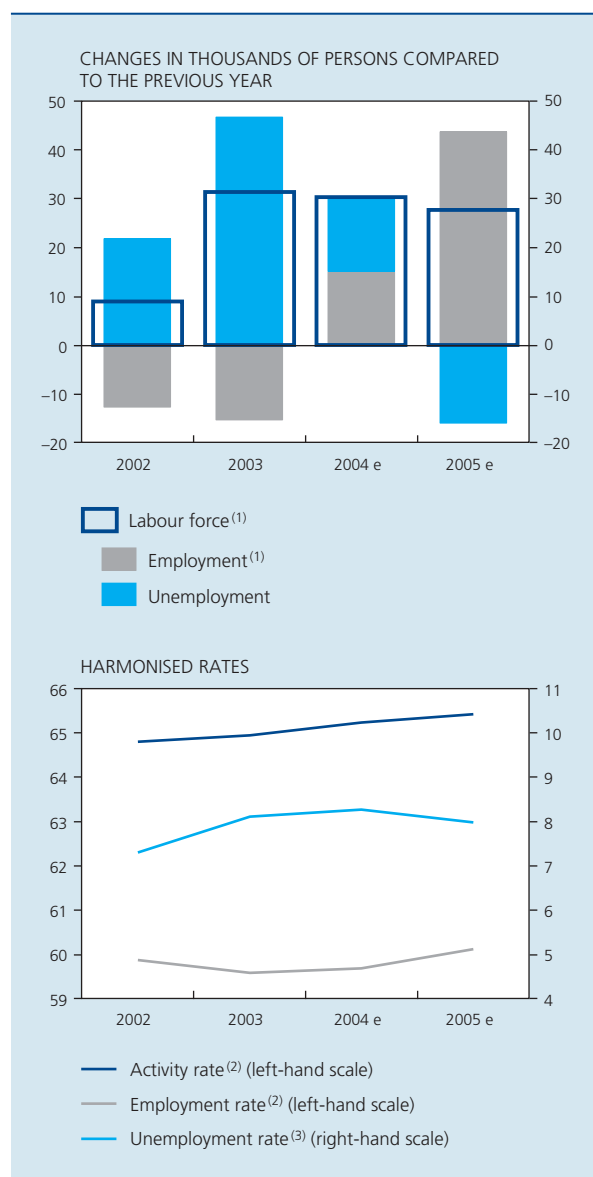
Source: NBB.
(1) The business-related services curve is not included in the overall synthetic curve.

According to the current projections, GDP growth should continue in 2004 and 2005 at a rate comparable to that of recent quarters. The sustained impetus provided by foreign demand should gradually be joined by an endogenous strengthening of the economy, via investment and employment.

2.2 Employment

The recovery in economic activity recorded during 2003 seems to have had a favourable impact on the recent employment movement. Various short-term labour market related indicators also appear to signal an end to the downward phase, in which the number of persons in work has fallen quarter on quarter for more than two years. For instance, the business surveys report an improvement in employment prospects since the third quarter of 2003, and the number of hours worked by

CHART 6 LABOUR SUPPLY



Sources: EC, NAI, NSI, NEMO, NBB.
(1) Estimates for 2003.
(2) Percentages of the population of working age.
(3) Percentages of the labour force.

TABLE 3 DOMESTIC EMPLOYMENT

(Percentage changes compared to the previous year)

	2000	2001	2002	2003	2004	2005
Domestic employment (persons)	1.9	1.5	-0.3	-0.4	0.4	1.1
of which :						
Number of employees	2.5	1.9	-0.3	-0.4	0.5	1.4
Volume of labour by employees ^{(1) (2)}	3.0	1.5	-0.6	-0.7	0.7	1.5
Average hours worked per employee ⁽²⁾	0.5	-0.4	-0.3	-0.3	0.1	0.1

Sources: NAI, NBB.

(1) These figures take no account of overtime work by full-time employees, nor are the data adjusted for temporary lay-offs.

(2) Calendar adjusted data.

temporary agency staff has increased considerably since the last quarter of that year. In the first quarter of 2004, the number of totally unemployed drawing benefits still exceeded the figure of one year before by around 7 p.c. but the rate of increase has slowed since the third quarter of 2003.

The volume of labour, i.e. the total number of hours worked, generally adapts quickly to movements in activity, so that – following a marked fall – it should have risen again by the end of 2003. On the other hand, employment expressed in terms of numbers of persons usually takes time to react, not expanding until employers are convinced that the recovery is genuine and sustained, and start taking on staff. The number of persons in work should therefore rise again only in 2004.

In 2004 and 2005 employment should further be supported by the expected continuing growth of GDP. In the wake of the accelerating activity, the total number of hours worked by employees is expected to increase by 0.7 and 1.5 p.c. respectively. In contrast to the three preceding years, when activity was sluggish, the estimated expansion in paid employment, reaching 0.5 and 1.4 p.c. respectively in 2004 and 2005, is likely to be slightly lower than the rise in the volume of labour, as the average number of hours worked per employee is increasing slightly, as is usual in the ascending phase of the cycle. Overall, the productivity gains – which link the movement in activity to that in employment – is expected to revert to 1.5 p.c. on an annual basis, after increasing sharply at the start of the recovery.

National employment, i.e. all persons in work including the self-employed and the balance of frontier workers, is forecast to grow by around 15,000 units in 2004

and 44,000 units in 2005. The growth of employment over these two years should thus more than offset the net job losses recorded in the two preceding years. However, since the expected expansion in employment in 2004 more or less matches the expansion in the population of working age, the harmonised employment rate will probably increase by only 0.1 percentage point to 59.7 p.c.; in 2005 it should continue rising to reach 60.1 p.c.

The bulk of the expected additional jobs will probably be the result of the acceleration of activity. This endogenous job creation should be underpinned by the cuts made in employers' social security contributions, especially for certain risk groups such as the low skilled and older workers, in order to reduce labour costs. In the conclusions of the September 2003 Employment Conference, the government also announced the creation of a number of subsidised jobs. For instance, it is committed to creating 12,000 additional jobs in the social economy between now and 2007. Furthermore, there should be 25,000 new jobs created in the home assistance sector by 2005, following modifications to the service voucher system. However, this last measure's net effect on employment will fall short of the number of jobs recorded, as it partly concerns existing informal activity for which an estimate is incorporated in the national accounts figures for employment. Such shifts from undeclared to official employment have no impact on the estimate of the total number of persons in work. The projections include only the additional jobs created as the attractiveness of the system stimulates demand for this type of services.

The activity rate, which reflects the extent to which the population of working age is in work or seeking employment, is influenced not only by a large upward trend

but is also affected by cyclical movements. Favourable economic conditions in fact encourage more people to entertain hopes of a job and present themselves on the labour market. In all, the expansion of the labour force in 2004 should still outstrip the growth of employment, causing unemployment to rise further. According to the forecasts, the year-on-year change in the numbers of unemployed will not become negative until the end of 2004; the numbers of unemployed will therefore increase by a further 15,000 units, on average, in 2004. In contrast, in 2005 a net decline of about the same scale is expected. Consequently, the harmonised unemployment rate is likely to increase by 0.2 percentage point to 8.3 p.c. in 2004 before subsiding to 8 p.c. of the labour force in 2005.

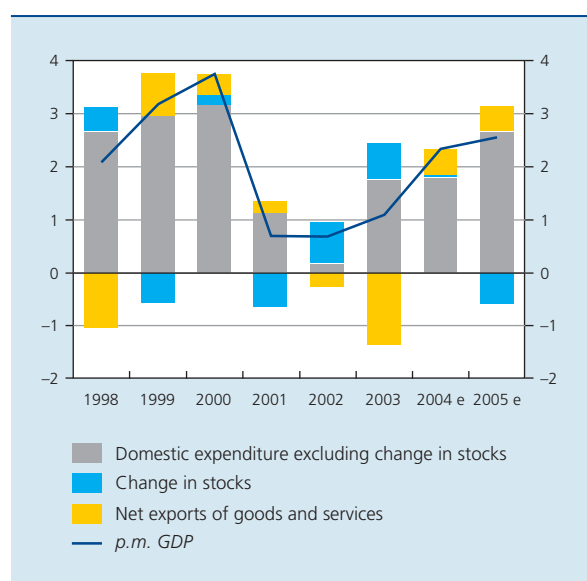
2.3 Expected movements in the main categories of expenditure

In 2003, the 1.1 p.c. GDP growth had been supported mainly by the strong revival in domestic demand – leaving aside changes in stocks – since that had contributed 1.8 percentage points. The contribution which domestic demand makes to growth should be on a comparable scale in 2004 before increasing in 2005.

Stocks also made a contribution to growth in 2003, namely 0.7 percentage point. Stock formation was substantial for the second consecutive year, much of it taking place in the second half of 2003. This may have meant

CHART 7 MAIN CATEGORIES OF EXPENDITURE

(Contribution to the change in GDP, percentage points, calendar adjusted data)



Sources: NAI, NBB.

that businesses anticipated some strengthening of final demand. The increase in stocks is expected to be more limited over the projection period. It should continue to have a small, positive impact on GDP growth in 2004,

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

	2000	2001	2002	2003 e	2004 e	2005 e
Gross primary income	5.1	4.6	2.8	1.5	2.8	3.6
of which:						
Wages and salaries	4.5	5.7	4.0	1.7	3.4	3.9
Wages per person	2.0	3.7	4.3	2.1	2.8	2.5
Employment	2.5	1.9	-0.3	-0.4	0.5	1.4
Current transfers ⁽¹⁾	7.0	6.4	1.7	-3.2	1.4	2.5
of which:						
Current taxes on income and assets	6.9	5.3	2.8	0.2	3.6	3.1
Gross disposable income	4.7	4.2	3.0	2.5	3.1	3.8
p.m. At constant prices ⁽²⁾	2.3	1.7	1.3	0.7	1.2	2.0
Savings ratio ⁽³⁾	14.5	15.4	16.2	15.4	14.9	14.8

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) Data deflated by the deflator of final consumption expenditure of individuals.

(3) Gross savings, including changes in the net equity of households in pension fund reserves, as a percentage of gross disposable income, including those changes.

before weakening and therefore exerting a negative influence on GDP growth in 2005.

Despite the strong support provided by total domestic demand, GDP growth was modest in 2003 owing to the highly negative contribution of net exports. In contrast to the two preceding years, net exports are forecast to have a positive effect on economic growth in 2004 and 2005, therefore participating in its acceleration.

Private consumption should make a substantial contribution to growth in 2004 and 2005, just as it did last year. In 2003 it expanded by 1.7 p.c., outstripping the rise in real disposable income of individuals. The rise in the savings ratio observed in 2001 at the height of the geopolitical uncertainty and the stock market corrections therefore did not persist after 2002. According to the projections, the savings ratio should drop back again, mainly in 2004. However, it is thought that the acceleration in consumption, where the growth rate will rise to 1.8 and 2.3 p.c. over the projection period, will also be due to the rise in disposable income.

The expected improvement in employment plays a dominant role in that respect. The faster rise in the wage bill is also due in part to the increase in compensation per person, although the rate of increase is likely to remain relatively modest for the reasons set out in section 3.2. The implementation of the tax reform, which will still be having a major impact in 2006, will also help to bolster the disposable income of individuals, which is expected to rise in real terms by 1.2 p.c. in 2004 and by 2 p.c. in 2005, after an estimated increase of 0.7 p.c. in 2003.

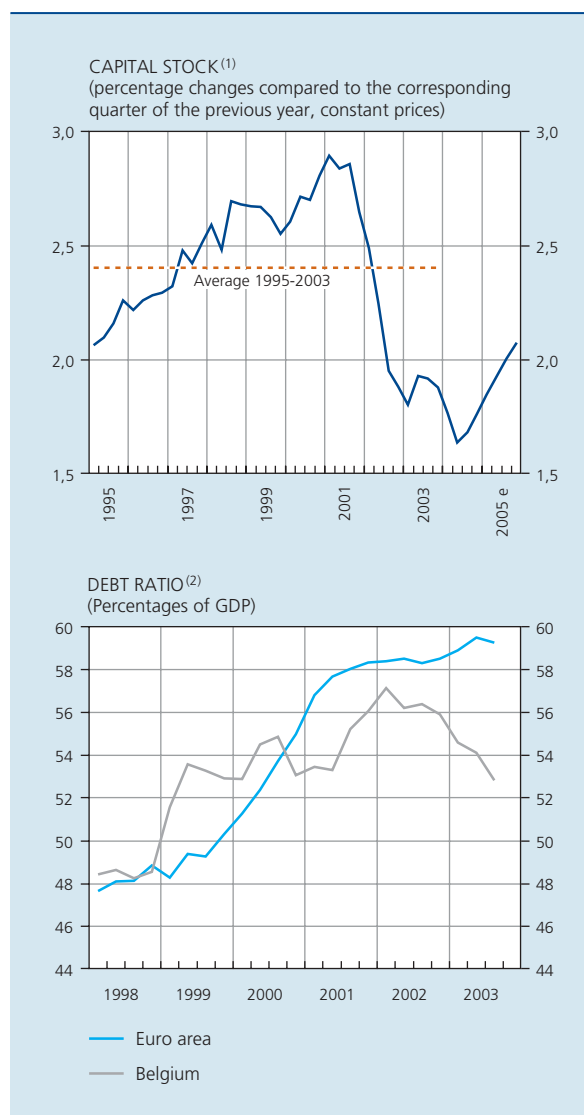
Investments by individuals in housing are likely to remain modest in 2004, growing by 1.1 p.c., as shown by the current flattening of the indicator of the volume of definite projects placed with architects. In 2005, growth should accelerate to 2.4 p.c. on account of the low level of investment spending in preceding years and relatively favourable financing conditions, due to the presumed low level of long-term interest rates over the projection period.

Public consumption expenditure, which was boosted by 2.8 p.c. in 2003 by a temporary increase in health care expenditure, is expected to return to a growth rate of around 2¼ p.c. in 2004 and 2005, barely higher than the average for the past ten years. In contrast, public investment expenditure looks set to expand significantly, especially during the final year of the projection. That acceleration is due mainly to the local election cycle, the next elections being scheduled for 2006. The reason is that local expenditure represents, on average, 45 p.c. of public investment, and most of that money is spent in the run-up to the elections. Furthermore, in contrast to previous years,

no decision has been taken at this stage on the sale of public buildings in 2005; in 2004, the sales will probably cut the level of public investment by around 4.5 p.c., an amount comparable to the figure for previous years.

The emergence of favourable demand prospects should encourage enterprises to step up their investments in 2004 and 2005. An acceleration in gross fixed capital formation is expected by the beginning of 2004, after a decline in the second half of the previous year. Owing to the negative growth overhang effect caused by that decline, investment is likely to expand by only 0.7 p.c.

CHART 8 CAPITAL STOCK AND DEBT RATIO OF FIRMS
(Seasonally adjusted data)



Sources: ECB, NAI, NBB.

(1) After deduction of depreciation.

(2) Total lending by financial institutions in the euro area and fixed-income securities issued, excluding loans between associate companies, probably greater in Belgium than in the euro area.

TABLE 5 GDP AND MAIN CATEGORIES OF EXPENDITURE, AT 2000 PRICES

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

	2000	2001	2002 ⁽²⁾	2003	2004 e	2005 e
Final consumption expenditure of individuals	3.4	0.9	0.4	1.7	1.8	2.3
Final consumption expenditure of general government	2.7	2.5	1.9	2.8	2.3	2.2
Gross fixed capital formation	3.5	0.5	-2.1	1.1	1.3	4.5
Housing	0.9	-0.6	-1.6	1.3	1.1	2.4
General government	2.0	-12.4	1.6	-6.2	7.4	13.0
Enterprises	4.6	2.5	-2.7	1.8	0.7	4.2
Change in stocks ⁽¹⁾	0.2	-0.7	0.8	0.7	0.1	-0.6
Total domestic expenditure	3.5	0.5	1.0	2.5	1.9	2.1
Net exports of goods and services ⁽¹⁾	0.4	0.2	-0.3	-1.4	0.5	0.5
Exports of goods and services	8.6	1.3	0.8	2.1	4.9	5.4
Imports of goods and services	8.4	1.1	1.1	3.8	4.4	5.0
GDP	3.7	0.7	0.7	1.1	2.3	2.6

Sources: NAI, NBB.

(1) Contribution to the change in GDP.

(2) These data are influenced by the reclassification of the public broadcasting corporations, transferred from the non-financial corporations sector to the general government sector. Excluding this operation, the change in final consumption expenditure of individuals was 0.9 p.c. in 2002, and that of general government 1.3 p.c.; for gross fixed capital formation of firms and general government the respective figures were -2.6 p.c. and 0.6 p.c.; for final domestic expenditure the change was 0.3 p.c. and for GDP 0.8 p.c.

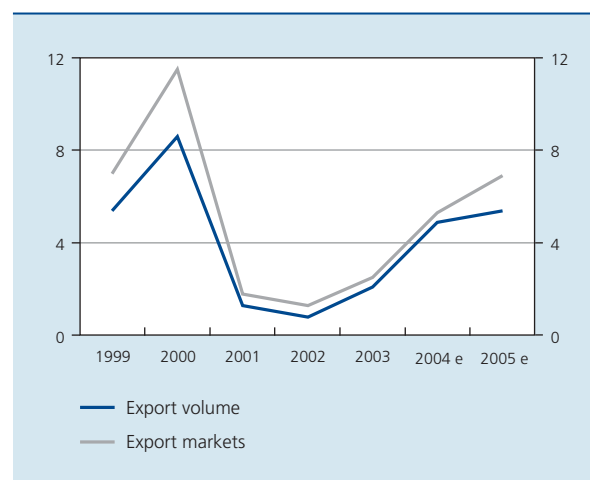
on average in 2004, against 4.2 p.c. in 2005, while the pattern will be similar over the two years. This recovery should stimulate the expansion of the capital stock of enterprises, expected to reach 2 p.c. at the end of 2005, though this is still well below the trend increase observed since 1995 and the growth rates close to 3 p.c. recorded in early 2001, before the start of a major process of adaptation of the means of production in line with the weakness of demand.

Although the capacity utilisation rate in manufacturing industry was still low at the beginning of 2004, the prerequisites for a recovery in business investment appear to be present. Financial conditions are favourable and, according to the Bank Lending Survey, banks are also expecting credit to continue to ease, especially for large firms. At the same time, the strengthening of economic activity will continue to exert a beneficial influence on the scope for self-financing. In addition, the level of borrowings of Belgian firms has declined over the past two years. Consequently, the current debt ratios are healthy and new investment can proceed without causing any significant imbalances. The decline in the prices of capital goods, already apparent for two years now, may also promote the propensity to invest.

As already stated, the marked strengthening of exports during 2003 started the cyclical upswing. In Belgium, in line with the expansion of world trade described above, the growth of the export markets picked up from the third

CHART 9 EXPORT MARKETS AND EXPORTS OF GOODS AND SERVICES AT CONSTANT PRICES

(Percentage changes compared to the corresponding quarter of the previous year, data adjusted for seasonal and calendar effects)



Sources: ECB, NAI, NBB.

quarter of 2003, the main impetus coming from markets outside the euro area. In 2003, the latter expanded by 5 p.c. while markets within the euro area produced only 1.3 p.c. growth.

Driven by this stronger growth, exports of goods and services also posted a recovery in the third quarter of 2003. The expansion came to 2.1 p.c. for the year 2003 as a whole. This recovery is reflected in the marked rise since May 2003 in the business survey indicator relating to foreign orders in the manufacturing industry. During the initial months of 2004, in parallel with the expansion of the export markets, the rise in this indicator was also supported by the euro's depreciation.

During the period covered by the projections, the rise in exports is expected to accelerate to 4.9 and 5.4 p.c. respectively in 2004 and 2005, driven by expanding foreign demand. In particular, the growth rate of markets in the euro area, which had lagged behind the growth of markets elsewhere in 2002 and 2003, should gradually come closer to matching the expansion of these markets.

Supported by domestic spending, the volume of imports of goods and services grew by 3.8 p.c. in 2003, well outpacing the expansion of exports. The acceleration in the volume growth of imports should continue during the period of the projections, sustained by the rising exports and the strengthening of the domestic demand components. However, the rise in imports is expected to fall short of the increase in exports, so that net exports should make a positive contribution to GDP growth in 2004 and 2005, at a rate of around 0.5 percentage point in each year.

These volume movements should be reflected in a growing balance of payments surplus in goods and services, as a percentage of GDP, in 2004 and 2005, as the expected price movements will have a neutral impact over the two years as a whole. As regards the other current account items, the income surplus is predicted to remain steady and the deficit on current transfers should fall slightly. The current account surplus should therefore increase, rising from 3.1 p.c. of GDP in 2003 to 3.9 p.c. of GDP in 2005.

3. Prices and costs

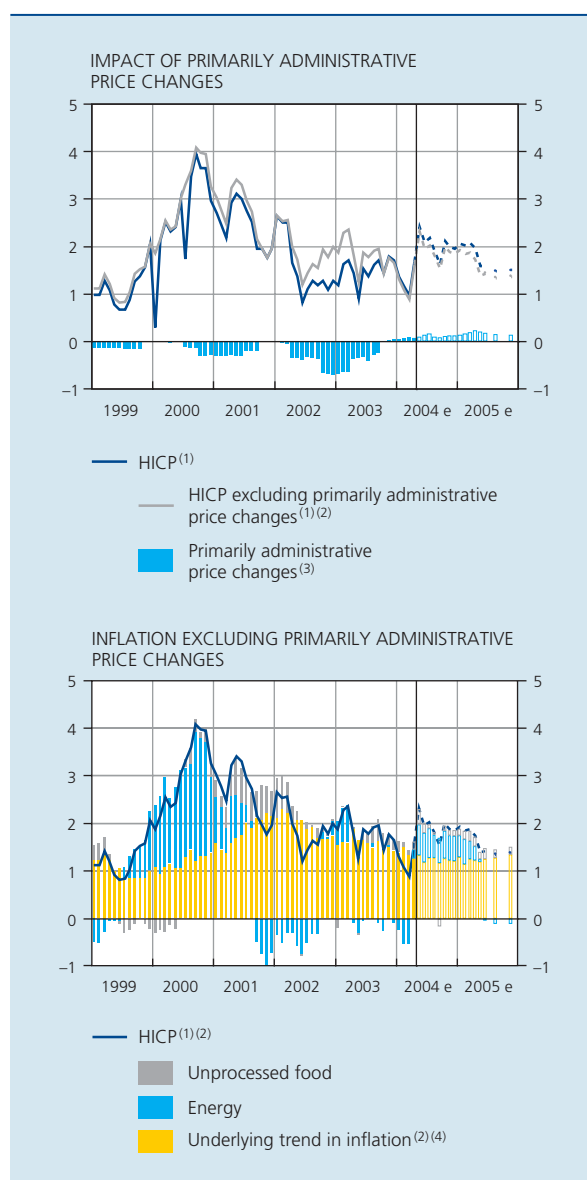
3.1 Prices

Inflation measured by the HICP had fallen to 1 p.c. in March 2004. Following the crude oil price rises commented on below, it accelerated fairly sharply to reach 1.7 p.c. in April, and is expected to exceed 2 p.c.

temporarily after that. Subsequently, leaving aside short-term volatility, inflation should slacken, falling to around 1.6 p.c. by mid 2005, before gathering pace slightly as a result of the economic recovery. In all, inflation is expected to average 1.8 p.c. in 2004 and 1.7 p.c. in 2005, against 1.5 p.c. in 2003. Of course, these projections depend very much on the technical assumptions described earlier,

CHART 10 INFLATION: ANALYTICAL BREAKDOWN

(Contributions of the various components in 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 fact that prices discounted in sales have been taken into account in the HICP since 2000.

(3) That is measures relating to the radio and television licence fee, tariff changes in the network industries in which liberalisation is farthest advanced, namely telecommunications, electricity and gas, and changes to indirect taxes.

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

TABLE 6 HARMONISED INDEX OF CONSUMER PRICES FOR BELGIUM

(Percentage changes compared to the previous year)

	Total							p.m. Health index ⁽³⁾
	Energy	Unprocessed food ⁽¹⁾	Underlying trend in inflation ⁽²⁾					
				Processed food	Non-energy industrial goods	Services		
1999	1.1	2.0	0.0	1.1	0.6	0.8	1.8	0.9
2000	2.7	16.3	0.2	1.1	1.3	0.0	2.3	1.9
2001	2.4	1.4	6.9	2.1	2.2	2.0	2.1	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 e	1.8	4.5	1.4	1.5	n.	n.	n.	1.6
2005 e	1.7	2.3	2.1	1.6	n.	n.	n.	1.6
Excluding primarily administrative price changes ⁽⁴⁾								
1999	1.2	1.7	0.0	1.3	0.6	0.8	2.2	
2000 ⁽⁵⁾	3.0	16.8	0.2	1.5	1.2	0.7	2.4	
2001	2.6	1.9	6.9	2.2	2.1	1.9	2.5	
2002	1.9	-2.7	3.2	2.4	1.5	1.6	3.4	
2003	1.8	1.0	1.7	2.0	2.1	1.0	2.7	
2004 e	1.7	3.0	1.4	1.6	n.	n.	n.	
2005 e	1.5	0.8	2.1	1.5	n.	n.	n.	

Sources: EC; FPS for Economy, SMEs, Self-employed and Energy; 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, alcoholic beverages, petrol and diesel.

(4) That is measures relating to the radio and television licence fee, tariff changes in the network industries in which liberalisation is farthest advanced, namely telecommunications, electricity and gas, and changes to indirect taxes.

(5) Excluding the estimated effect of the fact that prices discounted in sales have been taken into account in the HICP since 2000.

especially those relating to the movement in short-term interest rates, exchange rates, and crude oil prices, and on continuing wage moderation.

The slight acceleration in inflation, projected between 2003 and 2004, is due to a series of mainly administrative price changes. As may be seen from box 3, price changes of this type acted as a considerable brake on inflation in 2002 and 2003; in contrast, in 2004 and 2005 they will presumably boost inflation by 0.1 and 0.2 percentage point respectively. Furthermore, the inflation profile observed recently was largely determined by the movement in the prices of generally highly volatile components, namely energy and unprocessed food. In the future too, these components are expected to trigger substantial short-term fluctuations in inflation.

The movement in energy prices was the main factor contributing to a temporary slackening of inflation in February and March 2004. In April, on the other hand, this component was the source of a sharp acceleration which – in all likelihood – will continue in May. These see-saw movements are attributable primarily to base effects following substantial fluctuations in the crude oil price a year previously. Oil prices in fact surged at the beginning of 2003 owing to the strike in Venezuela and the Iraq war, but then fell steeply as soon as it was clear that the war in Iraq would soon be over. Since then, however, the dollar price of crude has been pushed up again by the vigour of world demand, OPEC production restrictions, the low level of commercial stocks in the United States and fears that political agitation and terrorist attacks in various oil-producing countries may jeopardise supplies. In April 2004, the price of a barrel of Brent crude increased to almost 35 dollars, roughly as high as during the run-up

Box 3 – The reversed effect of primarily administrative price changes

In 2002 and 2003, inflation was kept down to a considerable extent by the abolition of the radio and television licence fee in Flanders and Brussels, the reduction in that fee in Wallonia and the changes made by the Electricity and Gas Regulation Committee in calculating the regulated prices of gas and electricity. As regards this last factor, the system of regulated prices still applies in Wallonia and Brussels, and there was no knowledge of any further cuts at the time drawing up the projections. On the other hand, for Flanders, where the gas and electricity market has been fully liberalised since July 2003, the standard supplier has announced tariff cuts. However, in that region a tax (called the Elia contribution) has been introduced to compensate for the loss of revenue incurred by the municipalities following liberalisation. In April 2004, the law on environmental levies and eco-bonuses was implemented. This can be expected to lead to small net reductions in prices.

PRIMARILY ADMINISTRATIVE PRICE CHANGES

(Estimated contribution to inflation in percentage points)

	2002	2003	2004	2005
Abolition of the radio and television licence fee in Flanders and Brussels	-0.27	-0.27	-	-
Reduction in the radio and television licence fee in Wallonia . .	-	-0.05	-0.05	-
Impact of changes in electricity and gas tariffs	-0.09	-0.13	-0.01	-0.04
Indirect taxes on electricity and gas	-	-	0.02	0.04
Environmental levies and eco-bonuses	-	-	-0.05	-0.02
Indirect taxes on tobacco and petroleum products	-	0.12	0.19	0.17
Total	-0.36	-0.33	0.10	0.15

The rather small downward effect of these factors in 2004 and 2005 does not outweigh the increase in indirect taxes on tobacco and petroleum products. For the latter, a ratchet system was in fact introduced to increase the excise duty. According to this system, half of each price reduction resulting from application of the programme contract is offset by an increase in excise duty which applies permanently thereafter. During 2004-2008, this system is to be applied each year until a maximum increase in duty of 0.028 euro per litre is reached. In 2003, this system was already applied to petrol, raising the excise duty by 0.014 euro per litre.

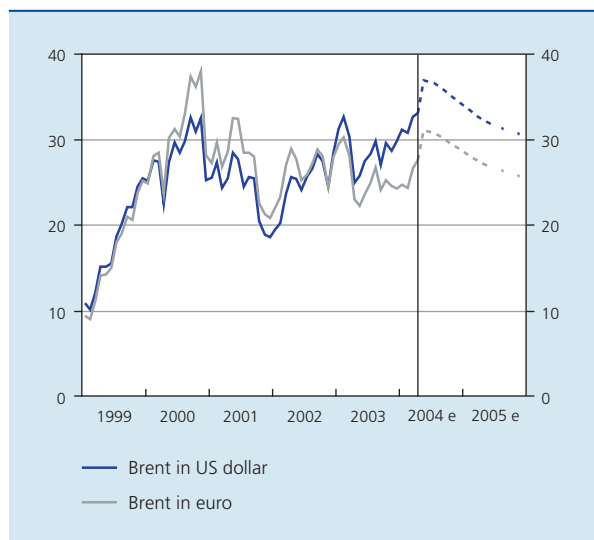
Naturally, there is still a possibility that the eventual inflation figure may be influenced by government measures which were not known when these projections were drawn up.

to the Iraq war or during the autumn of 2000. The price continued to rise in May.

However, the impact of these movements on inflation was largely attenuated by the appreciation of the euro. In consequence, the price of crude oil denominated in euro remained relatively stable until March 2004, and in April it was still almost 10 euro below the peak recorded in November 2000. Crude oil price changes have an almost immediate impact on consumer prices of motor vehicle fuel and heating oil, so that oil prices are the most direct

transmission channel whereby movements in the euro exchange rate influence consumer prices. Another point worth mentioning is that the upward pressure exerted on oil prices meant that, during the first four months of 2004, the ratchet system described in box 3 had not yet given rise to any increases in excise duty on petrol, while the increases in the duty on diesel had not yet reached their maximum amounts.

CHART 11 CRUDE OIL PRICES⁽¹⁾
(Monthly averages)



Source: ECB.

(1) Prices recorded up to April 2004, assumptions from May 2004 (monthly until June 2005 and quarterly thereafter).

In accordance with the implicit prices reflected in forward contracts, crude oil prices quoted on the world market should drop from June onwards, falling to 34 dollars a barrel at the end of 2004 and 30 dollars a barrel by the end of 2005, while the exchange rate between the euro and the US dollar is expected to remain unchanged at 1.19 dollar to the euro. In consequence, the rate of increase in energy prices should rise to around 9 p.c. during May, June and July. After that, however, a slight slackening is predicted, intensifying from the first quarter of 2005, although in that regard it should be noted that the uncertainty surrounding that assumed pattern seems greater than usual.

The uncertainty over the future movement in unprocessed food prices is also considerable, since prices depend very much on supply conditions which are sometimes highly unstable. In recent months, those conditions have tended to be favourable. Assuming that they will evolve in a more neutral way in the future, the rate of increase in the prices of unprocessed foods should be about 1.4 p.c. in 2004 and 2 p.c. in 2005, i.e. roughly the same as in 2003.

Leaving aside the primarily administrative price changes and the volatile movements in the prices of unprocessed food and energy, one obtains a good indicator of the underlying trend in inflation. While the average pace of price rises measured in this way had already dropped

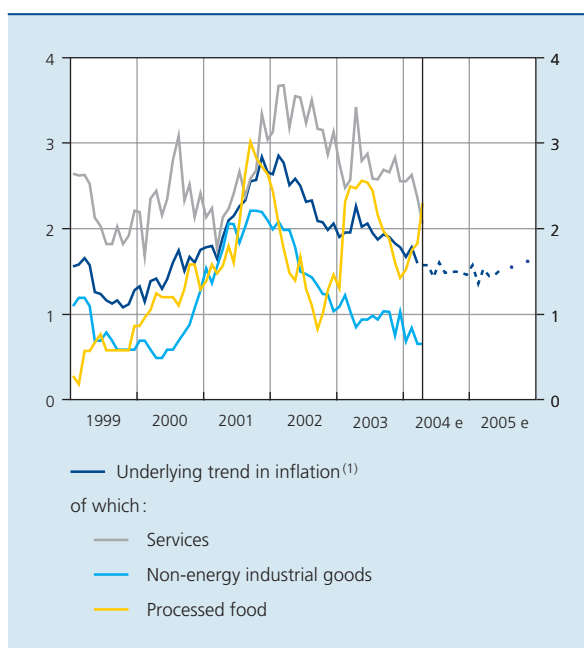
from 2.4 p.c. in 2002 to 2 p.c. in 2003, the pace is expected to decelerate further, to 1.6 p.c. in 2004 and 1.5 p.c. in 2005. This slowing is due to the appreciation of the euro, which has reduced external pressure on prices, despite the increase in prices of energy and non-energy commodities. While changes in exchange rates are reflected almost immediately in consumer prices of energy, it takes longer for them to be transmitted to most other products. Moreover, as may be seen from box 4, the scale of that transmission and its timing may vary from one period of sharp exchange rate fluctuations to another.

The slowing pace of the underlying trend in inflation is also due to the fact that the rise in labour costs, as explained below, moderated considerably in 2003 and should remain muted, and to the generally modest rate of increase in domestic demand. The pattern of the underlying trend in inflation observed over the first four months of 2004 is in line with that prediction.

Despite high volatility, attributable mainly to the movement in package travel prices, the underlying trend for services continued to fall during the first four months of 2004. The principal contributory factor was the small rise in labour costs, which play a more significant role

CHART 12 UNDERLYING TREND IN INFLATION

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



Sources: EC, NBB.

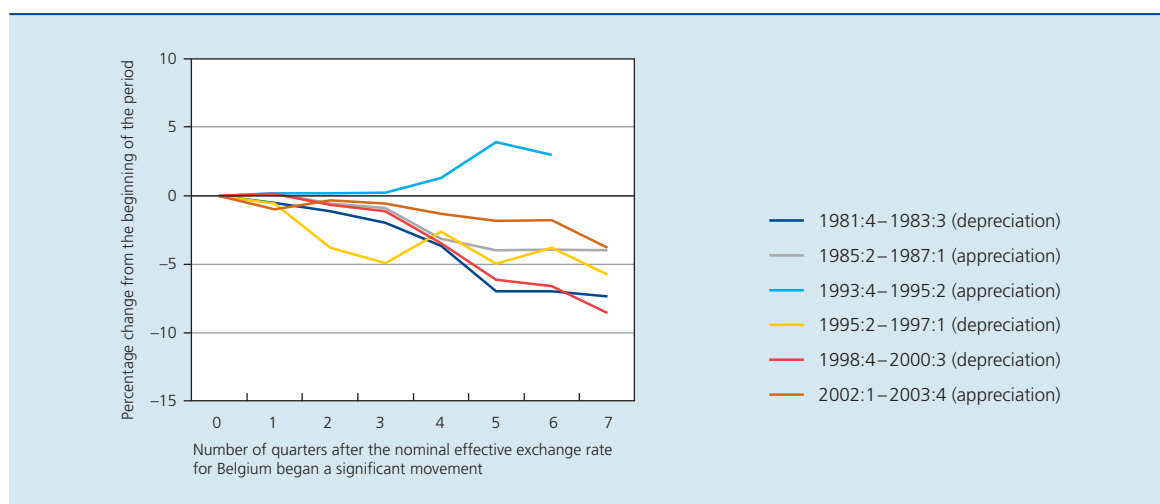
(1) Measured by the HICP excluding unprocessed food and energy, and primarily administrative price changes.

Box 4 – Transmission of exchange rate changes

The strong appreciation of the nominal effective exchange rate for Belgium, since the first quarter of 2002, has undeniably played a role in the easing of the underlying inflation rate in the past two years. That is mainly apparent in the non-energy industrial goods component which - apart from a substantial proportion of directly imported consumer goods - also includes goods which are produced in Belgium by means of imported manufactured products. Consequently, the movement in the prices of imported manufactured goods during the period from the first quarter of 2002 to the fourth quarter of 2003 can provide an indication of the extent to which the euro's recent appreciation has exerted downward pressure on consumer prices. That movement is relatively modest if one compares it to the changes in import prices during other periods of substantial variations in exchange rates.

PRICES OF IMPORTED MANUFACTURED PRODUCTS⁽¹⁾

(Percentage change from the beginning of the period)⁽²⁾



Sources: NAI, NSI, NBB.

(1) Unit values for manufacturing industry products, excluding diamonds. They concern the Belgium-Luxembourg Economic Union up to 1992, Belgium only thereafter.

(2) The various import price movements have been reassessed according to the scale and direction - in the case of a depreciation - of the change in the nominal effective exchange rate during the latest appreciation period, in order to permit mutual comparison between import price movements.

It is commonly acknowledged that, in the long term, exchange rate changes are entirely reflected in import prices. In the shorter term, however, there is no obvious straight link between the exchange rate fluctuations and the movement in import prices, since foreign exporters can set their prices by taking account, to varying degrees, of the specific conditions in the country of destination ("pricing-to-market").

In so far as such a "pricing-to-market" strategy is applied, exchange rate variations lead to fluctuations in foreign exporters' margins, but not in import prices. It is generally accepted that the degree to which that strategy is applied depends on the nature of the exchange rate changes. If the observed change in the exchange rate is regarded as temporary, the price adjustment will be less pronounced, as a rule, than if the change is considered to be permanent. In the former case, there is in fact a danger that the economic agents may have to adjust their prices again in the opposite direction at a later date. The direction of the exchange rate movement may also play a role, since the extent to which foreign exporters can allow their margin to fluctuate may not be symmetrical. For instance, if the euro depreciates, the "pricing-to-market" strategy causes foreign exporters' margins to shrink, which is perhaps less tenable than widening of their margins if the euro appreciates.



Moreover, it must be pointed out that other factors may also play a role. For example, the appreciation period which began in the first quarter of 2002 was accompanied by constant upward pressure on prices of energy and non-energy commodities, caused among other things by strong world demand.

in services than in other components. In the case of non-energy industrial goods, where the impact of the euro's appreciation is greater, the rate of increase in prices also continued to slow down during the first four months of 2004. However, these movements were partly offset by the acceleration in the pace of price increases for processed food, due to the February 2004 increase in the maximum price for bread subject to regulation. However, this form of price regulation will be abolished in July 2004. The fall in the underlying inflation trend is expected to come to a halt in the second half of 2004, giving way to a slight rise from mid 2005. The transmission to consumer prices of the appreciation of the exchange rate and of the slackening pace of increases in labour costs should gradually come to an end, and the economic upturn should subsequently lead to a slight acceleration in inflation.

Taking account of the developments described above, the health index – which is the benchmark for the indexation of wages and other incomes – looks set to rise by 1.6 p.c. in both 2004 and 2005. Of course, this figure is heavily dependent on the initial assumptions adopted for the projection.

3.2 Labour costs

In 2004, as in the previous year, the movement in private sector wages is largely determined by the pay agreements concluded in the first half of 2003 and by the automatic linking of wages to the health index, which together constitute the collectively agreed increases. These pay negotiations were conducted within the framework of the December 2002 central agreement, whereby the social partners had agreed an indicative norm of 5.4 p.c. for the increase in hourly labour costs in the private sector during the 2003-2004 period.

In view of the sluggishness of the economy at the time of the negotiations and the uncertainty hanging over the economic recovery, the social partners had called on the joint committees to make a special effort as regards wage moderation in 2003, and to postpone the major part of the real collectively agreed wage increases until 2004. Although these increases are ordinarily relatively smaller in the first year covered by a biennial central agreement,

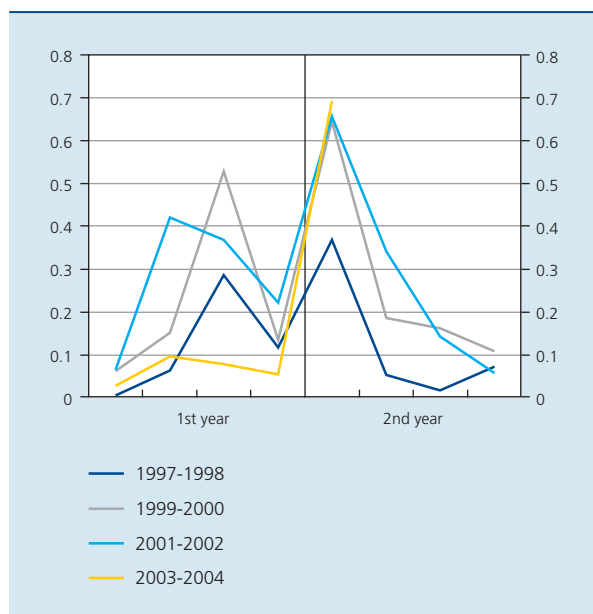
they remained in 2003 – quarter on quarter – below the levels observed under the three preceding central agreements. As expected, real collectively agreed wages rose faster in the first quarter of 2004. The increase is expected to average 0.8 p.c. over the year as a whole, after a rise of just 0.4 p.c. in 2003.

Inflation which, despite a slight acceleration, is still relatively subdued, should lead to wage indexation averaging 1.6 p.c. in 2004, against 1.5 p.c. in 2003. The overall increase in collectively agreed wages is therefore expected to represent 2.4 p.c. in 2004, i.e. a cumulative increase of 4.2 p.c. over the 2003-2004 period, against 7.2 p.c. in 2001-2002.

A number of agreements explicitly allowed some scope for decisions on collectively agreed pay increases in individual firms. These increases are included in the wage drift together with premium pay and the impact of changes in the structure of employment which influence the average level of wages. This wage drift is estimated at 0.8 p.c. in 2004, representing a slight acceleration compared to 2003, when it came to 0.5 p.c.

A series of reductions in employers' social security contributions, agreed at the September 2003 Employment Conference, take effect during this year. In 2004, 400 million euro will be set aside for this. Once the cuts are fully operational, the budget earmarked for these measures will come to 840 million euro. The measures relate in part to generalised reductions in the form of an extension of the structural cuts in contributions, but the major part of the budget is devoted to reducing the labour costs relating to specific groups of workers. Thus, some of the measures target workers on low wages and staff in the non-market sector. Taken together, these provisions will probably yield a 0.5 percentage point reduction in the rise in hourly labour costs in the private sector in 2004, which is therefore estimated at 2.6 p.c. Altogether, the cumulative rise in labour costs per hour worked is expected to come to 4.8 p.c. in 2003-2004, which is below the indicative wage norm for that period, and well below the 2001-2002 figure, when the cumulative rise in labour costs had reached 9.2 p.c.

CHART 13 REAL COLLECTIVELY AGREED WAGES⁽¹⁾
(Percentage changes compared to the previous quarter)



Source : FPS Employment, Labour and Social Consultation.

(1) Pay increases for manual and non-manual workers, defined by joint committees, excluding increases granted by individual firms and indexation.

Owing partly to the strengthening economic growth, the fall in the average hours worked per employee, seen in previous years, is expected to end in 2004. As a result, labour costs per person employed will probably rise slightly faster this year than the costs per hour worked. However, the 2.8 p.c. growth represents an acceleration compared to the 1.8 p.c. rise recorded in 2003, a year in which the average number of hours worked per employee fell by 0.3 p.c.

Also owing to the increase in the number of hours worked by employees, but mainly because of the revival in economic activity, labour productivity – the volume of value added per person in work – should continue to rise by 2.3 p.c. in 2004, after a 1.6 p.c. increase in 2003. Unit labour costs should therefore show only a modest increase of 0.5 p.c., comparable to 2003 when the rise was just 0.2 p.c.

As stated in the technical report by the Central Council for the Economy, the movement in hourly labour costs in Belgian firms has, on average, kept in phase with that seen in the three main neighbouring countries (Germany, France and the Netherlands) since 1996, the year in which the law on competitiveness came into force. If, as

TABLE 7 LABOUR COSTS IN THE PRIVATE SECTOR
(Percentage changes compared to the previous year)

	2001	2002	2003 e	2004 e	2005 e
Gross wages per hour worked	3.7	4.8	2.3	3.2	2.5
Collectively agreed wages ⁽¹⁾	3.3	3.8	1.8	2.4	2.0
Real agreed adjustments	0.8	1.5	0.4	0.8	0.4
Indexations	2.5	2.3	1.5	1.6	1.6
Wage drift ⁽²⁾	0.3	1.0	0.5	0.8	0.5
Employers' social security contributions ⁽³⁾	0.2	0.2	-0.3	-0.5	-0.3
of which :					
Paid to public authorities	-0.2	0.1	-0.3	-0.5	-0.3
Labour costs per hour	3.9	5.0	2.1	2.6	2.2
Change in hours worked per employee ⁽³⁾	-0.3	-0.6	-0.3	0.2	0.1
Labour costs per employee	3.6	4.4	1.8	2.8	2.4
Labour productivity ⁽⁴⁾	-1.2	1.4	1.6	2.3	1.2
Unit labour costs	4.8	2.9	0.2	0.5	1.1

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

(1) Wage increases fixed by joint committees.

(2) Increases granted by enterprises over and above those under central and sectoral collective agreements, wage drift resulting from changes in the structure of employment (e.g. as a result of job creation programmes) and errors and omissions.

(3) Contribution to the rise in labour costs.

(4) Ratio between value added at constant prices and the number of persons in work (employees and self-employed).

stipulated by the law, costs in Belgium continue to keep in line with the pace of change in neighbouring countries, the trend which began in 2003 should continue in 2005: wage moderation has in fact been announced in the Netherlands, and the increases expected in France, and especially Germany, are small, On the basis of the outlook for labour costs and hours worked per person in work in the neighbouring countries, the rise in labour costs per hour worked in the private sector could there average 2 to 2.5 p.c.

Taking account, in particular, of the impact in 2005 of the fiscal and parafiscal measures which will reduce the tax wedge between labour costs and net remuneration, the increase in labour costs per hour worked could therefore come to 2.2 p.c. in Belgium next year. The said reductions in employers' contributions will probably exert a moderating influence of 0.3 p.c., so that the rise in gross wages per hour worked will come to 2.5 p.c. The indexations should be around 1.6 p.c. Assuming a wage drift of 0.5 p.c., these estimates therefore imply an adjustment to real collectively agreed wages of 0.4 p.c. in 2005, making the situation comparable to that seen in 2003, the first year of the current central agreement.

Assuming that the average hours worked per employee continue to increase during the upward phase in economic activity, remuneration per employee should rise slightly faster than wages per hour worked, and labour productivity could increase by 1.2 p.c., bringing the increase in unit labour costs to 1.1 p.c.

3.3 Costs and deflators

Since the environment in which firms operate is very open to competition, be it on the export markets or on their own domestic market, selling prices cannot be adjusted at will, according to the movement in production costs among others. Firms are thus obliged to set their prices within limits determined by market conditions and demand. In view of the rise in their production costs, mainly labour costs and import prices, companies will therefore be forced to adjust their operating margins, in part at the very least.

The deflator of domestic demand, which reflects the movement in selling prices on the domestic market, increased by an average of 1.5 p.c. per annum in the 2001-2003 period, and that rise is expected to continue at more or

TABLE 8 DEFLATORS
(Percentage changes compared to the previous year)

	2001	2002	2003 e	2004 e	2005 e
<i>Deflators of components of demand and of GDP</i>					
Final demand ⁽¹⁾	1.6	0.2	0.1	1.1	1.5
Domestic demand ⁽¹⁾	1.8	1.2	1.5	1.7	1.7
Exports	1.5	-0.9	-1.4	0.7	1.3
Imports	1.5	-1.7	-1.8	1.0	0.9
<i>p.m. Terms of trade</i>	0.0	0.8	0.3	-0.3	0.4
GDP	1.8	1.7	1.7	1.3	2.0
<i>Costs of domestic origin per unit of value added</i>					
Labour costs ⁽²⁾	5.0	3.2	0.7	0.9	1.6
Gross operating surplus ⁽³⁾	-1.4	-1.1	3.9	0.5	2.8
of which:					
Operating margin of firms ⁽⁴⁾	-4.0	-2.7	5.8	0.0	4.0
Indirect taxes net of subsidies	-2.2	3.6	0.5	5.4	1.7

Sources: NAI, NBB.

(1) Including changes in stocks.

(2) Per unit of GDP at constant prices, excluding mixed income of self-employed persons.

(3) Per unit of GDP at constant prices, including mixed income of self-employed persons.

(4) Per unit of value added of firms.

less the same rate in 2004 and 2005. Export price movements are more erratic, and – in view of the high import content of exports, and competition conditions dictated by prices prevailing on external markets – they are greatly influenced by the movements in prices of imported goods and services. Export prices are expected to rise by 0.7 p.c. in 2004 and 1.3 p.c. in 2005, the terms of trade being overall neutral over the two years.

The movement in internal costs included in all goods and services produced is reflected in the GDP deflator. Those costs consist of wages, operating margins and indirect taxes net of subsidies. Labour costs expressed per unit of value added increased substantially in 2001 and 2002, by an average of more than 4 p.c. per annum. In the face of the difficulties encountered in making proportionate adjustments to their selling prices, firms were forced to cut their operating margins, which contracted by an annual average of more than 3 p.c. during that period. In contrast, the wage moderation of 2003 and 2004 and the relatively modest increase expected in 2005 are contributing to the limited rise in domestic costs over these three years, and should make it possible to restore unit operating margins, which are expected to increase by an annual average of almost 3 p.c. over the 2003-2005 period. Apart from the margin, the amount of the operating surplus of firms could also benefit, particularly from 2004 onwards, from the revival in final demand. However, the improvement is expected to be tempered in the current year by the slightly adverse movement in the terms of trade, following the rise in import prices caused, in particular, by higher oil prices. Furthermore, some increases in indirect taxes, particularly on tobacco and petroleum products, and the bringing forward to 2003 of part of the subsidy intended for the BNRC should also depress the operating surplus in 2004.

4. Public finances⁽¹⁾

4.1 General

Despite a persistent cyclical downturn, the Belgian government succeeded in avoiding a budget deficit in 2003, for the fourth consecutive year. According to provisional data published by the NAI in March 2004, the general government account showed a surplus of around 0.2 p.c. of GDP.

This result compares favourably with the situation of public finances in other EU Member States. Only Spain and the Scandinavian countries recorded a higher surplus. In contrast, the accounts of the United Kingdom, the

Netherlands and Greece ended the year in deficit, by a figure equalling or slightly exceeding the reference value of 3 p.c. of GDP set by the Treaty on European Union. Finally, in France and Germany, where the 3 p.c. of GDP ceiling had already been exceeded in 2002, the budget deficit continued to grow, reaching around 4 p.c. of GDP. Overall, the then fifteen Member States would have recorded a deficit averaging 2.6 p.c. of GDP in 2003.

The fact that Belgium achieved a small budget surplus in 2003, despite the difficult cyclical environment, was due to the influence of non-recurring factors.

For the third consecutive year already the expansion of activity has fallen well short of the trend growth rate. Thus, the favourable impact on public finances of the economic boom of 1999 and 2000 has evaporated steadily and, according to the harmonised ESCB cyclical adjustment method, the macroeconomic environment probably would have worsened the budget balance all in all by around 0.4 p.c. of GDP in 2003. The fact that the actual level of GDP was more than 1 p.c. below the trend figure was only partly offset by the composition of GDP, which was slightly more favourable to public finances than it is on average.

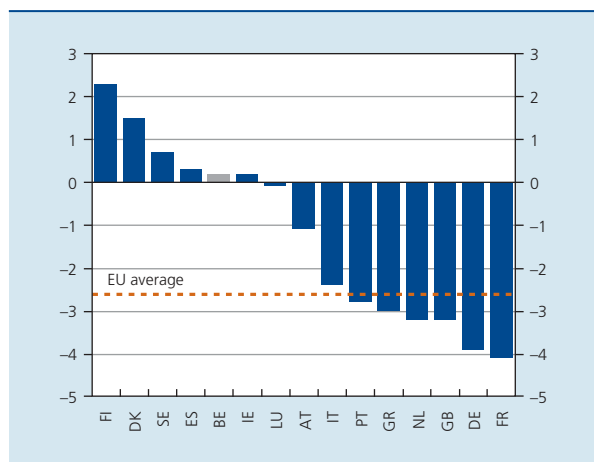
On the other hand, non-recurring factors had a substantial favourable effect on public finances in 2003. This concerns mainly the Belgacom capital transfer, totalling 5 billion euro, in connection with the assumption by the federal government of that company's pension liabilities, and the proceeds from further real estate sales by the federal government. The effect of these factors was only partly offset by such items as the bringing forward, to 2003, of part of the operating subsidies and the whole of the investment grant to the BNRC, planned for 2004. Altogether, the non-recurring factors would have improved the budget balances by around 1.5 p.c. of GDP in 2003. Adjusted to take account of these factors and of the influence of the economic cycle, the deficit came to around 0.9 p.c. of GDP.

In the macroeconomic context described above, the small surplus in 2003 would become a deficit from this year onwards. It should be limited to 0.3 p.c. of GDP in 2004, but would reach 1 p.c. of GDP in 2005. These projections take account only of budget measures which have already been announced and are sufficiently detailed; they obviously disregard the effect of any decisions that will

(1) As indicated in box 1, the projections for public finances are drawn up and presented taking account of calendar effects on the macroeconomic variables, in accordance with the practice prevailing in the compilation of the government account in the set of national accounts. Calculated in this way, the real growth of GDP comes to 2.4 p.c. in 2004 and 2.3 p.c. in 2005, against 2.3 and 2.6 p.c. respectively for calendar adjusted GDP.

CHART 14 BUDGET BALANCES IN THE EU

(2003, percentages of GDP)



Sources: EC, NAI.

be taken in drawing up the budget for 2005. No account is taken of the budget targets as such (e.g. the budget balance targeted for both years in the latest stability programme dated November 2003), nor of measures which have yet to be taken in order to meet these targets. The projections therefore indicate what would happen in the absence of any additional budget measures.

The deterioration in the budget balance would be the outcome of opposing effects produced by four different factors.

First, general government's interest charges are expected to continue falling in 2004 and 2005. The projections are based on the technical assumption that short-term market interest rates will remain unchanged, while long-term market rates will only increase from an average of some 4.3 p.c. in 2004 to around 4.4 p.c. in 2005. Against that background, the implicit interest rate on public debt would fall from around 5.4 p.c. in 2003 to approximately 5 p.c. in 2005, mainly as a result of the refinancing of long-term debts at lower rates. Together with the fall in the debt ratio, that would cut interest charges by around 0.8 p.c. of GDP between 2003 and 2005.

Next, the projections are based on a progressive cyclical recovery. The expansion in activity should increase over the period in question, slightly outstripping the trend growth rate in both 2004 and 2005 and, hence, mitigating the negative effect of the weak business cycle of recent years. However, the composition of GDP will become less advantageous for public finances as, in

accordance with the projections, labour incomes on the one hand, and private consumption and investment in housing on the other, lag behind the expansion in activity in 2004. Overall, the adverse influence of the macroeconomic environment described above is therefore expected to moderate by only around 0.2 p.c. of GDP, to 0.2 p.c. of GDP in 2005.

However, the effect of the small improvement in the cyclical component of the budget balance and the sharp fall in interest charges is far outweighed by the progressive disappearance of the favourable impact of non-recurring factors and, to a lesser extent, by a further loosening of structural budgetary policy.

TABLE 9 CYCLICALLY ADJUSTED AND STRUCTURAL BUDGET BALANCES
(Percentages of GDP)

	2003	2004 e	2005 e
Overall balance (a)	0.2	-0.3	-1.0
Interest charges (b)	5.6	5.1	4.8
Primary balance (c = a + b)	5.8	4.8	3.8
<i>p.m. Revenue</i>	51.6	50.0	49.2
<i>Primary expenditure</i>	45.8	45.2	45.4
Cyclical component (d)	-0.4	-0.5	-0.2
Level of GDP	-0.7	-0.4	-0.3
Composition effects	0.3	-0.1	0.1
Cyclically adjusted primary balance (e = c - d)	6.2	5.3	4.1
Influence of non-recurring factors ⁽¹⁾ (f)	1.5	0.8	0.1
of which:			
Belgacom capital transfer	1.9	0.0	0.0
Shift in BNRC financing	-0.4	0.4	0.0
Sale of real estate	0.1	0.1	0.0
Shifts between withholding tax on earned income and tax assessments	0.0	0.1	0.1
One-off declaration of financial assets	0.0	0.3	0.0
Structural primary balance (g = e - f)	4.7	4.5	4.0
<i>(p.m. Change in the structural primary balance)</i>		(-0.2)	(-0.5)
<i>p.m. Change in the structural financing balance (h = a - d - f)</i>	-0.9	-0.6	-0.8

Sources: NAI, NBB.

(1) A positive (negative) figure improves (deteriorates) the budget balance.

In 2004, non-recurring factors would still improve the budget balance by 0.8 p.c. of GDP. First, the budget resources transferred to the BNRC would fall short of the normal level by 0.4 p.c. of GDP, owing to the said shift to 2003. Moreover, the government is expecting substantial proceeds resulting from the one-off declaration of financial assets. In so far as these proceeds cannot be predicted with any accuracy, the government's estimate of around 0.3 p.c. of GDP was included in the projections as a technical assumption. In addition, the federal government is planning further sales of real estate which should reduce capital expenditure by almost 0.1 p.c. of GDP again. Finally, certain increases in the withholding tax on earned income (in particular the increase in the withholding rate for municipal taxes and the introduction of a withholding tax on certain replacement incomes) would temporarily increase the tax revenue. In 2005, only this last element will still exert some influence on the general government account, since the increase in the withholding tax on earned income would not be entirely offset by lower tax assessments until 2006. Overall, the virtual disappearance of the non-recurring factors would cause the budget balances to deteriorate by 1.4 p.c. of GDP between 2003 and 2005.

Furthermore, the projections indicate a continued loosening of structural budgetary policy, as the structural primary balance will decline by 0.7 p.c. of GDP between 2003 and 2005. That is due both to the planned continuation of the reductions in taxes and social security contributions, the cut in non-fiscal and non-parafiscal revenues and the mildly expansionary spending policy.

4.2 Revenue

The continued implementation of the personal income tax reform will curtail tax revenues in the years under consideration. The final phase of the reform concerns incomes of 2004. Only the increase in the married person's tax allowance was partially included from the start in the withholding tax on earned incomes, although where self-employed persons are concerned the cost can be expected to be reflected immediately in the advance payments. Moreover, the tax assessments are likely to be reduced as certain measures applicable to incomes of 2002 – such as the introduction of a tax credit for taxpayers whose earned income is low, and the concession for dependent children – had not been incorporated in the withholding tax on earned incomes in that year. In principle, the reform should be fully implemented in 2004, but the costs will continue to rise in 2005 (and even more so in 2006), since not all the measures have been incorporated immediately in the withholding tax on earned

incomes. Overall, the additional cost to the budget totals around 0.4 p.c. of GDP from 2003 to 2005.

The planned cuts in social security contributions will also depress fiscal and parafiscal revenues. These cuts first concern the reductions in employers' contributions, agreed at the 2003 Employment Conference. These are intended to augment the structural reductions and reduce the charges in respect of specific target groups, essentially the lowest paid workers and knowledge-based occupations. In addition, the employees' contributions paid on the lowest wages would be further reduced from 2005; eventually, this measure is to replace the tax credit introduced a few years ago. The overall impact on the budget of these new reductions in contributions should be just over 0.3 p.c. of GDP in the years under consideration.

However, the above reduction in the tax burden, which mainly benefits labour, would be partly offset by the full-year effect of the August 2003 increase in the energy contribution levied on the majority of energy products, and by the further increases in certain consumption taxes in 2004 and 2005. Especially, the rate of excise duty on tobacco and mineral oils was increased in 2004 for instance, and further increases have been announced for 2005. These measures would boost the proceeds from these taxes by almost 0.3 p.c. of GDP between 2003 and 2005.

TABLE 10 STRUCTURAL MEASURES CONCERNING PUBLIC REVENUE

(Millions of euro, unless otherwise stated; changes compared to the previous year)

	2004	2005
Taxes	321	-201
of which :		
Personal income tax reform ⁽¹⁾	-612	-494
Increase in the energy contribution	128	0
Increase in excise duty on tobacco	155	130
Increase in excise duty on mineral oils	177	215
Elia contribution	115	57
Control of tax evasion and more efficient collection	310	0
Social security contributions	-515	-475
Reduction in employers' contributions	-533	-272
Reduction in personal contributions	18	-203
Total	-194	-676
p.m. Percentages of GDP	-0.1	-0.2

Sources: FPS Finance, NSSO, NBB.

(1) Including indirect effects on municipal taxes.

The introduction of the Elia contribution on electricity distribution should bring in around 0.05 p.c. of GDP per annum, even if the yield in 2004 will probably be slightly lower as the levy is only being introduced during the year.

Finally, the federal government included in the 2004 budget a detailed programme aimed at controlling tax evasion and improving collection. According to the government, this initiative should lead to a structural increase in tax revenues of around 0.1 p.c. of GDP. This technical assumption was adopted in the projections.

The structural measures already known should therefore, on balance, reduce fiscal and parafiscal revenues by 0.3 p.c. of GDP between 2003 and 2005.

Leaving aside the non-recurring factors, there would be a modest fall in non-fiscal and non-parafiscal revenues of 0.2 p.c. of GDP over the period in question. The main reason for this drop is the contraction in property incomes, partly as a result of the full liberalisation of the electricity market in the Flemish Region.

4.3 Primary expenditure

Adjusted for cyclical effects and non-recurring factors and deflated by the national consumer price index, primary expenditure would increase by an average of 2.3 p.c. in 2004 and 2005⁽¹⁾. This rate of expansion is slightly higher than the trend growth of activity, and can therefore be regarded as mildly expansionary: just over 0.2 p.c. of GDP of the deterioration in the structural primary surplus between 2003 and 2005 is attributable to the spending policy.

The expenditure estimates for 2004 take account of the (revised) federal government budget, including social security, and those of the communities and regions. For general government, structural primary expenditure is expected to increase by around 2.2 p.c. at constant prices, a growth rate close to the average of 2.1 p.c. for the past ten years, but well below the figure of around 3 p.c. recorded on average in 2002 and 2003.

Primary expenditure is significantly increased by the strong growth of health care spending, in particular, which – as stipulated in the latest government agreement – is permitted to grow by 4.5 p.c. per annum in real terms until 2007. Investment would also expand very strongly.

It is naturally very difficult to project the growth rate of primary expenditure in 2005 since no budget is available as yet. The projections are based on the assumption of structural growth of around 2.3 p.c. at constant prices, or just above the average growth rate for the past decade. They take account of such factors as the targeted increase in health care spending and a further acceleration in investment spending, resulting from the sharp rise in gross fixed capital formation by local authorities, connected with the electoral cycle.

4.4 Debt

Despite the downturn in GDP growth observed in recent years, the contraction of the public debt has continued unabated. By the end of 2003, the consolidated gross debt of general government was only slightly higher than GDP.

According to the projections, the debt reduction will slow down during the period in question, despite the gradual economic recovery. This is related to the deterioration in the budget balance, but also to some relatively substantial, unfavourable operations which have no impact on the balance. For instance, account was taken of the BNRC restructuring announced by the federal government and mentioned in the latest stability programme. This operation could have the effect of swelling the public debt by around 2.6 p.c. of GDP in 2005, since – according to the ESA 1995 methodology – the new entity which will manage the major part of the debts and hold the property rights relating to the railway company's infrastructure is more than likely to be incorporated in the general government sector. Overall, the public debt is projected to total 98 p.c. of GDP by the end of 2005.

(1) The growth rate mentioned is slightly biased by a new change to EU funding: the portion of VAT revenues transferred to the European institutions is to be reduced once again in 2004, while the fourth resource, recorded as expenditure for general government, is to be increased. This operation is neutral for the budget but increases revenue and expenditure.

TABLE 11 CONSOLIDATED GROSS DEBT OF GENERAL GOVERNMENT

(Percentages of GDP, unless otherwise stated)

	1993	1999	2000	2001	2002	2003	2004 e	2005 e
Level of the debt	136.7	114.5	109.1	108.1	105.8	100.7	98.2	98.0
Change in the debt			-5.4	-1.0	-2.3	-5.1	-2.6	-0.1
Endogenous change			-5.7	-3.1	-2.6	-3.2	-3.5	-3.2
Primary balance required to stabilise the debt ⁽¹⁾			1.2	4.0	3.5	2.6	1.3	0.6
Implicit interest rate on the debt ⁽²⁾			6.2	6.2	5.7	5.4	5.2	5.0
Growth of nominal GDP ⁽²⁾			5.1	2.4	2.4	2.9	3.8	4.3
Actual primary balance			6.9	7.1	6.1	5.8	4.8	3.8
Change resulting from other factors . . .			0.4	2.1	0.3	-1.8	0.9	3.0
Transactions with the NBB (including surplus gains on gold sales)			0.0	0.0	-0.1	-0.1	0.0	0.0
Privatisation operations and other financial transactions ⁽³⁾			-0.1	0.0	0.0	-2.3	0.0	0.0
Net formation of financial assets outside the public sector			0.3	-0.3	-0.2	0.2	0.0	0.0
Other ⁽⁴⁾			0.2	2.5	0.7	0.4	0.9	3.0

Sources: NAI, NBB.

(1) This balance is equal to the difference between the implicit interest rate on the debt and the rate of growth of nominal GDP, multiplied by the ratio between the debt at the end of the previous year and the GDP of the period in question.

(2) Percentages.

(3) Including the sale of the CREDIBE portfolio and the partial repayment of debts to the SHLAF by the regional social housing corporations in 2003.

(4) Mainly lending, equity investment, exchange differences, issue and repurchase premiums, statistical discrepancies and the incorporation in the general government sector of Credibe (2001) and of the institution which will manage part of the BNRC's debt (2005).

5. Summary of the results of other institutions

The main results of the Bank's projections deviate a little from the forecasts published recently by the Federal Planning Bureau and the international institutions, as they suggest slightly higher growth and inflation, mainly for 2004. These differences do not reflect any major divergences in the general assessment of the outlook for the Belgian economy, but are probably due to the statistical information available when each of the forecasts was produced and to the assumptions adopted.

For instance, while all the institutions assume a cyclical upturn from mid 2003, the GDP growth recorded in the quarterly national accounts published successively up to the first quarter of 2004 slightly exceeded general expectations. Similarly, the rise in oil prices on the international markets, in April and May 2004, and the slight fall in the euro could only gradually be incorporated in the assumptions, with an upward effect on the latest inflation forecasts.

TABLE 12 COMPARISON OF THE FORECASTS FOR BELGIUM
(Percentage changes compared to the previous year)

	Real GDP		Inflation		Date of publication
	2004	2005	2004	2005	
NBB	2.3	2.6	1.8	1.7	June 2004
Federal Planning Bureau	2.0	2.7	1.6	1.5	May 2004
IMF	1.8	2.4	1.4	1.4	April 2004
EC	2.0	2.5	1.5	1.6	April 2004
OECD	2.0	2.6	1.6	1.4	May 2004
Belgian Prime News	2.1	2.3	1.5	1.6	March 2004
Consensus Economics	1.8	2.1	1.7	1.7	May 2004
Economist's Poll	1.9	1.9	1.4	1.5	May 2004
<i>p.m. Actual figures 2003</i>		1.1		1.5	

Annex

PROJECTIONS FOR THE BELGIAN ECONOMY: MAIN RESULTS

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

	2001	2002	2003	2004 e	2005 e
Growth (calendar adjusted data)					
GDP at 2000 prices	0.7	0.7	1.1	2.3	2.6
Contributions to growth:					
Domestic spending, excluding changes in stocks	1.1	0.2	1.8	1.8	2.7
Net exports of goods and services	0.2	-0.3	-1.4	0.5	0.5
Changes in stocks	-0.7	0.8	0.7	0.1	-0.6
Prices and costs					
Harmonised index of consumer prices	2.4	1.6	1.5	1.8	1.7
Health index	2.7	1.8	1.5	1.6	1.6
Deflator of GDP	1.8	1.7	1.7	1.3	2.0
Terms of trade	0.0	0.8	0.3	-0.3	0.4
Unit labour costs in the private sector	4.8	2.9	0.2 e	0.5	1.1
Labour costs per employee	3.6	4.4	1.8 e	2.8	2.4
Productivity per employee	-1.2	1.4	1.6 e	2.3	1.2
Labour market					
Domestic employment (average yearly change, thousands of units)	60.4	-12.4	-15.2 e	15.0	43.7
Harmonised unemployment rate (p.c. of labour force)	6.7	7.3	8.1	8.3	8.0
Incomes					
Real disposable income of individuals	1.7	1.3	0.7 e	1.2	2.0
Savings ratio of individuals (p.c. of disposable income)	15.4	16.2	15.4 e	14.9	14.8
Public finances					
Financing requirement (-) or capacity of general government (p.c. of GDP)	0.5	0.0	0.2	-0.3	-1.0
Public debt (p.c. of GDP)	108.1	105.8	100.7	98.2	98.0
Current account (p.c. of GDP according to the balance of payments)					
	3.7	5.3	3.1	3.6	3.9

Sources: EC, NAI, NSI, NBB.

The transmission of monetary policy impulses in Belgium

V. Périlleux

Q. Wibaut⁽¹⁾

Belgium's participation in European monetary union brings it the microeconomic benefits of a large commercial and financial area without any currency risk, and the macroeconomic advantages secured by an independent central bank which has been given a clear mandate to maintain price stability. Any cost incurred in renouncing an autonomous monetary policy – which had been to some extent anticipated by the adoption of a target exchange rate geared to the German mark in 1990 – depends not only on the probability that the Belgian economy may face specific shocks, but also on the extent to which the reaction to the impulses of the single monetary policy is liable to be atypical.

In order to supply some tentative answers to this last question, the present article first outlines the process whereby monetary policy impulses are transmitted, here and there pinpointing special features of the Belgian economy. After that it presents the results of some macroeconomic simulations.

1. Complexity of the transmission of monetary policy impulses

1.1 From the instrument to the objective: a long road

The effects of monetary policy on activity and prices cannot be analysed without reference to different time horizons. Thus, it is by maintaining price stability in the medium and long term that the monetary authorities will create the most favourable environment for sustainable

growth. In that respect, the mandate conferred on the Eurosystem and the disappearance of the currency risk within the euro area give Belgian economic agents the assurance of monetary stability in a huge economic area.

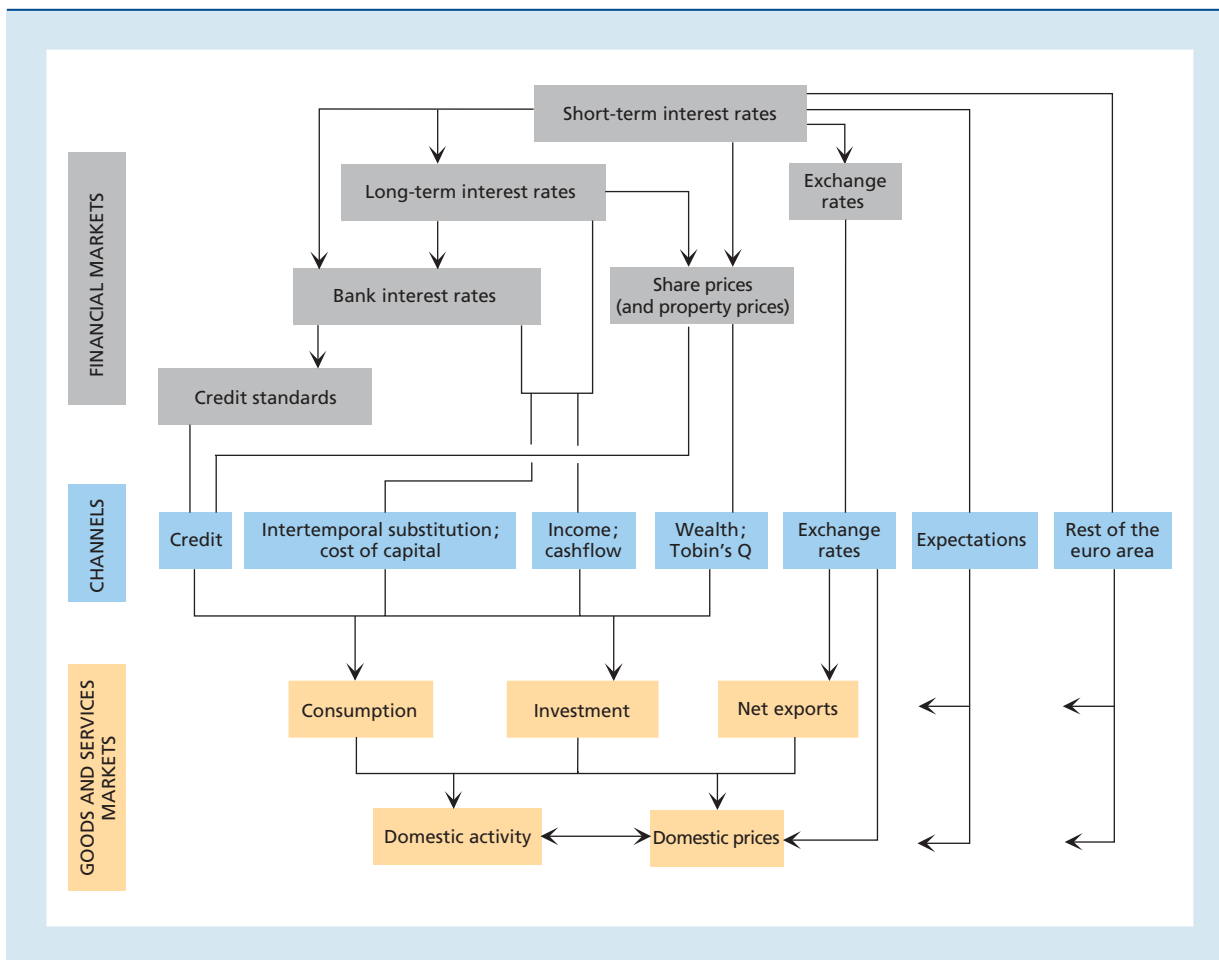
In the shorter term, the monetary authorities contribute to the stabilisation of growth, since they take account of the fact that cyclical fluctuations will generate upward or downward pressure on prices. The desire to stabilise activity also explains why the price stability objective is defined in the medium term, permitting a gradual response to certain shocks affecting prices. However, it cannot give way to a desire to stimulate activity to the detriment of price stability, which would rekindle inflationary expectations.

The central bank tries to attain its objectives by responding to the various shocks affecting the economy. Thus, demand may be boosted by “financial exuberance”, strong wage increases, a lax fiscal policy, or strong foreign expansion, etc. If such shocks give rise to inflationary pressure, the central bank may feel obliged to put the brakes on economic expansion in order to preserve an environment conducive to longer-term growth. Conversely, supply may be augmented by increased productivity gains. In that case, it may be necessary to ease monetary policy in order to encourage the adjustment of demand. A rise in oil prices is a more awkward shock, depressing activity and pushing up prices. The central bank will have to make sure that such a shock does not trigger any inflationary drift.

⁽¹⁾ The authors would like to thank K. Burggraeve and Ph. Jeanfils for the macroeconomic simulations which they carried out, and for their comments.

CHART 1

MAIN CHANNELS FOR THE TRANSMISSION OF MONETARY POLICY IMPULSES ⁽¹⁾



(1) This diagram simplifies all the interactions between the different variables presented, in order to show only the main channels through which a monetary policy impulse travels before affecting the goods and services markets.

Since the Belgian economy is closely interwoven with that of Europe, the movements are similar to those occurring in the euro area. In recent decades, it has been little affected by “asymmetric shocks” and has produced hardly any asymmetric response to common shocks. Together with France, Germany, the Netherlands and Austria, Belgium is one of the countries where developments in activity and prices were closest to the average for the euro area during the period 1993-2000.⁽¹⁾

Monetary policy impulses are specific shocks (or counter-shocks) which have only an indirect effect on activity and prices. The central bank only exerts direct control over very short-term interest rates on the money market. These influence other financial variables which in turn affect behaviours on the goods and services markets and on the labour market, where costs and prices are determined (chart 1). Throughout this transmission process, the expectations of economic agents – financial market

participants and parties involved in setting wages and prices, in particular – play an essential role.

1.2 The influence exerted on the financial variables

The anticipations of economic agents come into play right in the initial stages of the transmission of monetary policy impulses, as the same increase in the very short-term interest rate has very different effects on the yield curve depending on how it is perceived. If it was anticipated, it has hardly any impact on longer-term rates. If unexpected and regarded as long-lasting, e.g. because it augurs better growth prospects, it may push the whole curve upwards. Conversely, if it reinforces the anti-inflationary credibility of the central bank it may cause long-term rates to fall.

(1) Cf. S. Ide and Ph. Moës (2003).

Moreover, long-term interest rates in the euro area do not depend solely on the monetary policy of the Eurosystem and its future expected stance, but may also be influenced by other factors. Thus, they are directly affected by long-term rates in the United States, a phenomenon which became abundantly clear at the time of the abrupt rise in global bond market rates in 1994.

Where exchange rates are concerned, the multiplicity of factors taken into account in forming anticipations is such that the normal reaction to a short-term interest rate hike – namely (assuming that foreign interest rates remain steady) the appreciation of the currency in which investments have become more lucrative – does not always occur. That is why it is important, in any empirical exercise assessing the effects of monetary policy, to be able to identify the exchange rate channel.

Money and bond market interest rates in turn determine the rates applied by banks on loans and deposits. A forthcoming article will be devoted to the setting of bank rates in Belgium. Changes in the monetary policy stance may also affect the other bank lending criteria. Thus, a rise in interest rates which, all other things being equal, could cause a deterioration in the financial position of borrowers, may induce banks to ration credit in so far as they fear that higher rates may lead them to be presented with projects which are too risky (adverse selection).

Once monetary policy has been tightened, the slackening pace of lending and the increased attraction of investments in securities curb the expansion of the money stock.

Finally, a rise in interest rates normally causes a fall in the price of assets, constituting the discounted value of future income, such as the prices of existing equities and bonds, and property prices.

1.3 Channels through which financial variables influence real variables

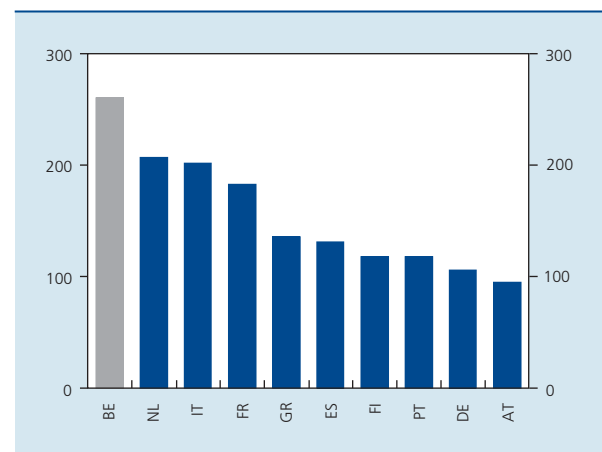
If the central bank raises interest rates,⁽¹⁾ that is likely to affect the variables in the ‘real’ economy through various channels. The most traditional one is that of inter-temporal choices: economic agents are encouraged to substitute financial assets – which have become more remunerative – for real assets, or to contract fewer debts, and thus

to defer their consumption and investment expenditure. In general, we refer to the substitution channel in the case of consumers and the capital cost channel in the case of businesses. These effects have their greatest impact on expenditure on consumer durables, property, equipment and stocks, because those types of expenditure can more easily be postponed.

Furthermore, higher interest rates mean higher interest charges for borrowers and more income for lenders. These income effects are felt sooner if existing loans are short-term. In this connection, it appears that in Belgium, as in the majority of euro area countries, medium- and long-term borrowing predominates, especially where mortgage loans are concerned.⁽²⁾ Demand for goods and services will be affected in so far as the propensity to spend current income varies between borrowers and lenders. Overall, the income effect will be positive for households in general and negative for businesses, where cash flow becomes tighter (see below), and for public authorities.

On the other hand, the fall in asset values caused by an increase in interest rates exerts a negative wealth effect on household consumption, provided it is seen as relatively permanent. The scale of the wealth effects depends on many factors. In Belgium, as in most euro area countries, it appears to be relatively limited, especially in comparison with the United States.⁽³⁾ However, it may have increased, given the spread of shareholding, especially via undertakings for collective investment.

CHART 2 NET FINANCIAL ASSETS OF HOUSEHOLDS IN THE EURO AREA COUNTRIES⁽¹⁾
(End of 2000, percentages of GDP)



Source : Report on Financial Structures, ECB, 2002.
(1) Data for Ireland and Luxembourg are not available.

(1) The effects of a decrease in interest rates may be considered symmetrical.
(2) In regard to the housing market, see V. Baugnet, D. Cornille and M. Druant (2003).
(3) Cf. B. Eugène, Ph. Jeanfils and B. Robert (2003).

It is true that Belgium is notable for the level of households' net financial wealth, which is partly the corollary to the level of the public debt (chart 2). However, those assets include a large proportion of unlisted shares, which are perhaps recorded more comprehensively than in other countries, and the difference in relation to the euro area average as regards the scale of the public debt is tending to diminish.

The fall in share prices caused by a tightening of monetary policy is also liable to curb investment, since it is a disincentive to issue shares. The ratio between the stock market capitalisation and the replacement value of the capital stock, known as Tobin's Q, influences the choice between the acquisition of existing companies and investment. Once again, this effect is probably less pronounced in the euro area than in the United States.

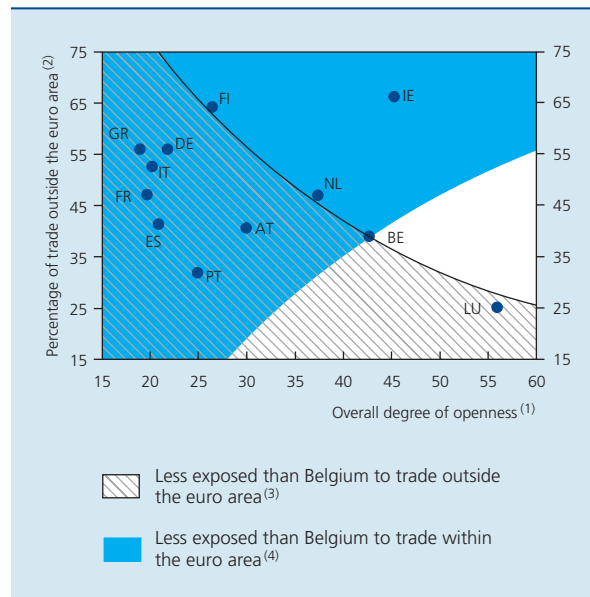
The negative effects of an interest rate increase on domestic demand may be reinforced by the existence of a credit channel, owing to the imperfection of the financial markets with their information asymmetry. A tighter monetary policy may in fact lead not only to a rise in the general level of interest rates but also to an increase in the external financing premium, or even credit rationing, since it is likely to aggravate the information asymmetry problem. On the one hand, the least liquid and solvent banks will be unable to compensate for the erosion of deposits by issuing securities, and will be more restrictive in their attitude to lending (bank lending channel). On the other hand, the deterioration in the balance sheet position of firms and the decline in the value of the collateral that borrowers can present will make the banks more cautious (balance sheet channel). Thus, we can observe financial accelerator mechanisms.

The existence of a cashflow effect on business investment is often regarded as evidence of the existence of a balance sheet channel, since it indicates cash constraints. An analysis conducted on a large sample of Belgian companies recently showed that such an effect was actually perceptible in manufacturing industry and in the building sector, especially in highly capital-intensive branches and in small firms.⁽¹⁾

However, at the macroeconomic level it is apparent that Belgian companies have relatively low dependence on credit granted by resident banks. This situation is due in part to greater use of financing via foreign associate companies.

(1) Cf. P. Butzen, C. Fuss and Ph. Vermeulen (2001).

CHART 3 DEGREE OF OPENNESS OF EURO AREA ECONOMIES



Sources: EC, NAI.

- (1) Average of exports and imports of goods and services as a percentage of final demand.
- (2) Average of exports and imports of goods outside the euro area as a percentage of the average of total exports and imports of goods.
- (3) Area in which the overall degree of openness times the percentage of foreign trade outside the euro area is less than the figure for Belgium.
- (4) Area in which the overall degree of openness times the percentage of foreign trade within the euro area is less than the figure for Belgium.

In contrast to the other channels, the exchange rate channel has a direct impact on domestic prices: a currency appreciation reduces the cost of imports, and that is reflected with varying degrees of rapidity in consumer prices. Moreover, the appreciation depresses demand for products of firms in the exposed sector, whose competitive position deteriorates, so that it causes a fall in net exports. This effect is attenuated by the increase in the purchasing power of households, stimulating their consumption.

Adoption of the euro brought about a profound change in the exchange rate channel, since it is only exchange rates in relation to currencies outside the euro area that now vary. Previously, it was quite common for sharp fluctuations in the latter to cause tension between currencies of the European exchange rate mechanism, particularly if the dollar was weak. Moreover, exchange rate adjustments resulting from realignments within that mechanism were probably perceived as more permanent than fluctuations in the exchange rates of floating currencies. The exchange rate channel has therefore lost some importance. However, as a percentage of final demand, trade with countries outside the euro area is more important for Belgium than for the majority of euro area countries: in that respect,

Belgium comes next after Ireland, along with Finland, the Netherlands and Luxembourg (see chart 3). That position is due in particular to a greater preponderance of imports of intermediate products, and may be influenced by a “port effect”.

Furthermore, the tightening of monetary policy is necessarily common to all euro area countries, and its effects on the Belgian economy depend very much on its impact on Belgium’s trading partners within the euro area. Such spill-over effects will be particularly substantial for the Belgian economy which, after the Luxembourg economy, is the most open to trade with the rest of the euro area (chart 3).

The description of the channels for transmitting monetary policy impulses outlined above is not exhaustive. Thus, the increase in the interest burden for businesses pushes up costs and that usually reduces supply. The interaction between overall supply and demand for goods and services and the reactions on the labour market determine the scale and profile of the price and volume effects, a process in which expectations also play a key role.

1.4 Price and volume effects

All other things being equal, a rise in interest rates causes a contraction in overall demand which exceeds the reduction in supply, thus pushing prices down. As we have seen, prices may also be affected more directly by a currency appreciation on the foreign exchange market.

The distribution of the effects of the downward shift in demand on activity and prices respectively depends in particular on the price and wage setting, especially the degree of rigidity and the influence of anticipations. In this regard, one special feature in the case of Belgium is the automatic wage indexation, which reduces the nominal rigidity of wages and increases their real rigidity. However, the indexation is tempered by reference to a “health index”, which excludes the prices of fuel, alcoholic beverages and tobacco, while wage bargaining makes explicit allowance for the need to maintain competitiveness.

Generally speaking, nominal downward rigidities or the persistence of inflationary expectations imply that a tighter monetary policy will cause a relatively large contraction in activity before producing the expected effect on prices, via under-utilisation of production capacity and the labour force. In an inflationary context, some growth has to be “sacrificed” in order to restore price stability. On the other hand, if the interest rate hike restores the anti-inflationary credibility of the central bank, the effect

on prices may be far more rapid. If the central bank enjoys good credibility, it is easier to ensure price stability, and monetary policy can make a more effective contribution towards stabilising growth.

2. A simulation exercise

2.1 Limits of the exercise

The great complexity of the monetary policy transmission process, where the effects depend in particular on the state of the economy and the degree of credibility of the central bank, makes it very difficult to quantify the effects of monetary policy on activity and prices. The results of estimates produced via vector autoregressive (VAR) models or structural models are therefore rather uncertain orders of magnitude. They proceed from an inevitable simplification of the multiple economic interactions, and are therefore sensitive to the modelling choices. Moreover, they are necessarily based on regular effects observed in the past, in this case a past which may be different from the current situation, since the introduction of the single currency represented a major structural change.

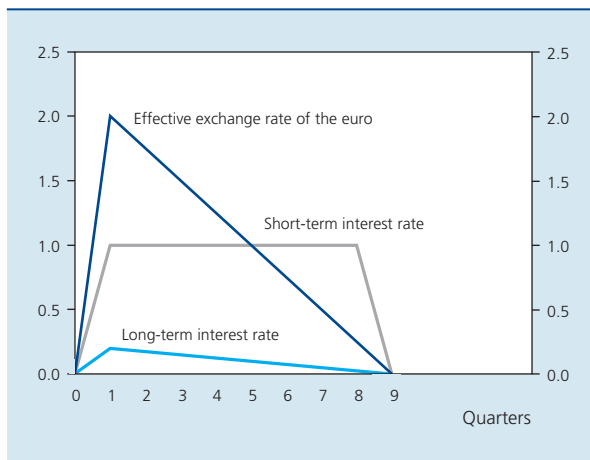
The studies carried out by the Eurosystem in 2001, the main results of which were summarised in the ECB’s Monthly Bulletin of October 2002⁽¹⁾, showed that multiple models converged to produce the same picture: a temporary interest rate increase controlled by the central bank causes a transient contraction in activity and a slower but more persistent fall in prices. However, the models differ in terms of the scale and above all the time profile of these effects.

The estimates presented below constitute an update of some of the simulations carried out at that time. For the euro area, they are based on the NiGEM multi-country structural model developed by the National Institute for Economic and Social Research (NIESR) in the United Kingdom. The results of this model are the international environment variables used in the simulation relating to the Belgian economy, based on the Bank’s quarterly structural model, which has been updated.⁽²⁾

(1) For a broader account, see I. Angeloni, A. Kashyap and B. Mojon (2003).

(2) The model published in 2000 – cf. Ph. Jeanfils (2000) – was re-estimated over a longer period, using new national accounts data (ESA 95); the consumption function – cf. B. Eugène, Ph. Jeanfils and B. Robert (2003) – and the investment function, among other things, were reformulated.

CHART 4 INTEREST RATE AND EXCHANGE RATE ASSUMPTIONS
(Percentage deviations from the base level)



2.2 The assumptions

The monetary shock considered is a 100 basis points increase in the key rate over a two-year period, followed by a return to the level of the base scenario. Among the financial variables forming a link for the transmission of monetary policy impulses, two are of crucial importance: long-term interest rates and foreign exchange rates. In the simulation exercise, the duration of the shock (two years) is taken as known. According to the uncovered interest rate parity assumption, the 1 percentage point rise in the short-term interest rate causes an immediate 2 p.c. appreciation in the nominal effective exchange rate, followed by a steady depreciation over two years, back to its original level, so that this depreciation offsets the short-term interest rate differential in relation to the rest of the world. Moreover, on the basis of the expectations assumption, this same rise in short-term interest rates implies an immediate 0.2 p.c. increase in the 10-year bond rate, followed by a steady decline over two years, so that the yield on a 10-year investment remains equivalent to that on successive short-term investments.

The effect of an interest rate increase with no change in exchange rates will also be examined, in order to take account of the particularly uncertain character of the reaction of the foreign exchange markets, and to highlight the specific features of the exchange rate channel.

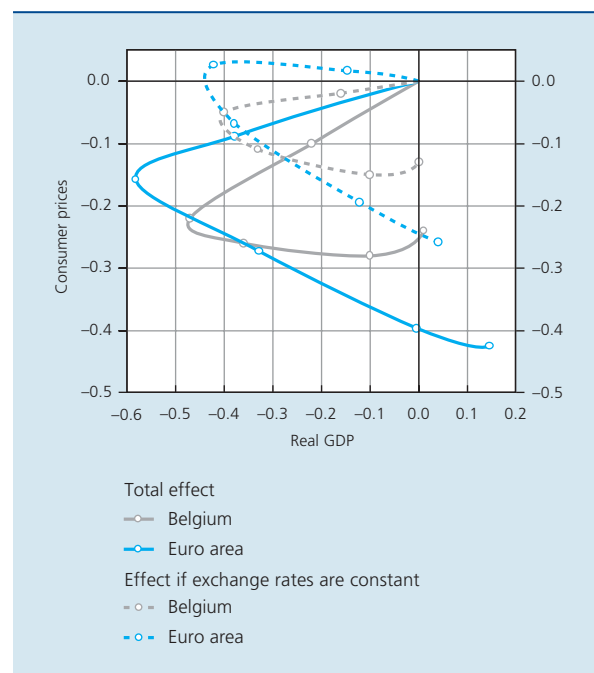
2.3 Effects on activity and prices in the euro area

The simulations effected by means of the NiGEM model for the euro area confirm the general conclusion of earlier studies, namely that – all other things being equal – tightening of monetary policy causes a temporary contraction in activity and a slower but more sustained fall in prices.

If exchange rates are held steady, it is only activity that reacts to the interest rate hike in the first two years of the simulation. The absence of any immediate fall in prices, or even the presence of a slight rise, may be due to price rigidity, the impact of the increase in the cost of capital on supply, and the rise in unit labour costs resulting from a slow reaction by employment and wages to the contraction in activity. Prices subsequently fall, owing to the lower rate of utilisation of the economy's productive capacity, and this movement persists well after the end of the monetary shock, whereas activity returns to the base level.

If exchange rates react to the interest rate increase, that amplifies the temporary contraction in activity, but above all it leads to a faster and more pronounced fall in prices. Even before it influences the level of production, an exchange rate adjustment in fact has a direct impact

CHART 5 EFFECTS OF THE MONETARY POLICY TIGHTENING ON REAL GDP AND CONSUMER PRICES
(Percentage deviations from the base level over the first five years; each point represents one year)



Source : NBB.

on prices. The fall in import costs is to some extent very promptly reflected in consumer prices – in the case of imports of petroleum products or consumer goods – and to some extent more slowly – in the case of capital goods and intermediate products, where the decline in prices has a positive effect on supply. Despite these price responses which vary in speed, the appreciation of the euro depresses activity in so far as the impact of the loss of competitiveness outweighs that of the improvement in domestic purchasing power.

2.4 Effects on activity and prices in Belgium

The effects of a monetary policy tightening on activity and prices in Belgium do not appear to be noticeably different from those estimated for the euro area. According to the Bank's model, the temporary contraction in activity appears to be slightly weaker, and the fall in prices is faster, irrespective of whether the exchange rate channel is taken into account.

Subject to the points of uncertainty mentioned above, particularly the differences in modelling, it therefore seems that a number of the specific features of the Belgian economy mentioned in the first part of this article, such as the high level of net household wealth or the high degree of openness to countries outside the euro area, have no evident impact on the macroeconomic consequences of a monetary policy tightening. On the other hand, wage indexation – which is a handicap in other circumstances – may contribute to the faster spread of price reductions, particularly following the appreciation of the euro⁽¹⁾, and may thus improve the "sacrifice ratio", i.e. reduce the scale of the decline in activity necessary to curb inflation. Conversely, wage indexation reduces the expansionary effect of any easing of monetary policy.

As regards the degree of openness of the Belgian economy to the rest of the euro area, this plays an important role, since a large part of the effects of monetary policy is due to its impact on the economies of the partner countries.

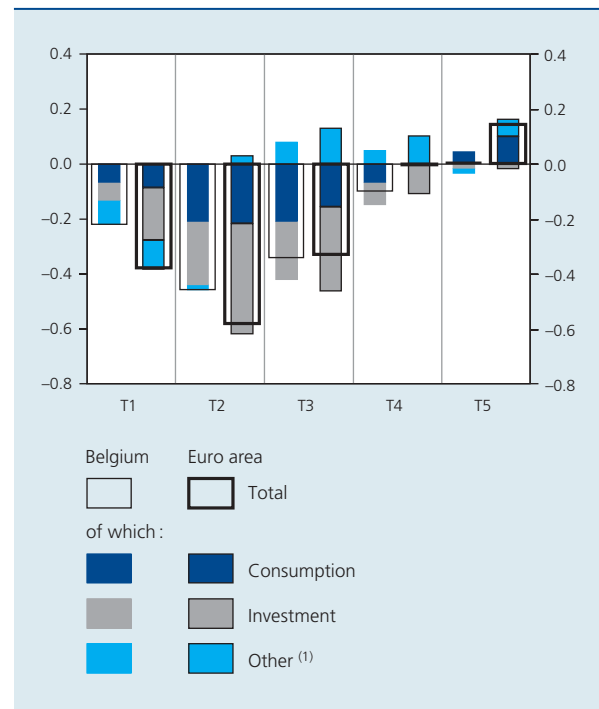
2.5 Effects on the main components of demand

Examination of the impact of a monetary policy tightening – including via the exchange rate channel – on the main components of expenditure at constant prices in the euro area, estimated by means of the NiGEM model, reveals the high sensitivity of investment. The contraction in investment owing to an accelerator effect – albeit delayed by the adjustment lags – makes a greater contribution towards

CHART 6

EFFECT OF THE MONETARY POLICY TIGHTENING ON REAL GDP AND ITS MAIN COMPONENTS

(Contributions to the deviation of real GDP from the base level over the first five years, in percentage points)



Source : NBB.

(1) Mainly net exports of goods and services.

the decline in real GDP than the fall in consumption, though the latter has a greater weight. The appreciation of the euro causes a fall in net exports in the first year, but that effect subsequently disappears owing to the decline in imports.

The smaller decline in real GDP in Belgium during the first two years, according to the Bank's model, in comparison with the euro area is due to a smaller contraction in investments, which may be due to a slightly lower dependence on bank lending, at the macroeconomic level, and a fairly weak accelerator effect.

3. Conclusions

The first part of this article highlighted the complexity of the transmission of monetary policy impulses, characterised by long and uncertain time lags and dependent, in particular, on the state of the economy and the credibility

(1) Wage indexation causes a smaller deterioration in competitiveness and a lesser appropriation by employees of gains in the terms of trade in the case of an appreciation of the euro. However, it is not immediate and the health index is not exhaustive.

of the central bank. Some special features of the Belgian economy were mentioned, such as its high degree of openness, especially in relation to euro area partners, the high level of household financial assets, relatively weak dependence on bank lending at a macroeconomic level, and the automatic indexation of wages.

The macroeconomic simulations presented in the second part of the article showed that, in Belgium as in the euro area, a monetary policy tightening tends to cause a temporary contraction in activity, due substantially to the decline in investment, and a slower but more persistent fall in prices. The euro appreciation normally caused by such a monetary policy shock amplifies its effects on activity, but above all accelerates its impact on prices. The reaction of the Belgian economy does not appear to be obviously different from that of the rest of the euro area. It seems to be slightly more moderate in volume, owing to the lower sensitivity of investment, and more rapid in terms of prices.

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Structure of public revenues

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 Luc Van Meensel
 Johan Claeys⁽¹⁾

1. Optimum level and structure of public revenues: a few considerations

1.1 Level

From the point of view of economic growth, public revenue and expenditure have opposing effects.

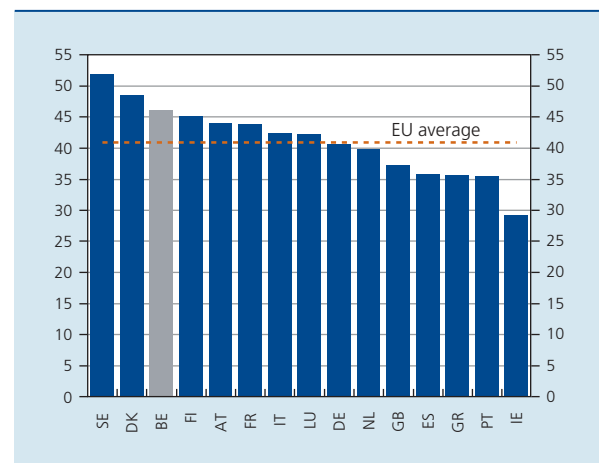
Taxes and social security contributions exert a predominantly negative influence on overall economic results, in that they interfere with market mechanisms and decisions on employment, investment, consumption and savings, and curb business initiative.

On the other hand, some public spending (on infrastructure, education, research and development, for example) increases the productivity of the economy and is therefore essential to the achievement of satisfactory economic growth. However, there is less of a consensus on the favourable effect on growth of the other spending (mainly social transfers): some people consider that this effect exists, while others take the view that it does not, and that such spending tends to be motivated by social and political objectives (such as fair distribution of income, a peaceful society, welfare). Finally, it is obvious that interest charges can be regarded as non-productive expenditure, since they make no contribution at all to the determinants of economic growth (such as the deployment of labour and capital, efficiency, technological progress and standards of education).

(1) The authors would like to thank G. Langenus for his contribution.

On the basis of these considerations, it is generally acknowledged that if public spending remains below a certain level and essentially takes the form of clearly productive expenditure, its beneficial effects offset the adverse impact of taxation. Beyond a certain level, the strictly economic benefits of further government intervention are smaller, more uncertain or more debatable, so that there is less unanimity to state that the benefits outweigh the drawbacks of higher taxes. Similarly, empirical research sheds no clear light on a possible link between the level of the public budget and the strength of economic growth.

CHART 1 FISCAL AND PARAFISCAL LEVIES
 (Percentages of GDP, 2003)



Source: EC.

Be that as it may, within the European Union⁽¹⁾ there are wide variations in the burden of fiscal and parafiscal levies, ranging from over 50 p.c. of GDP in Sweden to around 35 p.c. of GDP in the United Kingdom, Spain, Greece and Portugal, and even less than 30 p.c. of GDP in Ireland. With a figure of 46.6 p.c., Belgium is among the group of countries where the burden of fiscal and parafiscal levies is clearly above the average for the EU (40.9 p.c.).

1.2 Structure

Leaving aside issues concerning the optimum size of the public sector, one might wonder in what way a given desirable level of public spending can best be financed, how the necessary levies should be distributed over labour, consumption, capital or other tax bases, or in other words, what is the public revenue structure that has the least adverse impact on growth. Just as there is no consensus on the optimum size of the public sector, so there is debate over the optimum composition of public revenues. Without attempting to give an exhaustive account, we can mention the following guidelines.

First, it seems appropriate to distribute the burden of taxation as evenly as possible over the various tax bases, as the loss of efficiency in the allocation of resources caused by the disruption of market mechanisms is more than proportionate to the rate of tax.

Next, a tax system which encourages growth must minimise the disincentive to use the available factors of production. For example, where the labour supply is concerned, there must be sufficient financial incentives for working (employment rate), for doing more work (e.g. full-time rather than part-time), and for working more intensively and productively (e.g. by in-service training). These financial incentives will be all the greater if the worker keeps, in net terms, a larger share of the fruits of his additional labour (or increased productivity), i.e. if the marginal rates are lower. In this connection, it is also necessary to take account of the amount and duration of replacement benefits, as these can create unemployment traps.

Furthermore, the government's freedom of action in levying taxes is often limited by the great mobility of certain tax bases. This primarily concerns business activity, incomes from movable property and – to an increasing extent – skilled labour. Individually, the government of a country often cannot tax these sources at the desirable level (e.g. according to the said need for a balanced distribution of the tax burden), owing to the risk that these tax bases may be transferred to economies where the tax burden will be lower. In that context, there appears to be

a need for some international coordination or harmonisation of tax systems.

Finally, it is clear that shifts in the composition of public revenues generally have both advantages and disadvantages which need to be assessed, and the end result may depend very much on the reactions of the economic agents.

Thus, a shift from taxes on labour to taxes on consumption, for example, should encourage employment, as taxes on labour may depress supply and demand on the labour market, whereas a tax on consumption does not, in principle, affect the employment content of production, and is borne not only by those in work but by the population as a whole. Moreover, labour taxes concern only national production, whereas consumption taxes affect both home-produced goods and imports.

These advantages of a shift from taxes on labour to taxes on consumption are entirely valid only in a theoretical world where, apart from the altered composition of public revenues, everything else remains unchanged. In reality, that is never the case, and tax changes very often trigger reactions and indirect effects which are at odds with the expected positive effect, and may even negate it altogether.

The effect of a shift in taxation was demonstrated empirically in a recent Working Paper⁽²⁾ published by the Bank.

That study simulates the effect of a linear 5 p.c. reduction⁽³⁾ in the implicit rate of employers' contributions, offset by an increase in the VAT rate. The scale of this measure is such that its influence can be simulated by means of an econometric model based on observations of periods when such changes took place. For Belgium, such a simulation gives an increase in employment (after 4 years) of 8,500 units, as the reduction in social security contributions lowers the cost of labour both in relation to capital and in comparison with other countries. In an open economy, this positive effect outweighs the negative influence of the contraction in domestic demand caused by the loss of purchasing power of individuals (following the rise in consumer prices caused by the higher rate of VAT)⁽⁴⁾.

(1) For statistical reasons, only the Member States prior to May 2004.

(2) K. Burggraeve and Ph. Du Caju (March 2003), "The labour market and fiscal impact of labour tax reductions", Working Paper, National Bank of Belgium – Research, No. 36.

(3) Applied to the current rate, this corresponds to a reduction of around 1.3 percentage points.

(4) This simulation is based on the assumption that the reduction in charges is linear, i.e., the same for all levels of pay. If the reduction in charges is granted to certain categories, such as the low-skilled, it may have a considerably greater positive impact on employment. (P. Stockman (December 2001), "General and selective wage cost reduction policies in a model with heterogeneous labour", Federal Planning Bureau, Working papers).

However, that favourable impact of a shift in taxation diminishes or even disappears in the event of reactions and indirect effects.

- a. If the rise in consumer prices prompts a corresponding increase in gross wages – which happens automatically in the case of indexation – part of the initial advantage will be lost and the rise in employment shown by the simulation exercise will be only 3,300 units (after four years).
- b. Furthermore, if – on the occasion of wage bargaining – the reduction in labour costs (resulting from the cut in employers' contributions) is used to finance real wage increases, so that labour costs ultimately exceed their pre-reform level, there would actually be job losses totalling 6,100.

It is therefore clear that a shift in the burden of taxes (and para-fiscal charges) from labour to consumption is beneficial only in so far as these secondary effects are limited. The best conditions for success exist where the consumer price increases resulting from higher taxes on consumption do not give rise directly to wage indexation,⁽¹⁾ and the reduction in employers' contributions does not lead to real wage increases.

A shift in taxation is therefore no panacea. It can only have a substantial impact on employment and growth if there is proper consultation between the government and the social partners.

In the event of a major shift from labour taxes to consumption taxes, it is also necessary to take account of the fact that consumption taxes generally exert a much more direct effect on inflation than labour taxes, and that they increase income inequality. The highest incomes are in fact relatively less affected, since the average rate of consumption declines as income increases. However, this last objection is not insurmountable since the unwelcome effects of a rise in indirect taxation on the distribution of incomes can, possibly, be reduced or cancelled out by compensatory measures in respect of personal income tax and/or social security. Moreover, the regressive nature of consumption taxes can be attenuated in two ways: by higher rates on luxury goods (e.g. the road fund tax, which increases sharply with the power of the vehicle) and by charging lower rates on essential commodities (such as food).

(1) In Belgium, this applies to products which are excluded from the health index, namely tobacco, alcoholic beverages, benzine and diesel.

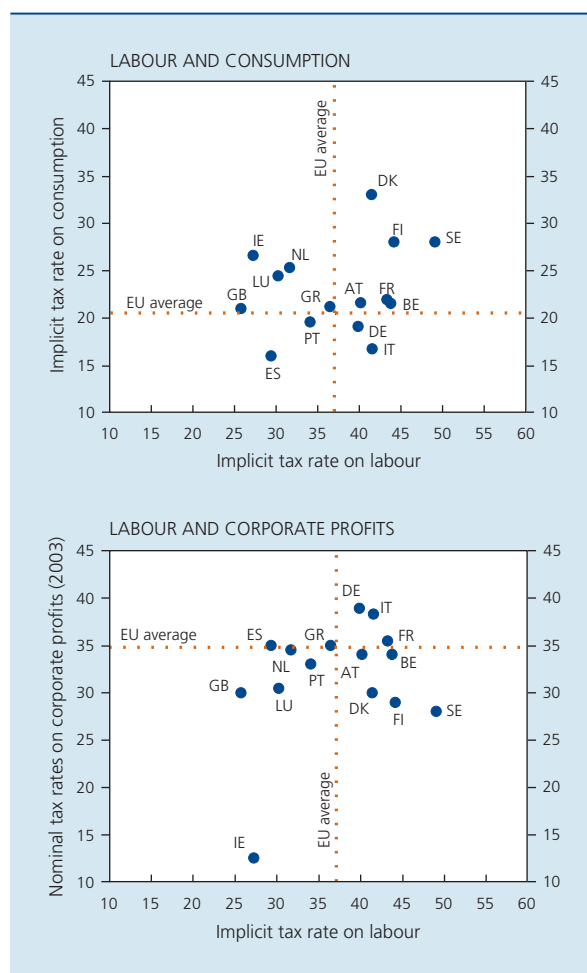
(2) EC (2003), "Structures of the taxation systems in the European Union".

2. International comparison of the structure of taxation

The following comparison is based mainly on recent studies conducted by the European Commission⁽²⁾, in which the various types of tax are expressed as a percentage of the tax base according to the national accounts approach.

In the EU, the implicit tax rate on labour is, on average, far greater than that on consumption, at 37 p.c. against 20.4 p.c.; this situation prevails in all Member States except Ireland. In relation to the European average, however, each country places different emphasis on one form of taxation or the other: one group, consisting of the Scandinavian countries, features a high level of taxation on both sources, in contrast to Spain which has relatively low rates of tax in both cases. In other countries, the bias

CHART 2 IMPLICIT TAX RATES ON VARIOUS TAX BASES
(Percentages of the tax base, 2001, unless otherwise stated)



Sources: EC, OECD.

in favour of one form of taxation is more marked: in Italy, labour is subject to above-average rates of tax, while taxes on consumption are relatively low; on the other hand, in Ireland and the Netherlands, taxation is concentrated to a relatively greater degree on consumption. Finally, Belgium and France are in an intermediate position: taxes on labour are considerably higher than the average, whereas the burden of taxes on consumer spending is close to the European average.

In Belgium, however, taxes on labour incomes have been falling since 2001, following the decline in personal income tax and social security contributions, and it was recently decided to increase certain indirect taxes. The burden of taxation has therefore shifted slightly towards consumption, and the concentration of the burden on labour has been somewhat tempered.

With the exception of Ireland, where the figure was only 12.5 p.c. in 2003, the nominal rate of corporation tax in most countries is fairly concentrated around the average level of 35 p.c., 2 points below the implicit rate of tax on labour. There is some correlation between the level of these two rates, except in the Scandinavian countries which, while imposing substantially higher labour taxes than the European average, have nominal rates of corporation tax which are decidedly lower than elsewhere.

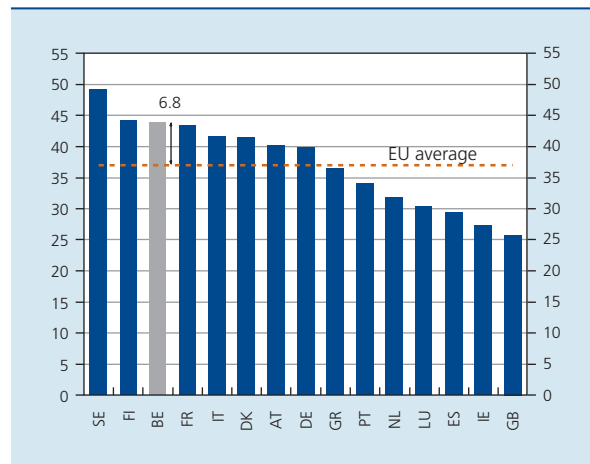
3. Taxes on labour incomes

3.1 Macro-economic implicit rate

In 2001, the latest year for which data are available, the implicit tax rate on wages⁽¹⁾ – calculated by the European Commission on the basis of the national accounts – was 6.8 percentage points above the EU average in Belgium, practically equalling the level in France and Finland, around 5 percentage points lower than in Sweden, but higher than the figure recorded in other countries, often to a very substantial degree⁽²⁾.

As already stated, levies on labour incomes in Belgium have declined since 2001 as a result of the cuts in personal income tax and social security contributions.

CHART 3 IMPLICIT TAX RATES ON WAGES
(Percentages, 2001)



Source: EC.

3.2 Micro-economic approach: average rates and marginal rates

To gain a fuller picture of the levies on labour incomes, it is worthwhile supplementing the analysis based on macro-economic data with an examination based on microeconomic data collected by the OECD⁽³⁾. This second source calculates the average and marginal rates for various levels of income.

The picture is comparable to that seen at aggregate level, in that Belgium practically always has the highest average rate for an unmarried employee with no children, even in the case of the lowest incomes. The rate is in fact already close to 50 p.c. for an income equal to two-thirds of the average production worker's wages, and the difference in relation to the European average is 11 percentage points. All countries have progressive systems, since the average rate increases everywhere with income. Belgium has a relatively steeper progression, as the difference in relation to the European average widens: at the level of the average wage it is over 12 percentage points, rising to almost 14 points once gross pay totals 167 p.c. of the average production worker's wages.

The countries with a high average rate often also have high marginal rates. That is particularly true in Belgium where, whatever the level of income, they are always the highest for any EU country, already exceeding 65 p.c. in the case of low and average incomes and reaching 70 p.c. for high incomes. The difference in relation to the European average ranges between 14 and 20 percentage points.

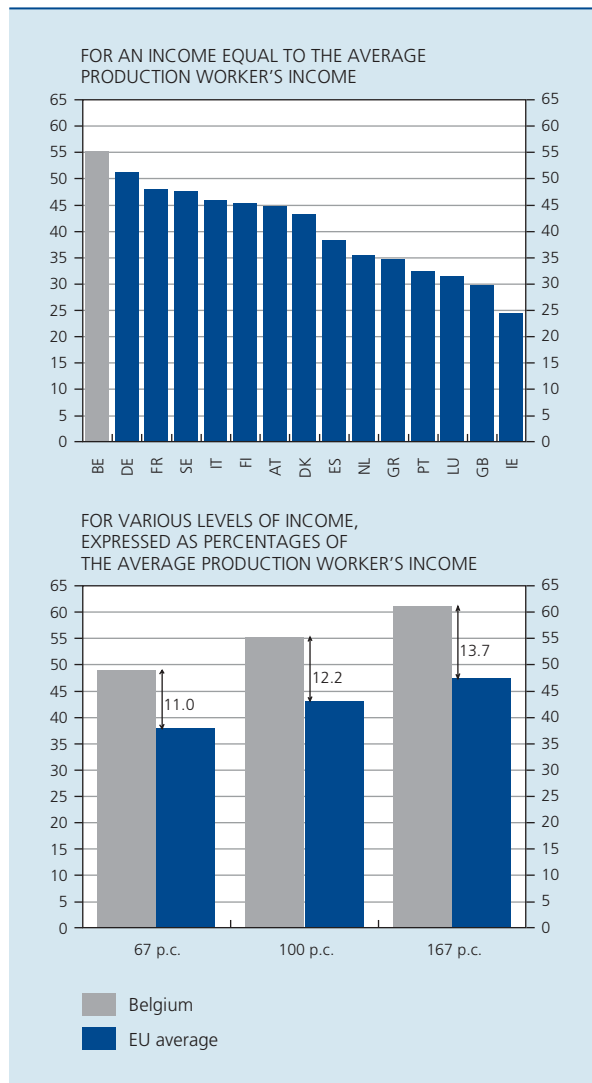
(1) The implicit tax rate on wages is defined as all charges levied on incomes from paid employment and paid over to the government (taxes and actual social security contributions paid by employers and employees) divided by the wage bill.

(2) The relatively low level of this rate in the Netherlands is due to the fact that some of the social security contributions are paid to entities which are not included in the general government sector.

(3) OECD (2003) "Taxing wages 2001-02".

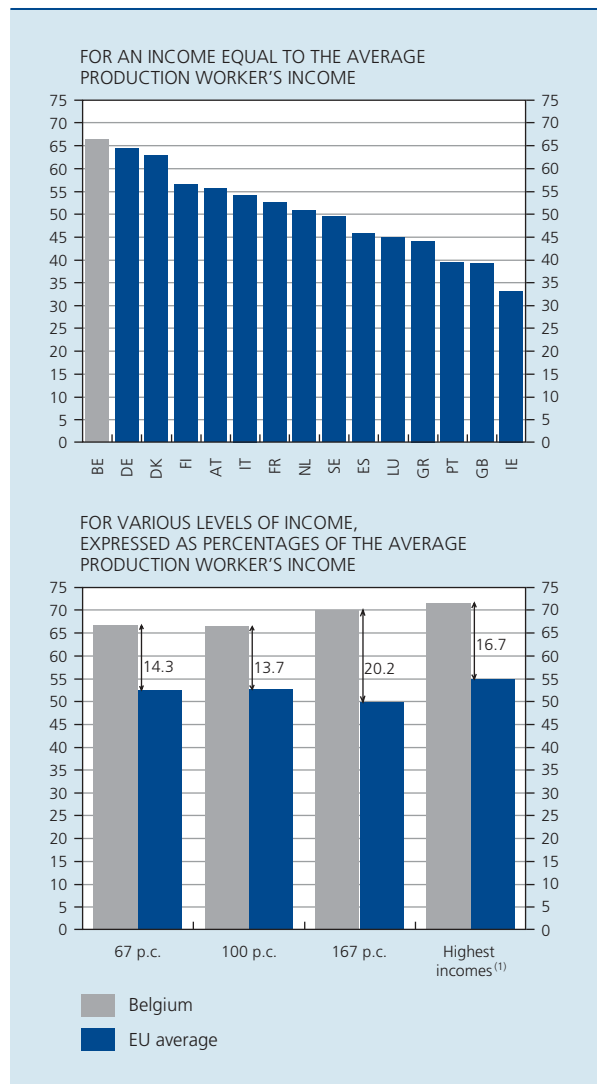
The level of these marginal rates of fiscal and parafiscal levies depends on the marginal rates of personal income tax (plus additional levies, such as regional and local taxes, if any) and the rates of social security contributions. For the latter, many countries have an income ceiling above which the levy (or part of it) becomes zero. That is not the case in Belgium, placing the country at a disadvantage in regard to high incomes.

CHART 4 AVERAGE RATES OF FISCAL AND PARAFISCAL LEVIES ON LABOUR FOR AN UNMARRIED EMPLOYEE WITH NO CHILDREN
(Percentages of labour costs, 2002)



Source : OECD.

CHART 5 MARGINAL RATES OF FISCAL AND PARAFISCAL LEVIES ON LABOUR FOR AN UNMARRIED EMPLOYEE WITH NO CHILDREN
(Percentages of labour costs, 2002)



Source : OECD.

(1) These are the rates applicable to the highest income bracket, for which the threshold varies from one country to another.

3.3 Structure of the levies on labour incomes

As already mentioned in 3.1, the macroeconomic data reveal that Belgium has a high implicit tax rate on income from employment, and that undeniably has an adverse impact on economic growth since it depresses supply and demand on the labour market and thus discourages new initiatives.

Apart from the level of the implicit burden, the composition or structure of the burden is probably also of great significance here. The level of the implicit tax rate can be regarded as resulting partly from the level of the marginal rates applicable to the various income brackets and partly from all the other determinants, such as tax expenditure – e.g. for the acquisition and renovation of property, long-term savings or for family reasons – the level of the tax-free allowance and the allowance for business expenses.

From the point of view of economic growth, the level of the marginal rates undoubtedly plays a key role: these rates in fact determine the net advantage for taxpayers in performing additional work. As shown in 3.2, around two-thirds of an increase in wages costs in Belgium was absorbed by fiscal and parafiscal levies, whatever the level of personal income.

As already stated, the difference between Belgium and the EU average is larger for the marginal rates than for the implicit rates. That suggests that the influence of tax expenditure and other variables is more favourable to taxpayers in Belgium than elsewhere. Such a structure for the burden of fiscal and parafiscal levies – high marginal rates partly attenuated by other tax variables – is probably not ideal from the point of view of economic growth and employment.

There are no harmonised statistics permitting direct international comparison of the scale and content of tax expenditure.

In Belgium's case, there are no specific data on tax expenditure relating to labour incomes either. However, the High Council of Finance (HCF) has compiled figures indicating the impact of tax expenditure on all personal incomes. These show that, in 1999, tax expenditure reduced revenues by almost 1.6 billion euro, or 5.9 p.c. of the yield from personal income tax.

The largest tax expenditure relates to property incomes; it covers the allowances for life insurance related to housing and allowances for the repayment of capital on mortgage loans, plus the additional allowance for mortgage interest. This expenditure costs the budget over 900 million euro, and its influence is decisive: according to the HCF, microeconomic calculations show that the effective rate of tax on an investment in a person's own home totalled less than 7 p.c., whereas the rate on a risk-free long-term investment came to almost 20 p.c.⁽¹⁾ All these incentives are intended to encourage individuals to own their home and thus to support the building and renovation sector, encouraging growth and employment.

TABLE 1 TAX EXPENDITURE (PERSONAL INCOME TAX) IN BELGIUM

(Estimated loss of revenue, millions of euro, 1999)

Measures relating to property incomes	912
Life insurance linked to housing and mortgage capital	806
Additional allowances for mortgage interest	106
Measures relating to long-term savings	556
Life insurance	230
Pension savings	227
Group insurance	91
Other (Local Employment Agency, child care costs, etc.)	118
Total	1,586
<i>p.m. Total as p.c. of personal income tax revenues</i>	<i>5.9</i>

Source: HCF.

In second place comes tax expenditure relating to long-term financial savings, namely the allowances granted for the second and especially the third pillar of the pension system. In 1999 this caused a loss of revenue estimated at 556 million euro⁽²⁾. It fulfils a number of purposes, such as encouraging long-term savings and compensating for the high marginal rates. However, it is questionable whether these tax concessions have any significant effect on the aggregate savings level or whether their main effect is to encourage portfolio reallocation. Moreover, this tax expenditure is concentrated mainly on the highest income brackets where households already have a high savings rate on average⁽³⁾.

The other types of tax expenditure cover various minor measures, though some of them are directly relevant to a policy of supporting growth via employment since they promote either demand for labour, by reducing the cost of labour (Local Employment Agency vouchers), or the supply of labour by encouraging the participation of women (child care costs).

(1) HCF (2002), "Avis sur les déductions à l'impôt des personnes physiques"/"Advies over de aftrekken bij de personenbelasting".

(2) This figure overestimates the budget cost since it takes no account of the taxes due at the end of the long-term savings contract.

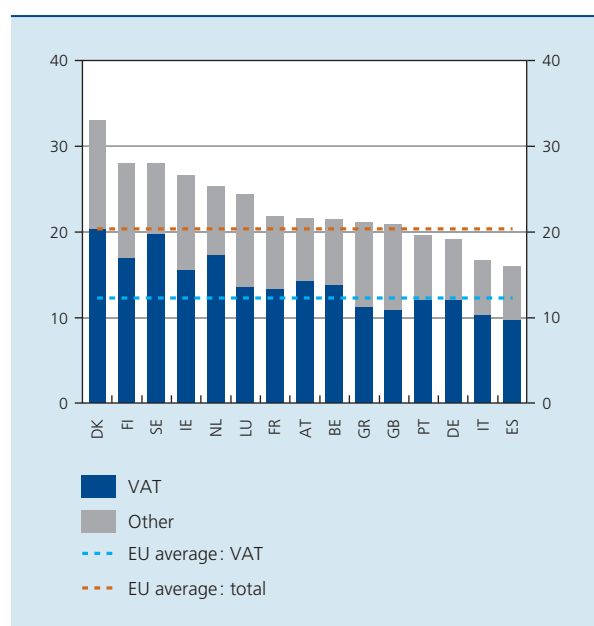
(3) C. Valenduc, (July-August 1999), "Les effets de répartition de la non-imposition des revenus de l'épargne", Bulletin de Documentation, Ministry of Finance.

4. Tax on consumption

International data concerning the tax burden on consumption are usually based on the ratio between the proceeds from consumption taxes and the tax base, generally confined to domestic consumption expenditure of households. The implicit rate thus obtained overestimates the real tax burden, since consumption taxes are normally also levied on other tax bases such as intermediate consumption and investment in fixed assets by general government, and investment in housing.

According to data published by the EC, there are wide variations in taxes on consumption between Member States. Consumption is most heavily taxed in the Scandinavian countries and in Ireland, whereas the tax burden is lowest in Italy and Spain. Belgium's position is very close to the EU average. In all Member States, VAT is the main tax on consumption. It is therefore treated separately here, before the other taxes on consumption.

CHART 6 IMPLICIT TAX RATE ON PRIVATE CONSUMPTION ⁽¹⁾
(Percentages, 2001)



Source: EC.

(1) Consumption taxes as percentages of household consumption expenditure.

4.1 VAT

VAT rates in the EU Member States are subject to European regulations. The aim is to combat harmful tax competition while keeping taxes on certain products at a low level, for economic or social reasons, i.e. to compensate to some extent for the regressive nature of the consumption tax or to encourage the consumption of these products. The EU has set a minimum rate of 15 p.c. as the standard rate of VAT. One or two reduced rates of 5 p.c. minimum are also available for certain goods and services, an option used by all Member States except Denmark. In addition, reduced rates are permitted in certain specific regions of a few Member States, and super-reduced rates or zero rates (e.g. on newspapers and periodicals, and – in Ireland and the United Kingdom – also on certain basic products such as food and medicines) which were in force before 1 January 1991 are still applied. Finally, reduced rates are also allowed provisionally for a number of labour-intensive services which are not subject to cross-border competition.

TABLE 2 MAIN RATES OF VAT IN THE EU MEMBER STATES
(Percentages, end 2003)

	Standard rate	Rate applicable to food
Denmark	25.0	25.0
Sweden	25.0	12.0
Finland	22.0	17.0
Belgium	21.0	6.0
Ireland	21.0	0.0
Italy	20.0	4.0
Austria	20.0	10.0
France	19.6	5.5
Netherlands	19.0	6.0
Portugal	19.0	5.0
Greece	18.0	8.0
United Kingdom	17.5	0.0
Germany	16.0	7.0
Spain	16.0	4.0
Luxembourg	15.0	3.0
EU	18.5	5.4
Difference BE – EU	+2.5	+0.6

Source: EC.

In Belgium, the implicit rate of VAT is 1.4 percentage points above the EU average. That is because of the standard rate of VAT which, at 21 p.c., was 2.5 percentage points above the EU average at the end of 2003. Conversely, in the case of the rate applicable to food, which is a major consumption item, the difference was just 0.6 percentage point. It is possible that, apart from the level of the nominal rates, other factors may explain the level of the implicit tax burden, estimated on the basis of the national accounts. For instance, the structure of private consumption or the size of the tax bases other than private consumption may vary from one Member State to another. Finally, the extent of tax evasion may be greater in one Member State than another. However, these factors are difficult to quantify.

4.2 Other taxes on consumption

In contrast to the implicit VAT rate, the implicit rate of other consumption taxes is slightly lower in Belgium than the EU average, namely by 0.3 percentage point. The main taxes in this category are excise duty and specific taxes on the purchase of motor vehicles.

Excise duties are levied mainly on mineral oils, tobacco products and alcoholic beverages. As in the case of VAT, the EU has set minimum rates for these taxes, either per unit of output (specific excise duty) or as a percentage of the purchase price (ad valorem duty).

TABLE 3 RATES OF EXCISE DUTY AND TAXES ON VARIOUS PRODUCTS

(End 2003, except for mineral oils: March 2004)

	Taxes (other than VAT) on mineral oils ⁽¹⁾			Duty on cigarettes ⁽³⁾	Duty on alcohol		Taxes (other than VAT) on the purchase of a car ⁽⁶⁾
	Eurosuper 95 ⁽²⁾	Diesel ⁽²⁾	Heating oil ⁽²⁾		Beer ⁽⁴⁾	Non-sparkling wine ⁽⁵⁾	
United Kingdom	703.6	703.6	63.0	233.4	7.8	252.8	0.0
Netherlands	664.5	380.8	202.9	86.6	1.7 ⁽⁷⁾	59.0	33.0
Germany	654.6	470.5	61.3	102.5	0.8	0.0	0.0
Finland	597.3	346.8	71.5	115.2	11.4	235.5	56.0
France	589.2	416.9	56.6	141.2	1.0	3.4	0.0
Italy	558.6	403.2	403.2	59.9	1.4	0.0	2.0
Denmark	546.5	369.3	282.0	108.7	3.3 ⁽⁷⁾	94.9	173.0
Belgium	536.2	321.8	18.5	95.8	1.7	47.1	2.0
Portugal	522.6	308.3	89.6	64.8	1.1 ⁽⁷⁾	0.0	49.0
Sweden	519.6	361.3	361.2	102.7	6.5	242.4	0.0
Ireland	442.7	368.0	52.1	189.4	7.9	273.0	51.0
Luxembourg	442.1	252.8	9.9	66.2	0.8	0.0	0.0
Austria	424.7	310.1	106.1	84.4	2.1	0.0	14.0
Spain	399.2	296.4	111.1	56.6	0.8	0.0	12.0
Greece	301.4	250.0	24.8	71.9	1.1	0.0	88.0
EU	593.4	418.8	96.6	120.5	2.7	64.1	10.5
Difference BE – EU (percentages)	-9.6	-23.2	-80.9	-20.5	-43.3	-26.5	-81.0
<i>p.m. Minimum duty</i>	287.0	245.0	18/5 ⁽⁸⁾	60/95 ⁽⁹⁾	0.7	0.0	

Source: EC.

(1) Calculated as all indirect taxes other than VAT, including taxes similar to excise duties.

(2) Euro per thousand litres.

(3) Euro per thousand cigarettes.

(4) Euro per degree Plato per hectolitre.

(5) Euro per hectolitre.

(6) Taxes (other than VAT) as a percentage of the price (before tax) of a typical vehicle with a cylinder capacity of 2001 cc.

(7) For a beer 11 degrees Plato.

(8) The minimum duty is 18 euro per 1000 litres, but Belgium and Luxembourg are exempt provided that they charge a "monitor charge" of at least 5 euro per 1000 litres on heating oil.

(9) Either 60 euro per 1000 cigarettes and 57 p.c. of the retail price, or 95 euro per 1000 cigarettes.

In comparison with other EU Member States, excise duties and similar taxes are on the low side in Belgium. The duties on petrol, diesel, cigarettes and alcoholic beverages are well below the average. The difference is very substantial in the case of heating oil, taxes other than VAT (namely the 5 euro monitor charge and the energy contribution of 13.4854 euro per 1000 litres) being negligible in Belgium compared to the EU average, at little more than the minimum rates for the EU.

The ranking of the Member States on the basis of excise duties varies greatly from one product category to another. However, it is noticeable that the United Kingdom charges very high duty on motor vehicle fuel, tobacco and alcohol, with only heating oil being taxed at a relatively modest rate. Conversely, in Luxembourg, excise duties on all the product categories considered are among the lowest in the EU. Apart from the United Kingdom, Germany also charges high rates of duty on motor vehicle fuel, whereas these rates are the lowest in Greece. Heating oil is particularly heavily taxed in Italy: consumption taxes (other than VAT) on this source of energy are four times higher than the average, and more than 20 times higher than the rates in Belgium. In regard to cigarettes, duties are clearly the highest in the English-speaking countries while they are lowest in the southern European countries and Luxembourg. Finally, beer and wine are subject to particularly heavy rates of duty in the English-speaking countries and in Scandinavia.

Motor vehicles are a specific source of consumption taxes. VAT is charged on purchase, and VAT and excise duty must be paid on the fuel, but in many Member States the purchase, possession and/or use of motor vehicles are also subject to additional consumption taxes.

Looking at taxes (other than VAT) on the purchase of a car, the rate applicable to a typical vehicle is 173 p.c. of the price (excluding tax) in Denmark. Taking account of the 25 p.c. VAT, the total tax on the purchase of a vehicle thus corresponds to practically double the price exclusive of taxes⁽¹⁾. Other countries such as the United Kingdom, Germany, France, Sweden and Luxembourg do not levy any special tax – apart from VAT – on the purchase of a car. The opposite applies in Belgium, where there is a registration tax, but this is well below the European average for a typical vehicle, and corresponds to only a fraction of the price.

(1) However, these taxes are not all borne by the consumer, as the price (excluding taxes) is particularly low in Denmark.

(2) S. Ederveen and R. de Mooij (2003), "To which tax rate does investment respond? A synthesis of empirical research on taxation and foreign direct investment", Banca d'Italia, Research Department, Public Finance Workshop on Tax Policy.

(3) I.e. 33 p.c. plus a crisis contribution of 3 p.c. on the tax payable.

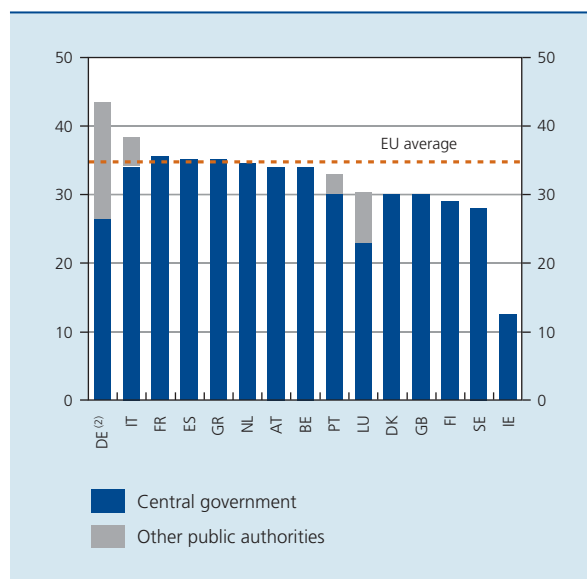
5. Tax on corporate profits

The effective tax rate on corporate profits is determined by the implicit rate of corporation tax, i.e. the tax due in proportion to the company's profits. That rate is influenced not only by the nominal rate but also by various tax allowances and special rules which make the "tax results" deviate from the economic results, as well as various preferential schemes. A recent study⁽²⁾ confirms that foreign direct investment is influenced more by this implicit rate than by the nominal rate. However, there is a possibility that the nominal rate may fulfil an important signalling function, and that high nominal rates – even if they are counterbalanced by substantial allowances or preferential schemes – are liable to discourage potential investors. The nominal rates in force in the EU Member States are therefore examined here first, before the analysis of the implicit rates.

5.1 Nominal rate

The cut in the nominal rate of tax in Belgium on 1 January 2003 is in line with the downward trend recorded for several years now in many European countries. In 2002 it was still the highest rate in the EU, but it is now, at 33.99 p.c.⁽³⁾, roughly 1 percentage point below the EU average. Most countries deviate little from this average, with the particular exception of Ireland – where the

CHART 7 NOMINAL RATES⁽¹⁾ OF CORPORATION TAX
(Percentages, 2003)



Source: OECD.

(1) Including additional levies, such as regional and local taxes, if any.

(2) Disregarding the one-off rate increase of 1.5 percentage points in 2003 (as a contribution towards the costs of the flooding).

rate was just 12.5 p.c. – and the Scandinavian countries which, like Belgium, have a high overall burden of fiscal and parafiscal levies, but which have opted to keep the nominal rates of corporation tax at a relatively low level.

5.2 Implicit rate

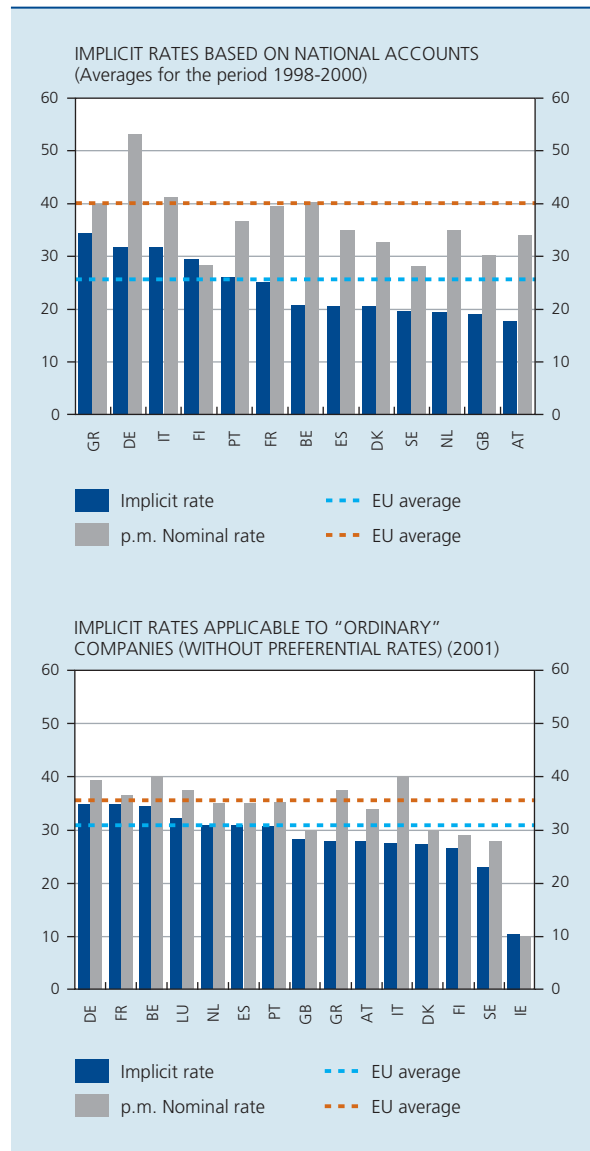
There are two different ways of calculating the implicit rate. One is to use the historical statistics on taxes and business profits (“backward looking” approach). The other is to determine the tax burden by assessing a specific investment decision in the light of the rules and parameters of the current legislation on companies (“forward looking” approach).

The results of empirical studies⁽¹⁾ adopting the first approach are fairly similar, despite major methodological differences. In the majority of countries, the implicit rate is well below the nominal rate owing to tax allowances and preferential schemes. However, in the late 1990s – the latest period for which figures are available – this difference was greater for Belgium than for the EU as a whole. This suggests that, for companies in general, the favourable impact of the tax allowances and/or preferential schemes was greater in Belgium than on average in the other Member States.

Empirical studies⁽²⁾ based on the other approach make it possible to refine these conclusions, as they reveal that the difference between the implicit rate and the nominal rate applicable to “ordinary” companies – not covered by any preferential scheme – differs little from the EU average in Belgium. The difference reported above between the nominal rate and the implicit rate for companies in general, which is above average in Belgium, therefore appears to be attributable purely to the nature and scale of the preferential tax schemes.

Preferential schemes for specific branches of activity exist in some countries, particularly for service centres, distribution and shipping. However, the most noteworthy measures concern the financial transactions of multinational groups. According to the OECD⁽³⁾ there are no specific provisions on this within the EU, except in Belgium (coordination centres), Ireland, the Netherlands, Luxembourg

CHART 8 IMPLICIT RATES OF CORPORATION TAX
(Percentages)



Source : EC.

and certain regions of Italy and Spain. An empirical study by Hespel and Mignolet⁽⁴⁾ shows that the tax advantage of these schemes can be particularly significant: the return required on a foreign investment falls from 5.9 p.c. for an investment in a company not covered by any preferential scheme to 3.5 p.c. under the Dutch preferential scheme, and actually drops to around 1.25 p.c. in the case of a Belgian coordination centre or a Luxembourg financial company eligible for a preferential scheme.

(1) Cf. for example EC (2003), “Structures of the taxation systems in the European Union” and G. Nicodème (2001), “Computing effective corporate tax rates: comparison and results”, *European Economy – economic papers*, 153.

(2) Cf. for example EC (2001), “Company taxation in the internal market”, Commission staff working paper.

(3) OECD (2004), “The OECD project on harmful tax practices: the 2004 progress report”.

(4) A. Hespel and M. Mignolet (2000), “Tax aided financial services companies and the cost of capital”, *Fiscal studies*.

Box – Tax treatment of research and development

The research and development effort is generally regarded as a key determinant of the economy's growth potential. However, the free operation of market forces often results in too low a level of this type of expenditure, since businesses base their investment decisions only on their private return, whereas such expenditure generally has substantial external benefits. The government can boost such investment in various ways. It can engage in research activities itself, use regulation (e.g. patent rights) to protect the advantages for the innovating business, or provide financial encouragement for such private investment via a specifically targeted policy of subsidies or tax concessions. The tax aspect is discussed in this box.

In many countries, the system of taxing companies incorporates specific incentives for research and development. These consist mainly of favourable rules on depreciation, whereby payment of tax is deferred, and tax allowances permitting part of the expenditure on research and development to be deducted from the basis of assessment (tax expenditure) or from the tax due (tax credit). Sometimes, this tax expenditure or tax credit concerns only expenditure on machinery or buildings; in general, however, the system is much more generous and, apart from the normal allowance for labour costs, an additional tax allowance also applies in respect of expenditure on labour costs relating to research. The allowance is calculated as a percentage of the level of, or the increase in, expenditure on research and development.

In Belgium, corporation tax essentially encourages research and development via three specific tax concessions⁽¹⁾. First, the enhanced investment allowance concerns assets used for this purpose. It is possible to opt for the single allowance (13.5 p.c. in 2003) or the staggered allowance (20.5 p.c. in 2003). However, the enhanced investment allowance is generally modest in comparison with that in other countries: the percentage deduction from the basis of assessment (and not from the tax due) is relatively small, and the scheme does not apply to labour costs. Second, machinery and equipment used for research and development can be depreciated at 33.33 p.c. per annum, a more favourable rate than the standard depreciation allowed by the tax authorities. Finally, businesses taking on an additional full-time worker for scientific research or to develop the technological potential of the business qualify for an annual allowance on their taxable profits of 11,800 euro (or even 23,600 euro for a highly skilled researcher).

An OECD study⁽²⁾ summarises the effect of tax concessions in a synthetic indicator, which measures the scale of the tax incentives for research and development. This is the B index, which shows, for an investment of 1 USD in research and development, the pre-tax return required in order not to sustain any loss after tax. The lower this B index (or, as in the chart, the higher $1 - B$) the greater the tax incentives in the tax system in question.

In the case of Belgium, the OECD study takes account of the first two concessions only, and leaves aside the allowance for the recruitment of additional personnel. The research and development incentives provided in the case of corporation tax are therefore slightly under-estimated in the synthetic indicator for Belgium.

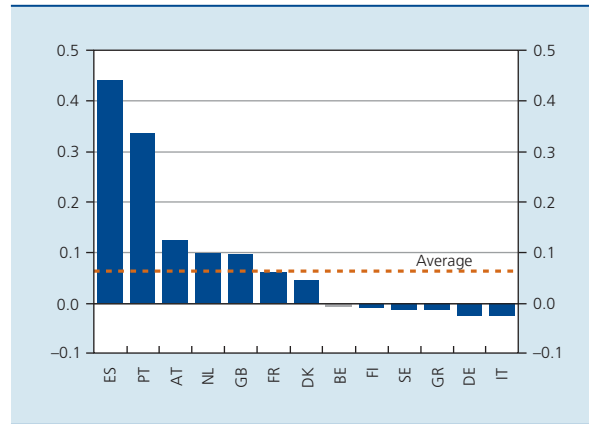
(1) Apart from the corporation tax provisions, a new measure came into force on 1 October 2003 concerning personal income tax, in order to encourage scientific research in colleges and universities. These institutions have to pass on to the State only 50 p.c. of the withholding tax on earned income, to be deducted at source from the pay of researchers, the rest remaining at their disposal. Researchers are entitled to state the whole of the withholding tax in their tax return, so that their net income remains unchanged. Thus, the Treasury levies less tax on individuals while the research institutions have more funds at their disposal. On 1 July 2004 this measure will be extended to the researchers of 72 scientific institutions, and in January 2005 to the researchers of private enterprises collaborating with one of those institutions.

(2) OECD (2002), "Tax incentives for research and development: trends and issues".



THE TAX TREATMENT OF RESEARCH AND DEVELOPMENT

(1 – B-index⁽¹⁾)



Source: OECD.

(1) The B index measures, for an investment of 1 USD in research and development, the return required before tax in order not to sustain any loss after tax.

On the basis of this indicator, Belgium – together with Finland, Sweden, Greece, Germany and Italy – is clearly among the EU countries with the smallest tax incentives during the period considered. Of all those countries, Belgium is the only one to offer a specific allowance for investment in research and development, but as pointed out above, this allowance is relatively meagre. The characteristic of countries in the intermediate group – Austria, the Netherlands, the United Kingdom, France and Denmark – is that this specific investment allowance is considerably larger (and also relates to labour costs, for example), high rates apply (sometimes over 100 p.c.) and the amounts can be deducted from the tax due (instead of from the basis of assessment). Finally, Spain and Portugal have the most favourable schemes.

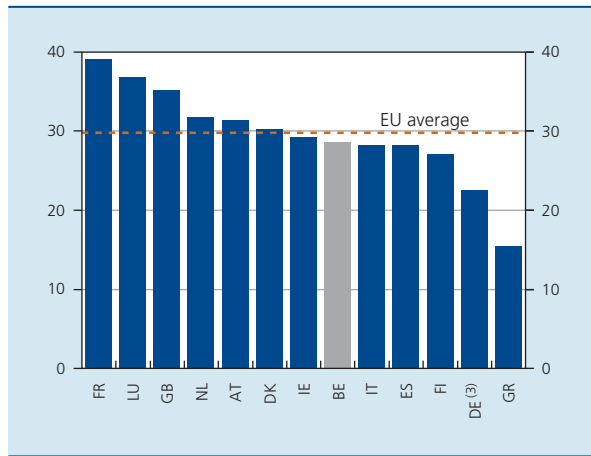
6. Capital tax

The compilation of internationally comparable figures for the tax burden on capital and capital incomes is hampered by a number of methodological problems. For instance, taxes on incomes from movable and immovable assets are not collected solely via specific levies (such as the withholding taxes on income from movable and immovable assets) the yield from which is known precisely, but in a good many cases this income (or part of it) is added to other income so that it is statistically difficult for the tax on this income from movable and immovable assets to be separated from that due on other incomes. Furthermore, mortgage loans and long-term savings often give rise to large reductions in personal income tax. However, there are few if any international statistics available on the scale of this tax expenditure, which should, in principle, be deducted from the tax on capital.

The European Commission study already mentioned,⁽¹⁾ in which all taxes are related to labour, consumption or capital, attempts to find a solution to these methodological problems, partly on the basis of confidential information obtained from the national tax authorities: the tax burden on capital is calculated as the taxes on capital (and capital income) in relation to capital incomes. However, the figures obtained must always be interpreted with caution, given the numerous methodological limitations.

(1) EC (2003), "Structures of the taxation systems in the European Union".

CHART 9 IMPLICIT RATE OF TAX ON CAPITAL ⁽¹⁾
(Percentages, 2001 ⁽²⁾)



Source : EC.

- (1) Tax on capital (and on capital incomes) as a percentage of income from capital.
- (2) For 2001, data relating to the implicit tax rate on capital were not available for Sweden (34.5 p.c. in 2000) and Portugal (30.7 p.c. in 1999).
- (3) The rate mentioned for Germany is depressed by the change in the legislation on distributed earnings of companies, which led to substantial one-off refunds of corporation tax in 2001.

That study was based on a very broad definition of taxes. It includes corporation tax, taxes and social security contributions paid by the self-employed⁽¹⁾, inheritance tax, gift tax, taxes on immovable property⁽²⁾, taxes on transactions in movable and immovable property⁽³⁾, taxes on interest and dividends received by individuals less capital formation allowances in personal income tax, and taxes on the net assets of individuals. During the year to which the study relates, only Luxembourg, Sweden, France, Spain and Finland levied such a tax. The yield on this form of tax is usually minimal because of the low rates and the exemptions for modest amounts of wealth or for certain types of assets.

According to this study, which is based on figures relating to 2001, capital is most heavily taxed in France, Luxembourg and the United Kingdom, whereas the tax treatment of capital is particularly generous in Greece. In Belgium, the implicit tax rate on capital (28.7 p.c.) is close to the average for EU Member States (29.8 p.c.).

- (1) Self-employed persons' incomes have two components: remuneration for the work done and remuneration for the capital employed. Since the available statistical information does not permit a breakdown between the two components, the European Commission decided to consider all income and all levies relating to self-employed persons as incomes from capital and taxes on those incomes.
- (2) In Belgium, these taxes are levied in the form of the withholding tax on incomes from immovable property, but also via personal income tax.
- (3) In Belgium, these are registration fees, mortgage and registry charges, the tax on stock market transactions and the tax on the material delivery of bearer securities.

7. Conclusions

Analysis of the structure of public revenues reveals that labour incomes are taxed relatively heavily in Belgium. In 2001, the latest year for which data are available at European level, the implicit burden of fiscal and parafiscal levies on labour was 6.8 percentage points above the EU average. On the other hand, the rates levied on consumption, corporate profits and income from capital are much closer to the European average.

In Belgium, the reductions in personal income tax and social security contributions already implemented or scheduled have reduced the levies on labour incomes in recent years, and that reduction will continue in the future. Conversely, certain indirect taxes such as the duty on tobacco and motor vehicle fuels, where the rates applied in Belgium are below the EU average, have increased and further rises are planned for the years ahead. Following the entry into force of these measures, the burden of fiscal and parafiscal levies will diminish, and shift slightly towards consumption, correcting to some extent the heavy concentration of this burden on labour. This will bring the structure of taxation closer to that for the EU.

The reduction in taxes on earned incomes, which is most marked in the case of low incomes, should have a favourable impact on employment, though only if it does not indirectly trigger an increase in wages. Application of the European directive guaranteeing the effective taxation of incomes from savings in the form of interest payments, together with the efforts to limit preferential schemes concerning corporation tax, may offer ways of redirecting public revenues in favour of employment.

Summaries of articles

Economic projections for Belgium, 2004-2005

In light of an increased transparency, the National Bank of Belgium has decided to publish twice a year, in June and December, the macroeconomic projections for the Belgian economy for the current and the following year. These projections represent the national part from the broad macroeconomic projection exercise conducted within the Eurosystem, for which the ECB publishes the aggregated results for the euro area economy.

At the current juncture, the recovery of the world leading economies in 2003 is projected to hold on in the course of 2004 and 2005. Although growth would stay beneath that of the international environment, the Eurosystem expects the ongoing recovery in the euro area to gain momentum throughout 2004 and 2005 and inflation to be moderate. GDP growth in Belgium would exceed that of the euro area, pursuing the upturn since mid-2003, and should increase from 1.1 p.c. in 2003 to 2.3 p.c. in 2004 and 2.6 p.c. in 2005. The recovery that has initially triggered exports would gradually extend to investment, which would be supported by accommodating financial conditions and stronger economic activity. Furthermore, consumption is likely to firm in the following years caused by a rise in employment and households' disposable income. Job creation would amount to 15,000 jobs in 2004 and 44,000 in 2005. Still, the unemployment rate is likely initially to rise further due to the higher increase of the working population. Headline inflation is expected to stay in line with the Eurosystem's definition of price stability at 1.8 p.c. and 1.7 p.c. in 2004 and 2005. Although energy prices increased considerably in the first part of 2004, inflation is likely to stay modest due to limited wage increases and subdued pressures from activity and import prices. Despite an improvement in economic activity, the general government balance is expected to show a deficit of 0.3 p.c. of GDP in 2004 and of 1.0 p.c. in 2005, taking into account the measures which have already been taken and the less positive impact of non-recurrent measures in 2004 and 2005 compared to 2003

The transmission of monetary policy impulses in Belgium

The first part of this article outlines the monetary policy transmission process. It pinpoints some special features of the Belgian economy, such as its high degree of openness, especially in relation to euro area partners, the high level of household financial assets, relatively weak dependence on bank lending at macroeconomic level, and the automatic indexation of wages.

The macroeconomic simulations presented in the second part of the article show that, in Belgium as in the euro area, a monetary policy tightening tends to cause a temporary contraction in activity, due substantially to the decline in investment, and a slower but more persistent fall in prices. The euro appreciation normally caused by such a monetary policy shock amplifies its effects on activity, but above all accelerates its impact on prices. The reaction of the Belgian economy does not appear to be obviously different from that of the rest of the euro area. It seems to be slightly more moderate in volume, owing to the lower sensitivity of investment, and more rapid in terms of prices.

Structure of public revenues

Leaving aside issues concerning the optimum size of the public sector and the optimum scale of public revenues, an important issue is to determine which is the public revenue structure that is the most favorable to growth. It is important to distribute the burden of fiscal and parafiscal levies as evenly as possible over the various tax bases, to minimise the disincentive to activate the available factors of production, and to coordinate or harmonise the tax system at international level to ensure that, for certain forms of taxation such as the tax on savings, the desirable level of taxation cannot be prejudiced by the risk of relocation.

In Belgium, the burden of fiscal and parafiscal levies is relatively concentrated on labour, since – on the basis of the national accounts – the burden on that factor was over 6.8 percentage points higher than the EU average in 2001, while the rates of tax on consumption, corporate profits and capital were much closer to the European average.

The difference between Belgium and the EU in terms of the marginal rates of fiscal and parafiscal levies on labour is actually considerably greater than the difference in the average tax burden recorded on the basis of the annual accounts. Part of the reason could be that the scale of tax expenditure is more favourable to taxpayers in Belgium is higher than elsewhere. Since the level of the marginal rates probably plays a key role in economic growth, it is questionable whether this is the ideal structure for the taxation of labour incomes.

In 2001, the implicit rate of VAT was 1.4 percentage points above the EU average. Conversely, the implicit rate of the other consumption taxes is below the average. That is due to the level of those taxes on tobacco, alcohol, the purchase of private motor vehicles and mineral oils, particularly heating oil.

In Belgium, the reductions in personal income tax and social security contributions already implemented or scheduled have reduced the levies on labour incomes in recent years, and that reduction will continue in the future. Conversely, certain indirect taxes have increased and further rises are planned for the years ahead. Following the entry into force of these measures, the burden of fiscal and parafiscal levies will diminish, and shift slightly towards consumption, correcting to some extent the heavy concentration of this burden on labour. This will bring the structure of taxation closer to that of the EU.

Since it was cut in 2003, the nominal rate of tax on corporate profits has been slightly below the EU average in Belgium. The scale of tax expenditure for ordinary companies seems comparable to that observed elsewhere. Moreover, it seems that tax incentives for research and development – vital factors determining the economy's growth potential – are relatively modest in Belgium.

Abstracts of the Working Papers Series

43. “Interbank exposures: An empirical examination of systemic risk in the Belgian banking system”, by H. Degryse and G. Nguyen, Research series, March 2004

Robust (cross-border) interbank markets are important for the smooth functioning of modern financial systems. Yet, a network of interbank exposures may lead to domino effects following an initial bank failure. The “structure” of the interbank market is a potential important driving factor in the risk and impact of interbank contagion. Using detailed information on aggregate interbank exposures of individual banks and on large bilateral interbank exposures, the authors examine the evolution of contagion risks to the Belgian banking system over the period 1993-2002. They find that a change from a complete structure (all banks having symmetric links) towards a “multiple money centre” structure (the money centres being symmetrically linked to some banks, which themselves are not interlinked) as well as a more concentrated banking market have decreased the risk and impact of contagion. Moreover, an increase in the proportion of cross-border interbank assets has lowered the risk and impact of local contagion. Yet, this reduction has probably been accompanied by an increase in contagion risks generated by foreign banks, although even then the contagion risks appear fairly limited.

44. “How frequently do prices change? Evidence based on the micro data underlying the Belgian CPI”, by L. Aucremanne and E. Dhyne, Research series, April 2004

The paper examines the degree of price rigidity in Belgian consumer prices, using a large data base. As to the observed degree of rigidity, the results reveal a substantial amount of heterogeneity, not only across but also within product categories. While prices turn out to be perfectly flexible for some product categories, they tend to be very sticky for other. On average, nearly 17 p.c. of the consumer prices change each month and the median duration of a price spell is close to 13 months. A substantial subset of the results is compatible with state-dependent pricing, while other results suggest that there is some time-dependency as well. Most price changes are price increases, but price decreases are not uncommon, except for services. The extent of price changes is important. Price changes do not seem to be highly synchronised across price-setters within relatively homogenous product categories.

45. "Firm's investment decisions in response to demand and price uncertainty", by C. Fuss and Ph. Vermeulen, Research series, April 2004

The authors estimate the effect of demand and price uncertainty on firms' investment decisions from a panel of manufacturing firms. Uncertainty measures are derived from firms' subjective qualitative expectations. They are close to their theoretical counterparts, the variances of future demand and price shocks. The authors find that demand uncertainty depresses planned and realized investment, while price uncertainty is insignificant. This is consistent with the behaviour of monopolistic firms with irreversible capital. Further, firms revise their investment plans very little. They may do so in response to new information on sales growth, but not as a result of reduced uncertainty.

46. "SMEs and bank lending relationships: The impact of mergers", by H. Degryse, N. Masschelein and J. Mitchell, Research series, May 2004

The paper studies the impact of bank mergers on firm-bank lending relationships using information from individual loan contracts in Belgium. The authors analyse the effects of bank mergers on the probability of borrowers maintaining their lending relationships and on their ability to continue tapping bank credit. The environment reflects a number of interesting features: high banking sector concentration; "in-market" mergers with large target banks; importance of large banks in providing external finance to SMEs; and low numbers of bank lending relationships maintained by SMEs. The authors find that bank mergers generate short-term and longer-term effects on borrowers' probability of losing a lending relationship. Mergers also have heterogeneous impacts across borrower types, including borrowers of acquiring and target banks, borrowers of differing size, and borrowers with single versus multiple relationships. Firms borrowing from acquiring banks are less likely to lose their lending relationship, while target bank borrowers are more likely to lose their relationship. Firms borrowing from two of the merging banks are less likely to lose their relationship than firms borrowing from only one of the merging banks or firms borrowing from non-merging banks.

47. "The determinants of pass-through of market conditions to bank retail interest rates in Belgium", by F. De Graeve, O. De Jonghe and R. Vander Vennet, Research series, May 2004

The authors analyse the pass-through of money market rates to retail interest rates at the disaggregate level in the Belgian banking market. First, the authors measure the extent of pass-through for a total of fourteen products. The authors find that the response varies between loans and deposits and depends positively on the maturity of the product. Second, the launch of EMU has generally not resulted in more competitive pricing by banks. Third, the authors assess the importance of several biases and find that heterogeneity in price-setting behaviour should be accounted for in analysing the pass-through. Fourth, bank-specific determinants of heterogeneous interest rate pass-through are analysed. The authors find a role for capital, liquidity and market share and relate these results to the various channels in monetary policy transmission and to the structure-conduct-performance hypothesis in banking.

48. “Sectoral vs country diversification benefits and downside risk”,
by M. Emiris, Research series, May 2004

Recently, the advantage of country diversification as to sector diversification has been questioned, especially against the background of the European monetary and financial integration. Correct estimates of the correlation matrix are central to the evaluation of the relative diversification gains. These estimates should take into account the time-varying and asymmetric behaviour of the correlation process, particularly in the context of major changes in volatility and market trends. In this paper, the ADCC (Asymmetric Dynamic Conditional Correlation) model developed by Cappiello et al. is used to estimate the conditional correlation and volatility of weekly country, sector and country/sector returns indexes over 1990-2003. This model offers a relatively flexible specification for the conditional correlation process that is still computationally feasible for estimation on larger portfolios. The estimation results point to an increase in the average correlation between country indexes during the last five years, but at the same time there is an important decline in the correlation between sector indexes. This trend is observed in both the euro area and the worldwide portfolios and is therefore not specific to the European integration process. At the same time, the volatility in the sector indexes has increased remarkably and in a relatively stronger way compared to the volatility in the country indexes. Both trends tend to cancel out in the calculations of optimal portfolio variance: lower sector correlation is offset by higher sector volatility and higher country correlation is neutralised by the relative lower volatility in country indexes. Therefore no clear trend appears from comparing the relative conditional variances of sector and country portfolios. After taking into account the effect of average returns, the author shows that country diversification is still the dominant strategy for world portfolios, whereas sector diversification is more interesting for euro area portfolios.

49. “How does liquidity react to stress periods in a limit order
market?”, by H. Beltran, A. Durré and P. Giot, Research series,
May 2004

The paper looks at the interplay of volatility and liquidity on the Euronext trading platform during the December 2, 2002 to April 30, 2003 time period. Using transaction and order book data for some large- and mid-cap Brussels-traded stocks on Euronext, the authors study the ex-ante liquidity vs volatility and ex-post liquidity vs volatility relationships to ascertain if the high volatility led to decreases in liquidity and large trading costs. They show that the provision of liquidity remains adequate when volatility increases, although they do find that it is more costly to trade and that the market dynamics is somewhat affected when volatility is high.

50. “Financial consolidation and liquidity: Prudential regulation
and/or competition policy?”, by P. Van Cayseele, Research
series, May 2004

A model of loan rate competition with liquidity provision by banks is used to study bank mergers. Both loan rate competition and liquidity needs are seen to be “localised” phenomena. This allows for tracing down the effects of particular types of bank mergers. As such, the author contrasts the effects of “revenue base enhancing” mergers with the effects of mergers “for market power”. The optimal post-merger loan rate and risk management decisions are derived. The fundamental trade-off between stability and efficiency is often present, indicating that the approval of bank mergers induces hard policy choices.

51. “Basel II and operational risk: Implications for risk measurement and management in the financial sector”, by A. Chapelle, Y. Crama, G. Hübner and J.-P. Peters, Research series, May 2004

This paper proposes a methodology to analyse the implications of the Advanced Measurement Approach (AMA) for the assessment of operational risks put forward by the Basel II Accord. The methodology relies on an integrated procedure for the construction of the distribution of aggregate losses, using internal and external loss data. It is illustrated on a 2x2 matrix of two selected business lines and two event types, drawn from a data base of 3000 losses obtained from a large European banking institution. For each cell, the method calibrates three truncated distribution functions for the body of internal data, the tail of internal data, and external data. When the dependence structure between aggregate losses and the non-linear adjustment of external data are explicitly taken into account, the regulatory capital computed with the AMA method proves to be substantially lower than with less sophisticated approaches allowed by the Basel II Accord, although the effect is not uniform for all business lines and event types. In a second phase, the models are used to estimate the effects of operational risk management actions on bank profitability, through a measure of the risk adjusted return on capital adapted to operational risks. The results suggest that substantial savings can be achieved through active management techniques, although the estimated effect of a reduction of the number, frequency or severity of operational losses crucially depends on the calibration of the aggregate loss distributions.

52. “The efficiency and stability of banks and markets”, by F. Allen, Research series, May 2004

Traditionally, financial systems have been bank-based or market-based. The efficiency properties of these systems are compared in various dimensions. These include risk-sharing, the provision of information, funding new industries, corporate governance, and law, finance and politics. Both systems have advantages and disadvantages. With regard to stability, both bank-based and market-based systems are subject to crises. In due time a financial system with financial intermediaries and markets would have many advantages and few disadvantages.

53. “Does financial liberalisation spur growth?”, by G. Bekaert, C.R. Harvey and C. Lundblad, Research series, May 2004

The authors show that equity market liberalisations, on average, result in a one-percent increase in annual real economic growth over a five-year period. The effect is robust to alternative definitions of liberalisation and does not reflect variation in the world business cycle. The effect also remains intact when liberalisation is instrumented with quality of institutions-variables that explain liberalisation but not growth and when a growth opportunity measure is included in the regression. Capital account liberalisation has a less robust effect on growth than equity market liberalisation has. Other simultaneous reforms only partially account for the effect. Finally, the authors examine why some countries respond to equity market liberalisation differently from others.

54. “Regulating financial conglomerates”, by X. Freixas, G. Lóránth, A.D. Morrison, H.S. Shin, Research series, May 2004

The authors analyse a model of financial intermediation in which intermediaries are subject to moral hazard and they do not invest in a socially optimal way, because they ignore the systemic costs of failure and, in the case of banks, because they fail to account for risks which are assumed by the deposit insurance fund. Capital adequacy requirements are designed to minimise the social costs of these effects. It is shown that banks should always have higher regulatory capital requirements than

insurance companies. Contrary to received wisdom when banks and insurance companies combine to form financial conglomerates, the authors show that it is socially optimal to separate their balance sheets. Moreover, the practice of “regulatory arbitrage”, or of transferring assets from one balance sheet to another, is enhancing welfare.

55. “Liquidity and financial market stability”, by M. O’Hara,
Research series, May 2004

Liquidity occupies a central importance for many areas of finance. But there are very disparate views of liquidity, and correspondingly many different policy implications attached to these views. In the paper, the author considers the many faces of liquidity and their implications for financial market stability. In particular, she focuses on the traditional economics view of liquidity as destabilizing and the more positive microstructure view of liquidity as a positive attribute for both traders and markets. she outlines the various policy prescriptions for market stability that arise from these disparate views, and how they relate to current market developments. She then considers a new view of liquidity deriving from the new research on uncertainty aversion, and she details what this approach implies for market stability. She concludes by summarizing the implications for public policy and central bank behavior toward liquidity.

Conventional signs

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

Abbreviations

BIS	Bank for International Settlements
BNRC	Belgian National Railway Company
CCE	Central Council for the Economy
EC	European Commission
ECB	European Central Bank
ESA	European System of Accounts
ESCB	European System of Central Banks
EU	European Union
FPS	Federal Public Service
GDP	Gross domestic product
HCF	High Council of Finance
HICP	Harmonised Index of Consumer Prices
HWWA	Hamburgisches Welt-Wirtschafts-Archiv
IMF	International Monetary Fund
ISM	Institute for Supply Management
LEA	Local Employment Agency

NAI	National Accounts Institute
NBB	National Bank of Belgium
NEMO	National Employment Office
NSI	National Statistical Institute
NSSO	National Social Security Office
OECD	Organisation for Economic Co-operation and Development
OPEC	Organisation of Petroleum Exporting Countries
SHLAF	Social Housing Loan Amortisation Fund
SME	Small and Medium-sized Enterprises
US	United States
VAT	Value added tax

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