

# Quarterly Newsletter of the Federal Planning Bureau

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*Short Term Update (STU) is the quarterly newsletter of the Belgian Federal Planning Bureau. It contains, in English, the main conclusions from the publications of the FPB, as well as information on new publications, together with an analysis of the most recent economic indicators.*

## HEADLINES BELGIAN ECONOMY

*During recent months it has become clear that the turning point in the business cycle has been passed both in the US and in the euro area. Attention has shifted since then to the question of how strong the recovery will be and what will be the forces driving it. A substantial improvement in the labour market situation is now the missing link to ensure a seamless transition from a more technical inventories-led upturn to a broader demand-led recovery and to avoid the risk of a double dip scenario, both in the US and in the euro area. As the labour market situation reacts to economic activity with a certain time lag, it is crucial that the business cycle upturn remains sufficiently strong to persuade entrepreneurs to increase their staff.*

*According to the FPB's leading indicator, the Belgian GDP cycle should only begin to climb in the second half of 2002. As a result, GDP should record an average annual increase this year which is almost identical to last year, i.e. 1.0%. Its composition and dynamics should, however, be quite different. The economic upturn should only have a positive impact on employment by the end of the year. The full positive impact of the economic recovery will become visible in 2003, with an expected GDP growth rate of 3.0%. In April 2002, national consumer price inflation fell below 2% (yoy) and it should stay below that level on average in 2002 and 2003.*

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FPB activities are primarily focused on macro-economic forecasting, analysing and assessing policies in the economic, social and environmental fields.



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All FPB publications, mentioned in this STU, can be obtained either by sending a fax (+32 2 5077373) or by filling in the necessary form on our Internet site (<http://www.plan.be>).

## Sectoral air pollution and eco-efficiency in Belgium

Within the Belgian Institute for the National Accounts the Federal Planning Bureau (FPB) has been assigned responsibility for the satellite accounts.<sup>1</sup> One of these accounts is the National Accounting Matrix including Environmental Accounts for air (NAMEA Air). The FPB has been working on the NAMEA Air for four years now, with the support of the European Commission (DG Environment), Eurostat, and the regional environmental administrations. This special topic aims to provide the reader with a concise overview of this work and a sense of the kind of results obtained thus far.

The NAMEA Air for Belgium (1994-1998) contains sectoral data on air pollution. These environmental data are combined with economic data in order to distinguish those sectors that are major air polluters because of the kind of activity they carry out from those that are major polluters because of their size, as well as to compare the performance of the different sectors in the field of eco-efficiency.

### Air pollution

We have investigated the percentage contribution of private consumption and production, both aggregated and disaggregated, considering four environmental themes. Two of these themes are related to the health of our planet. These are “the greenhouse effect”, which looks at the contribution to atmospheric warming, and “acidification” showing the potential for the formation of acid rain. The other two themes are directly related to human health. These are “photochemical pollution” showing the potential for tropospheric ozone formation and “carbon monoxide pollution”, the former mainly affecting the respiratory functions of the human body and the latter affecting cardiovascular health.

**Table 1 - Share of consumption and production in air polluting emissions**

Average 1994-98, in %.	Private consum.	Production
Greenhouse effect (CO <sub>2</sub> equivalents; CO <sub>2</sub> , N <sub>2</sub> O, CH <sub>4</sub> )	21.8	78.2
Acidification (potential acid equivalents; SO <sub>2</sub> , NO <sub>x</sub> , NH <sub>3</sub> )	13.2	86.8
Photochemical pollution (tonnes of NO <sub>x</sub> + NMVOC)	30.4	69.6
Carbon monoxide pollution (tonnes of CO)	38.7	61.3

Table 1 shows that the largest potential for emission reductions is situated on the production side of the economy. An important question in this respect is, of course:

what part of production? This is important because, depending on which environmental problem one wants to remedy, different industries will have to be targeted in order to achieve the greatest impact. The same is true when it comes to consumption categories. The greenhouse effect was mainly caused by the electricity, gas and water sector, together with household heating. Acidification was caused primarily by agriculture and the electricity, gas and water sector. Photochemical pollution was caused mainly by transport activities. Carbon monoxide pollution was chiefly accounted for by the basic metals sector and transport by households. For each of the environmental themes a large proportion of the emissions are thus produced by a limited set of industries and consumption categories.

**Table 2 - Percentage change in air polluting emissions**

1994-98	Private consumption.	Production	Total
Greenhouse effect	+8.9	+1.3	+2.8
Acidification	-6.3	-11.5	-10.8
Photochemical pollution	-5.3	-10.0	-8.6
Carbon monoxide pollution	+2.9	-18.4	-10.4

Table 2 shows the growth figures for air polluting emissions. Between 1994 and 1998 there has been a significant decrease in total acidifying, photochemical and carbon monoxide emissions, while for the greenhouse effect the opposite was true. The increase in greenhouse gas emissions was primarily due to increased emissions by private consumers. On the production side the increase in greenhouse gas emissions was limited to just over one percent, while emissions from private consumption have increased by almost nine percent. The decrease in acidifying emissions, photochemical pollution and carbon monoxide pollution was primarily due to production, though for the first two of these environmental themes emissions by private consumers also decreased. The evolution of emissions by the production side of the economy thus compares favourably to the evolution of emissions by private consumers in each case. Nevertheless table 1 showed that production was still responsible for the bulk of air pollution.

### Eco-efficiency levels

One important question is whether the different industries are such important polluters because they are large, or whether this is the case because they are engaged in a “dirty business”. In order to make this distinction, inverted relative eco-efficiency indicators have been calculated, relating each industry's share in the air pollution figure for all industries on each separate environmental theme (numerator) to that industry's

1. More information on the satellite accounts can be found in Planning Paper 90, a summary of which is presented furtheron in this issue.

share of total real value added (denominator). On the basis of these real value added ratios we were able to identify which industries were actually most pollutive per se. These sectors are the basic metals sector, the other non-metallic mineral products sector, the coke and refined petroleum products sector, the sewage and refuse disposal sector, the land transport sector and air transport.

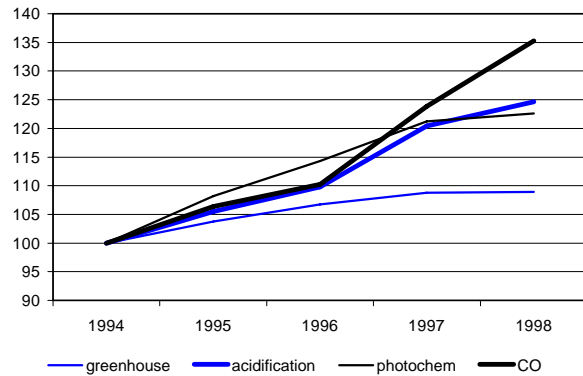
To calculate inverted eco-efficiency indicators for consumption categories, the share of each consumption category in air pollution by total private consumption for each separate environmental theme (numerator) was related to the share of that consumption category in total private consumption (denominator). On the basis of this ratio we have concluded that heating and transport were two very pollutive consumption categories. Not only did these two consumption categories account for considerable shares in the total amounts of pollution, but for all environmental themes their inverted eco-efficiency ratios were significantly larger than one. This means that for each of these themes transport and heating accounted for a higher share of air pollution than their share of consumption.

#### Evolution of eco-efficiency

We should keep in mind that the identification of certain industries and consumption categories as highly pollutive does not in itself entail any judgment about either the industries or the consumption categories. Such judgments could only be made on the basis of an international comparison. The goods they produce or the services they provide necessarily give rise to a larger amount of air pollution than in other industries or consumption categories. If the industries and consumption categories are to be compared and ranked on the basis of some sort of eco-efficiency criterion, we have to investigate the evolution of this eco-efficiency rather than the level. The percentage change in real value added minus the percentage change in emissions is equal to the percentage change in the eco-efficiency of production. If economic growth exceeds growth in emissions, the sector has become more eco-efficient, since it produces more value added per unit of pollution and vice versa.

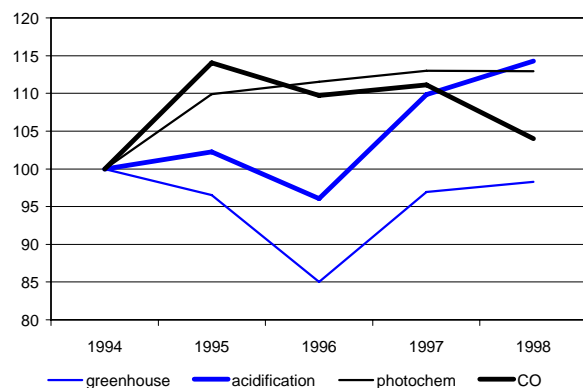
Graph 1 shows that between 1994 and 1998 eco-efficiency gains have been achieved for all four environmental themes. Eco-efficiency gains in the manufacturing sector have been considerably higher than in the services sector. The top three performers were the fabricated metal products sector, the pulp and paper sector and the leather and leather products sector. Four sectors were found to have registered important losses in eco-efficiency. These were the furniture sector, the wearing apparel sector, the rubber and plastic products sector and the water transport sector.

Graph 1 - Evolution of eco-efficiency of production



Have there been any gains in the eco-efficiency of private consumption? Earlier it was shown that the evolution of emissions into the air by private consumers compared unfavourably to the evolution in the case of production. But perhaps this was only due to a much greater increase in consumption. Graph 2 shows that private consumption has achieved gains for most environmental themes. These gains were, however, smaller than the ones registered for production. In the case of the greenhouse effect a loss in eco-efficiency was actually registered. The dip in eco-efficiency in 1996 with respect to greenhouse gas emissions and acidifying emissions was due to climatological circumstances. 1996 was an unusually cold year.

Graph 2 - Evolution of eco-efficiency of consumption



As a general conclusion we can state that with regard to air pollution considerable eco-efficiency gains have been achieved in Belgium both on the production and the consumption side of the economy. In the case of acidifying emissions, photochemical pollution and carbon monoxide pollution this has led to a marked decrease in emissions between 1994 and 1998. On the environmental theme of greenhouse gas emissions, however, the increase in production and consumption and the eco-efficiency losses in private consumption have caused these emissions to rise despite the eco-efficiency gains achieved in production.

## Economic forecasts 2002-2007

The FPB medium-term economic outlook for April 2002 covers the period from 2002 to 2007. Detailed analyses of macroeconomic, sectoral and labour market developments are presented. There is also detailed comment on the public finances results of the federal government, regions and communities, local authorities and social security departments. A special chapter is devoted to the evolution of energy consumption and greenhouse gas emissions. The baseline is an unchanged policy scenario, notably with regard to fiscal and social policies. Based on this scenario, the financing capacity of the General Government is slightly negative in 2002 and 2003 and positive from 2005 onwards, with a maximum of 0.6% of GDP in 2007. This result means that the objective of a financing capacity of 0.7% of GDP in 2005 (as set out in the Stability Program) would not be reached.

Based on forecasts from international organizations, the outlook for Europe suggests that, after growth of only 1.5% in 2002, the rate of European GDP expansion will stabilize at around 2.7% per year during the period 2003-2007. Economic growth will be stimulated by favourable economic fundamentals and also by the stabilization of world growth. Moreover, a slight and limited recovery in nominal interest rates is considered. This moderate increase of interest rates would be in line with a reduction of public deficits in the euro area and with inflation remaining under control.

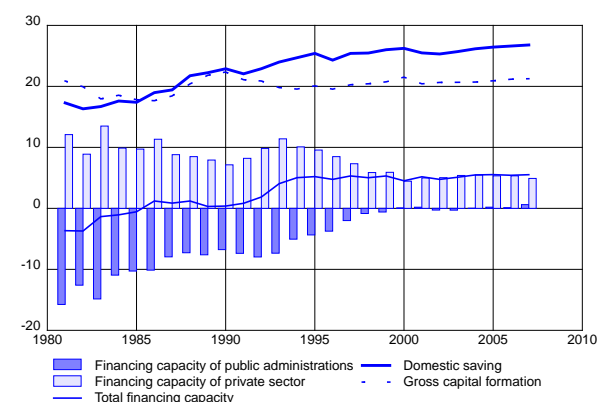
The baseline forecast indicates that, after a slowdown in 2001 and 2002, Belgian GDP growth should attain an average of 2.6% for the period 2003-2007. This development can be largely accounted for by domestic demand. The role of exports is expected to be more limited.

After moderate growth in 2002, the evolution of private consumption should be rather dynamic during the 2003-2007 period, particularly thanks to the development in households' disposable income (stimulated especially by major fiscal reforms). Gross fixed capital formation should also increase rather rapidly during the period of the forecast, reflecting the increase in business investment. Exports' growth is expected to be low in 2002 (1.4%), due to the unfavourable international context and a decreasing export market share. Afterwards, exports' growth should not exceed 5.3% on average: the loss in export market share should be confirmed and the contribution of net exports to GDP growth should decline. Nevertheless, the external surplus should reach 5.7% of GDP in 2007. The level of external surplus also reflects abundant domestic savings, against the background of the increasing public financing capacity.

Limited wage increases (compatible with productivity gains), cuts in social security contributions and the ex-

tension of production capacity are the main domestic factors behind an inflation rate that will remain below 2% in the medium term. The absence of shocks on commodity prices during the forecasting period will also moderate the inflation.

**Graph 1 - Financing capacities, domestic saving and capital formation (% of GDP)**



Employment figures should show a gradual improvement: after stagnating in 2002, about 36,000 jobs should be created every year during the 2003-2007 period (as compared with 42,000 jobs created on average during the 1996-2001 period). This result can be explained by the following factors:

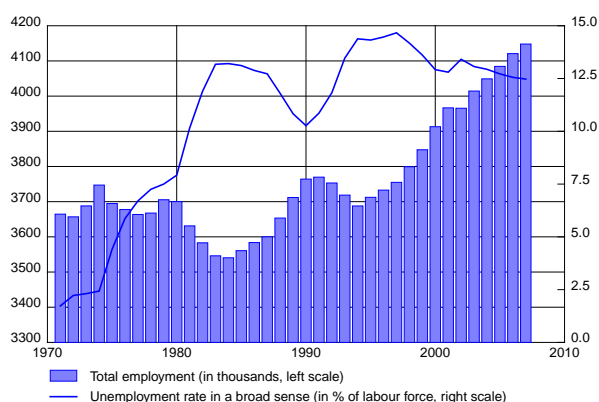
- the favourable macroeconomic context, with GDP growth recovering from 1% in 2002 to 3% in 2003 and 2.6% on average afterwards;
- limited wage increases (introduced as a hypothesis within the framework of the 1996 law on the promotion of employment and on the safeguarding of competitiveness) should be backed by measures aiming at an expansion of the labour force, cuts in social security contributions and fiscal reform; the nominal increase in unit labour costs will not exceed 1.6% per year on average over the period 2002-2007;
- the various measures taken in favour of employment (mainly activation and insertion programs).

The decline in industrial employment should continue, with the number of jobs lost in manufacturing industry attaining 19,000 during 2002-2007. The number of jobs created in market services should exceed 200,000, bringing the share of employment in market services to more than 56% of total employment (42% in 1980).

The population of working age will increase considerably (by 165,000 persons) during the 2002-2007 period, mainly because the sparsely populated generations that were born during the second world war will be leaving the population of working age. Consequently the employment rate will rise less rapidly (from 59,6% in 2001 to 60,9% in 2007) than in recent years. The overall activity rate (in a broad sense) is influenced favourably by

the increase in female participation rates, but suffers from adverse demographic changes within the population of working age. On the whole, its increase is rather modest (from 68.4% in 2001 to 69.4% in 2007).

**Graph 2 - Employment and unemployment**



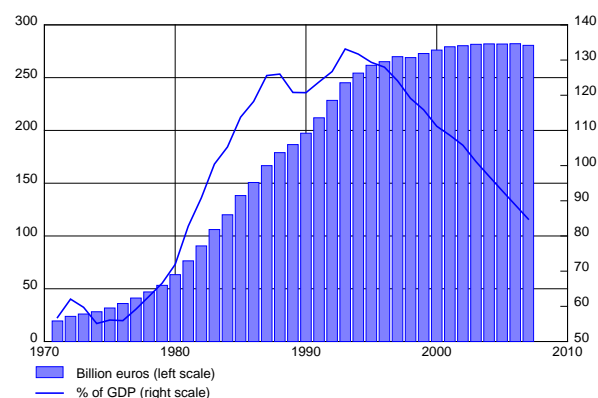
Since the increase in the labour force will absorb the growth in employment, the unemployment rate in a broad sense will only decrease from 12.8% in 2001 to 12.2% in 2007. The ageing of the labour force will boost the share of older unemployed people. However, due to the implementation of recent policy measures that make early retirement from the labour market more difficult, an increasing proportion of unemployed people aged 50 and over will be required to remain available for the labour market. As a result, the number of early retirements will no longer increase and the official unemployment rate (excluding older unemployed people who are no longer required to actively search for a job) will decline at nearly the same rate as the broad unemployment rate (from 9.7% in 2001 to 9.4% in 2007).

Assuming an unchanged policy but taking the recently decided measures into account, public expenditure is forecast to grow more slowly than GDP. Due to the further reduction of social security contributions and the introduction of an important fiscal reform, global fiscal

pressure should also decrease until 2006. The financing capacity of public administrations should become positive from 2005 onwards, thanks to the reduction of interest charges (1.6% of GDP during the forecast) and despite a substantial deterioration in the primary surplus. With an unchanged policy, the objective of a financing capacity equal to 0.7% of GDP in 2005 (mentioned in the Stability Program) is not expected to be reached.

Entity I (Federal authorities and social security) should attract the main part of the financing capacity improvement after 2004 (despite the reduction of its primary surplus), but will show a significant deficit from 2001 to 2004. Entity II (Communities, Regions and Local authorities) should maintain a positive financing capacity throughout the whole forecasting period.

**Graph 3 - Total public debt**



The total public debt to GDP ratio should continue its decline, with a decrease of about 24% between 2001 and 2007. Even in nominal terms, the amount of debt should begin to fall from 2004 onwards.

*Perspectives économiques 2002-2007,  
Bureau fédéral du Plan, avril 2002.  
Economische vooruitzichten 2002-2007,  
Federaal Planbureau, april 2002*

**Table 1 - Key figures for the medium term economic outlook (period averages- changes in volume unless otherwise stated)**

	1991-1995	1996-2001	2002-2007
Potential export market	5.7	6.9	5.2
Private consumption	1.6	2.3	2.1
Public consumption	1.5	2.0	1.5
Gross fixed capital formation	-0.4	3.1	2.6
Stock building (contribution to GDP growth)	0.1	-0.2	0.1
Final internal demand	1.2	2.2	2.2
Exports	3.8	4.9	4.6
Imports	3.4	4.7	4.7
Net exports (contribution to GDP growth)	0.4	0.4	0.2
GDP	1.6	2.5	2.3
Private consumption prices	2.4	1.8	1.9
Real disposable income households	2.1	1.2	2.2
Domestic Employment (annual changes in '000)	-10.4	42.4	30.2
Unemployment rate (level, in percent of labour force, end of period)			
including older unemployed people	14.3	12.8	12.2
excluding older unemployed people	12.9	9.7	9.4
Current account balance (% of GDP, end of period)	5.3	5.2	5.7
General Government financing capacity (% of GDP, end of period)	-4.4	0.2	0.6

## Economic forecasts for Belgium by the Federal Planning Bureau

Changes in volume (unless otherwise specified) (data in ESA-95)[1]

	2000	2001	2002	2003
Private consumption	3.8	1.7	0.9	2.8
Public consumption	2.5	2.0	1.2	1.7
Gross fixed capital formation	2.6	0.4	0.3	3.2
Final national demand	3.8	0.4	1.3	2.7
Exports of goods and services	9.7	-0.3	1.4	5.5
Imports of goods and services	9.7	-1.0	1.8	5.2
Net-exports (contribution to growth)	0.4	0.6	-0.3	0.5
Gross Domestic Product	4.0	1.0	1.0	3.0
p.m. Gross Domestic Product - in current prices (bn euro)	248.34	257.07	264.95	278.43
National consumer price index	2.5	2.5	1.7	1.6
Consumer prices: health index	1.9	2.7	1.8	1.6
Real disposable income households	2.0	1.6	1.6	2.9
Household savings ratio (as % of disposable income)	14.7	14.6	15.2	15.4
Domestic employment (change in '000, 30th June)	65.5	53.6	-1.1	48.9
Unemployment (Eurostat standardised rate, yearly average) [2]	6.9	6.6	6.9	6.7
Current account balance (BoP definition, as % of GDP)	4.5	4.7	4.3	4.6
General government balance (as % of GDP)	0.1	0.2	-0.3	-0.3
Short term interbank interest rate (3 m.)	4.4	4.2	3.7	4.5
Long term interest rate (10 y.)	5.6	5.1	5.4	5.6

[1] Forecasts finalised in early April, before publication of National Accounts 2001

[2] Other unemployment definitions can be found on page 14

## Economic forecasts for Belgium by different institutions

	GDP-growth		Inflation		Government balance		Date of update
	2002	2003	2002	2003	2002	2003	
Federal Planning Bureau	1.0	3.0	1.7	1.6	-0.3	-0.3	4/02
INR/ICN	0.9	.	1.6	.	.	.	2/02
National Bank of Belgium	.	.	.	.	.	.	.
European Commission	1.1	2.8	1.7	1.7	-0.2	0.2	4/02
OECD	1.1	2.7	1.8	2.0	0.0	0.0	4/02
IMF	0.9	3.2	1.1	1.2	-0.3	0.1	4/02
BBL	1.4	3.0	1.7	1.7	0.0	0.5	5/02
Fortis Bank	1.0	2.4	1.7	1.5	-0.3	0.0	5/02
Dexia	1.2	2.8	1.8	1.8	.	.	4/02
KBC Bank	1.5	2.9	1.1	0.9	0.2	0.6	3/02
Morgan Stanley	1.2	3.5	1.9	1.7	-0.1	0.3	5/02
Petercam	0.8	2.8	1.6	1.6	-0.3	0.0	5/02
IRES	1.0	.	1.4	.	-0.2	.	4/02
DULBEA	1.0	2.5	1.75	2.0	0.0	-0.1	4/02
Consensus Belgian Prime News	1.2	.	1.4	.	-0.1	.	3/02
Consensus The Economist	1.4	3.1	1.9	1.7	.	.	5/02
Consensus Wirtschaftsinstitute	1.2	2.9	2.0	1.8	0.0	0.3	4/02
<b>Averages</b>							
All institutions	1.1	2.9	1.6	1.6	-0.1	0.1	
International public institutions	1.0	2.9	1.5	1.6	-0.2	0.1	
Credit institutions	1.2	2.9	1.6	1.5	-0.1	0.3	

Collaborating institutions for The Economist: ABN Amro, Deutsche Bank, EIU, Goldman Sachs, HSBC Securities, KBC Bank, Merrill Lynch, J.P. Morgan, Morgan Stanley, Nordbanken, Primark Decision Economics, Royal Bank of Canada, Salomon Smith Barney, Scotiabank, Shinsei Bank, UBS Warburg, Wirtschaftsinstitute: DIW (Berlin), Ifo (München), HWWA (Hamburg), IfW (Kiel), IWH (Halle), RWI (Essen)

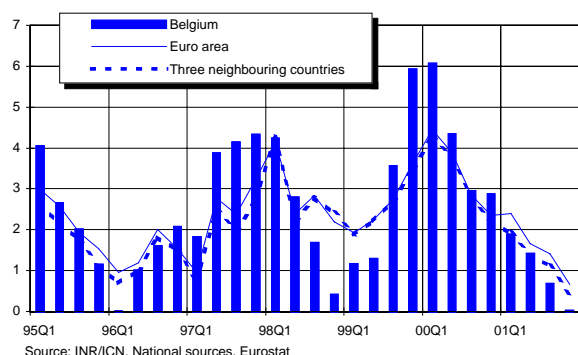
General economic activity

**Table 1 - GDP: change compared to the same period in the previous year, in %**

			YoY growth rates, in %					QoQ growth rates, in %				
	00	01	01Q1	01Q2	01Q3	01Q4	02Q1	01Q1	01Q2	01Q3	01Q4	02Q1
Germany	3.0	0.6	1.4	0.6	0.4	-0.1	.	0.4	0.0	-0.2	-0.3	.
France	3.4	2.1	2.8	2.3	2.1	1.1	.	0.4	0.0	0.5	-0.3	.
Netherlands	3.5	1.1	1.5	1.6	1.0	0.4	.	0.0	0.3	0.0	0.0	.
Belgium	4.0	1.0	1.9	1.4	0.7	0.0	.	0.1	-0.4	0.1	-0.4	.
Euro area	3.4	1.5	2.4	1.7	1.4	0.7	.	0.5	0.1	0.2	-0.2	.
United States	4.1	1.2	2.5	1.2	0.5	0.5	1.6	0.3	0.1	-0.3	0.4	1.4
Japan	2.4	-0.5	1.2	-0.4	-0.5	-2.3	.	1.0	-1.2	-0.5	-1.2	.

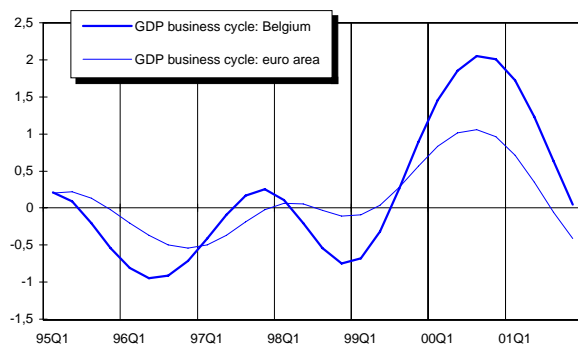
Source: INR/ICN, National sources, Eurostat

**Graph 1 - GDP-growth (t/t-4), in %**



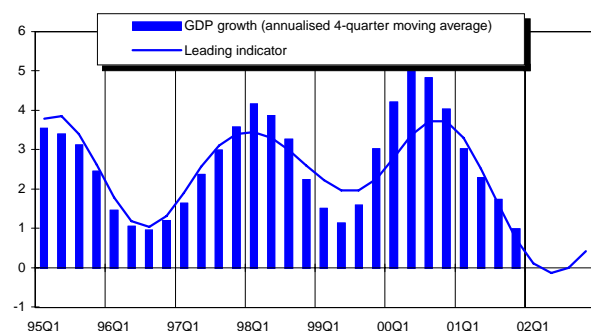
Source: INR/ICN, National sources, Eurostat

**Graph 2 - GDP business cycle**



Source: INR/ICN, Eurostat, FPB

**Graph 3 - GDP growth and leading indicator**



Source: INR/ICN, FPB

In recent months it has become clear that the turning point in the business cycle has been passed both in the US and in the euro area. A number of soft indicators (e.g. business and consumer survey results) began to rise at the turn of last year. During the first few months of 2002 hard data also showed cautious signs of improvement. The main question is no longer when the recovery will start, but attention has shifted to the question of how strong it will be and what will be the driving forces behind it. Both in the US and in the euro area the answer depends heavily on the transition from a more technical inventories-led upturn to a broader demand-led recovery.

Graph 2 shows that the traditional lead of the Belgian GDP cycle vis-à-vis the euro zone was not observed at the beginning of the present business cycle downturn (2000Q3). According to the positive turn of industrial confidence at the end of 2001 (graph 6), the Belgian cycle is also not expected to lead the euro zone very much in the present upturn. As was also the case in the first few months of the 1996 and 1999 recoveries, the Belgian industrial confidence indicator has already made up the ground that it lost against the euro area industrial confidence indicator during the past downturn.

It is clear that the US economy has so far been leading the recovery. Contrary to all expectations, the US GDP saw a positive growth rate in the fourth quarter of last year (0.4% qoq). In the first quarter of this year, GDP again rose at a surprisingly high rate (1.4% qoq according to the first estimate). Not only the high figure, but also some features concerning the composition of the growth were pleasant surprises: the more balanced growth in consumption (mainly of non-durables and services), the jump in exports and the positive growth rate of high-tech spending.

In the euro area, most observers expect GDP to pick up slowly in the first quarter (consensus forecasts are within a range of 0.25-0.5% qoq), after the decrease of real GDP (-0.2% qoq) in the fourth quarter of last year.



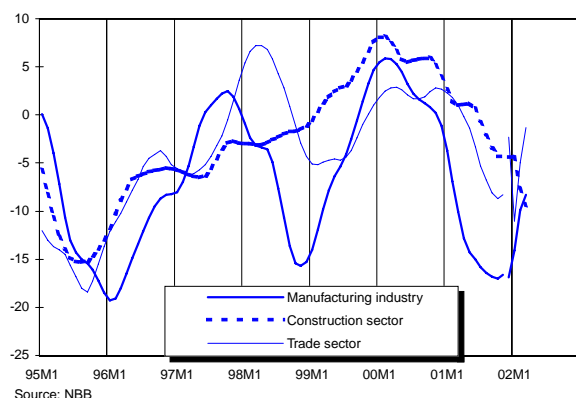
**Table 2 - Monthly business surveys [1]**

	00	01	01Q2	01Q3	01Q4	02Q1	01M10	01M11	01M12	02M1	02M2	02M3
Synthetic indicator	3.8	-10.5	-10.7	-13.3	-14.2	-9.5	-14.6	-15.1	-12.8	-12.2	-8.8	-7.4
Manufacturing industry	3.5	-14.1	-15.5	-16.8	-17.6	-10.8	-17.0	-19.0	-16.9	-14.1	-9.9	-8.3
Construction sector	6.5	-1.5	0.8	-2.6	-4.1	-7.2	-4.3	-3.7	-4.4	-4.4	-7.7	-9.4
Trade sector	2.7	-2.9	0.1	-7.7	-8.1	-5.8	-13.8	-8.3	-2.3	-11.0	-5.0	-1.3

[1] Qualitative data

Source: NBB, FPB

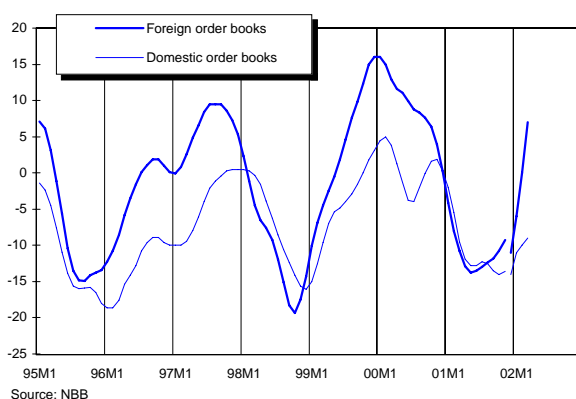
**Graph 4 - Business cycle: sectoral evolution**



With negative qoq growth rates from the second to the fourth quarter and for the year 2001 as a whole, Japan is going through its third recession in a decade. Certain figures recently indicated that the downturn is probably bottoming out. Exports and industrial production seem to be starting to benefit from the recovery of international demand and the weakened yen.

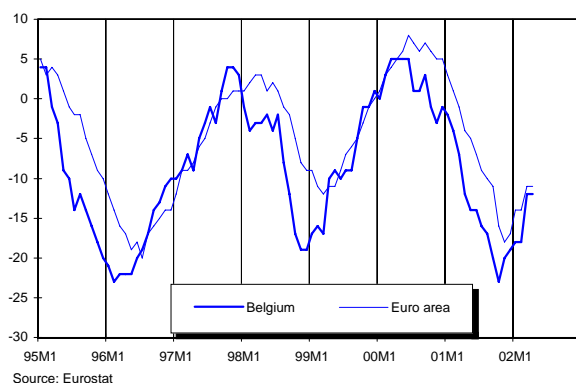
US GDP growth forecasts for 2002 as a whole published recently by international institutions are in the range between 2.3-2.7%. This implies qoq growth rates for the remaining quarters of the year between 0.5-0.75%, which are clearly lower than the growth rate in the first quarter.

**Graph 5 - Manufacturing industry: order books**



In fact, the high figures seen in the first quarter were supported by some temporary factors which are unlikely to recur during the coming months. Moreover, data released recently points to a less buoyant upturn than has been seen so far, which confirms the current consensus view of an overall moderate recovery for 2002 as a whole. Both ISM manufacturing and non-manufacturing indices fell more than expected in April. Nevertheless they remained above the 50 level, indicating that the manufacturing and the services sector are still expanding, but with less momentum. The unemployment rate, which has been on an upward path since the final months of 2000, climbed further to an unexpected level of 6% in April, which is the highest level since August 1994. Employment rose for the first time in twelve months, but the rise was insufficient to absorb the increase in the labour force resulting from the fact that signs of recovery attract more people into the labour market.

**Graph 6 - Industrial confidence: international comparison**



A substantial improvement in the labour market situation is today the missing link to ensure a sustainable recovery and to avoid the risk of a double dip scenario, both in the US and in the euro area. As the labour market situation reacts with a certain time lag to economic activity, it is crucial that the business cycle upturn should remain sufficiently strong to persuade entrepreneurs to increase their staff. Due to the current lack of any pronounced improvement in the labour market, the rise in energy prices and the fainting stock markets during recent weeks, consumer confidence has weakened somewhat in April, both in the euro area and in the US.

## Private consumption

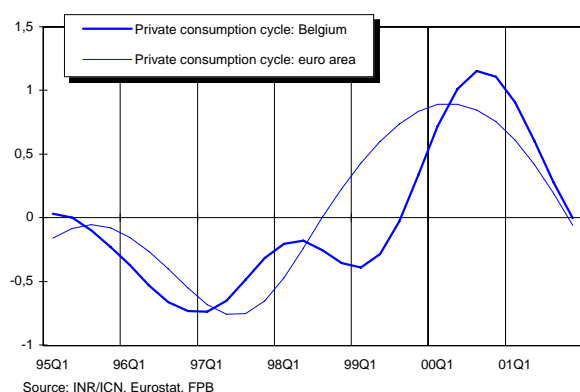
**Table 3 - Private consumption indicators**

	00	01	01Q2	01Q3	01Q4	02Q1	01M11	01M12	02M1	02M2	02M3	02M4
Turnover (VAT) - retail trade [1]	8.9	4.5	7.2	5.3	-0.7	.	1.2	-6.0	.	.	.	.
New car registrations [1]	5.2	-5.1	-7.6	5.1	4.8	5.4	2.5	5.0	-2.6	15.1	5.8	15.0
Consumer confidence indicator [2]	13.5	0.6	5.0	1.0	-13.3	-3.0	-18.0	-9.0	-6.0	-3.0	0.0	-2.0

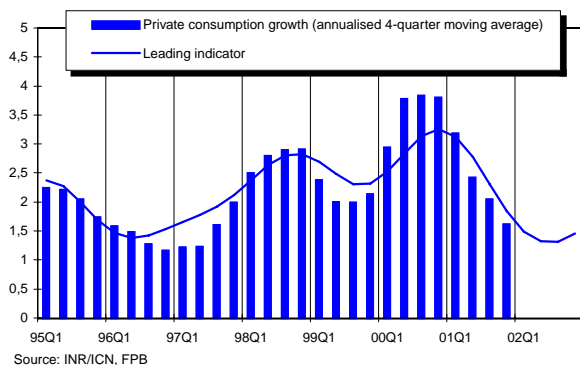
[1] Change (%) compared to same period previous year; [2] Qualitative data

Source: NIS/INS, Eurostat, Febiac, FPB

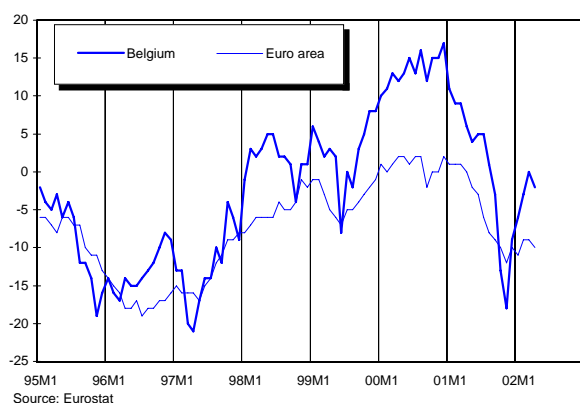
**Graph 7 - Private consumption cycle**



**Graph 8 - Private consumption growth and leading indicator**



**Graph 9 - Consumer confidence: international comparison**



Private consumption has returned to its trend level at the end of 2001 after having been above this trend level since mid-1999. A peak in the cycle had been reached in the third quarter of 2000, marking the beginning of a declining phase of the cycle. The private consumption cycle is still on the downturn and there is no real sign of it bottoming out, which implies that private consumption should be below its trend level for the next few quarters.

In 2001, private consumption has been growing by 1.6% as shown on graph 8 by the bar for the fourth quarter of 2001 of the moving average of private consumption growth. It has been the only real driving force behind GDP growth in 2001 owing to a sustained expansion of disposable income, i.e. household purchasing power. Indeed, pay rises negotiated before the downturn, continuing job creation, a favourable evolution of inflation in the second half of the year and indexation rates in excess of CPI inflation have all contributed to sustained growth in real disposable income in 2001, thereby cushioning the shock to private consumption.

In 2002, private consumption is expected to grow by only 0.9% as employment growth should be slightly negative and the household savings rate should rise. But the leading indicator for household consumption growth indicates a turning point in the third quarter of this year after which growth rates should increase again.

Several short-term indicators confirm this trend, i.e. a less gloomy outlook but no immediate improvement. The latest figures for turnover in retail trade are not very good. There has been a marked yoy decline in December 2001 of 6.0%. News from the car market, on the other hand, is more encouraging. This is due to the bi-annual motor show held in Brussels in January, which has given a “seasonal” boost to new car registrations. These did indeed rise fast in February and April as compared to last year, but the rise was not as strong as after the last motor show in 2000. Finally, with regard to “soft indicators”, consumer confidence has receded a little in April after a strong upturn since last November.

## Business investment

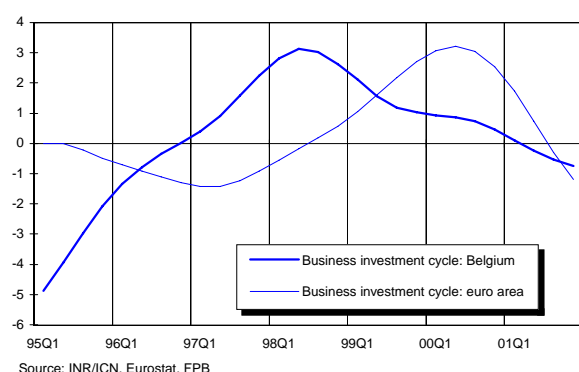
**Table 4 - Business investment indicators**

	00	01	02	01Q2	01Q3	01Q4	02Q1	01M8	01M9	01M10	01M11	01M12
Investment (VAT) [1]												
Industrial companies	3.3	-0.4	.	-0.7	2.3	-4.2	.	8.2	-11.4	-5.8	-1.3	-4.9
Non-industrial companies	8.5	5.1	.	3.6	3.4	6.8	.	0.0	5.0	2.5	25.8	-2.8
Total companies	6.6	3.1	.	2.2	3.0	2.8	.	3.1	-1.7	-0.3	15.9	-3.4
Investment survey [1]	2.8	1.2	0.5									
Capacity utilisation rate (s.a.) (%)	84.5	80.7	.	81.2	80.1	79.1	79.8					

[1] Change (%) compared to same period previous year

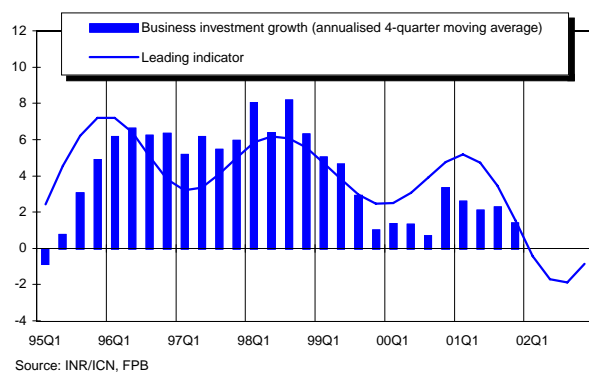
Source: NIS/INS, NBB, FPB

**Graph 10 - Business investment cycle**



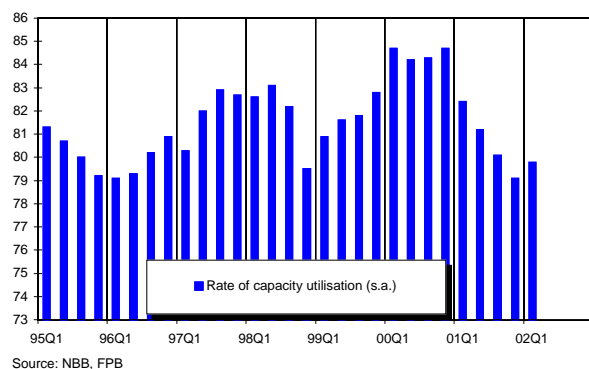
The Belgian business investment cycle experienced a weak degree of synchronisation with the euro area investment cycle in the second half of the nineties. Clearly the business investment cycle in Belgium showed no signs of weakening during the global downturn in 1995, but reached a peak much earlier than its euro area counterpart (mid-1998 in comparison with mid-2000). Since then it has declined and business investment fell below trend last year with a modest growth rate of 1.4%. The investment rate at constant prices (real business investment as a percentage of real GDP) fell from 14.3% in 1998 to 14.0% during the last three years.

**Graph 11 - Business investment growth and leading indicator**



The deterioration of the business investment cycle is clearly visible in the quarterly profile of the moving average growth rates, which were particularly low in 2000 and still very weak in 2001. According to VAT statistics, investment by industrial companies, which usually shows a more volatile pattern than that of non-industrial companies, even recorded a somewhat negative growth rate in 2001 (-0.4% at current prices).

**Graph 12 - Capacity utilisation in manufacturing industry**

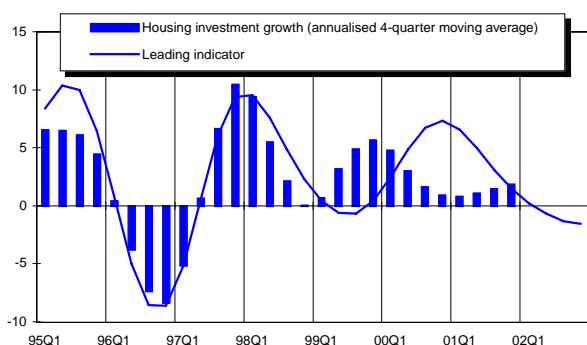


The leading indicator for business investment fell sharply during the course of last year and no improvement seems to be expected before the second half of 2002. According to our forecasts, business investment at constant prices should grow on average at a moderate rate of 0.6% this year. This poor performance is, of course, partly due to the evolution of general economic activity but it is also influenced by the falling business profitability recorded during the last couple of years.

The deterioration in the business investment climate during the course of 2001 was also visible in the downward movement in the rate of capacity utilisation in the manufacturing sector. From an average level of 84.5% in 2000, it dropped to 79.1% during the last quarter of 2001, which is the lowest level for the last six years. The slight increase in the first quarter of this year (+0.7 percentage points) gives a glimmer of hope and points in the same direction as the leading indicator, i.e. that an upswing of business investment could be seen before the end of the year.

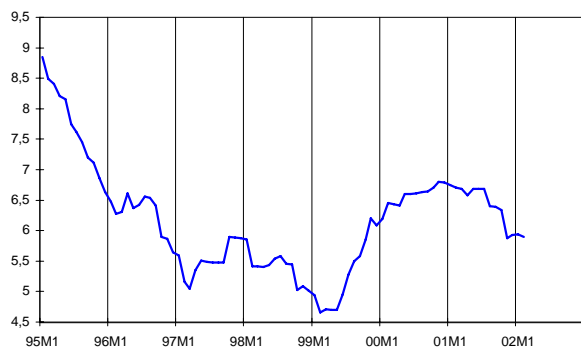
## Housing investment

**Graph 13 - Housing investment growth and leading indicator**



Source: INR/ICN, NBB, FPB

**Graph 14 - Mortgage rate (in%)**



Source: NBB

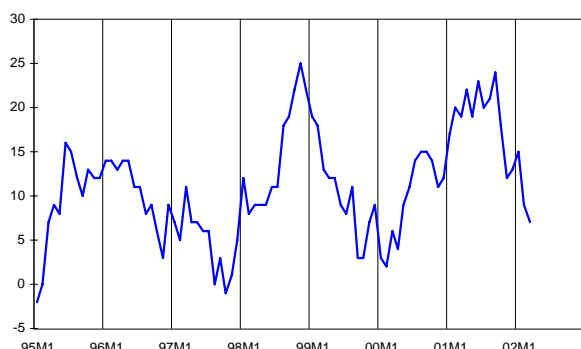
According to the recently released and revised quarterly national accounts until the fourth quarter of 2001, housing investment weakened during the course of 2000 and remained gloomy in 2001, resulting in rather low annual growth rates of 1.1% in 2000 and 1.8% in 2001. This means that investment in housing has followed a cyclical pattern similar to the GDP cycle, which started on a downturn in the second half of 2000.

From 1999 onwards, we observe a discrepancy between housing investment growth according to the national accounts and the FPB's leading indicator. The latter reflects a number of indicators, including surveys of architects. Based on the leading indicator, we can expect a bottoming out of the housing investment downturn during the next few quarters.

Given the observed discrepancy, however, the timing of this turning-point is surrounded with a lot of uncertainty. As the housing investment cycle is traditionally somewhat behind the global business cycle, we do not expect it to recover much before the end of 2002. A substantial recovery in housing investment should not take place before a clear improvement in the labour market situation appears. From the financial side, there should not be much of an impulse either, since long-term interest rates (and hence mortgage rates) are not expected to fall further in the course of 2002.

## Stock building

**Graph 15 - Appreciation of stocks**



Source: NBB

Both the yoy and the qoq contribution of stock building towards economic growth was negative from the last quarter of 2000 until the third quarter of 2001. This means that the slowdown in the business cycle that began in the final months of 2000 was partly fed by substantial destocking by firms, as was also the case in other European countries. In the fourth quarter of last year, destocking came to an end, resulting in a positive contribution from stock building both yoy and qoq. Over the whole of 2001, however, stock building made a large negative contribution of -0.6% to Belgian GDP growth.

Looking at graph 15 it seems clear that the number of entrepreneurs who consider their stocks to be excessive continued to fall during the last few months, after a pause at the beginning of 2002. This leads to the conclusion that the present recovery, certainly in its early stage, is to a certain extent inventory-led.

## Foreign Trade

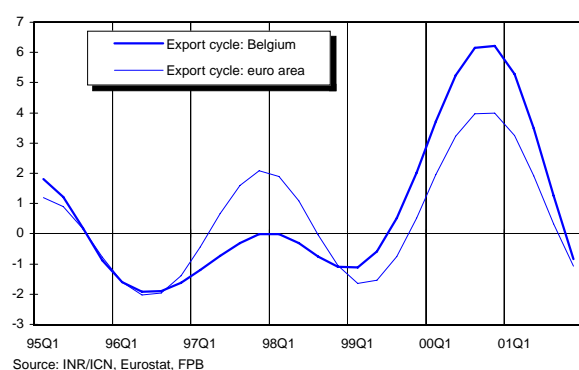
**Table 5 - Belgium - Trade statistics (goods, intra/extrastat)**

	00	01	01Q1	01Q2	01Q3	01Q4	01M8	01M9	01M10	01M11	01M12	02M1
Exports - value [1]	21.3	3.5	11.7	5.9	1.3	-4.1	3.6	-6.2	-3.5	-4.4	-4.5	4.0
Imports - value [1]	24.3	3.3	13.1	7.9	-0.9	-5.6	-3.3	-5.2	-4.9	-11.0	-0.5	1.7
Exports - volume [1]	10.4	1.6	6.2	1.1	0.5	-1.4	2.7	-4.7	-0.5	-2.1	-1.8	4.1
Imports - volume [1]	10.4	1.0	5.7	1.6	-2.9	-0.6	-4.9	-4.4	-0.7	-5.6	4.8	5.0
Exports - price [1]	9.9	2.0	5.2	4.8	0.9	-2.7	0.8	-1.6	-3.0	-2.3	-2.8	-0.1
Imports - price [1]	12.6	2.5	7.1	6.2	2.1	-5.0	1.8	-0.8	-4.3	-5.8	-5.0	-3.1

[1] Change (%) compared to same period previous year

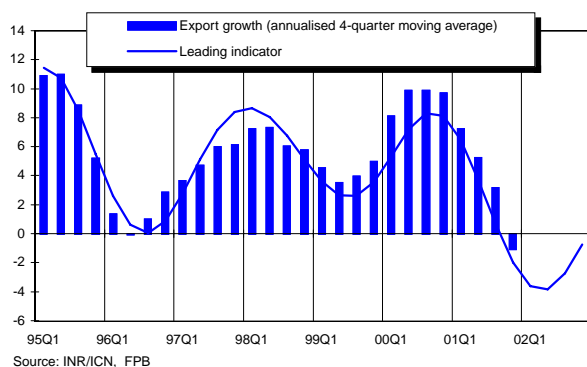
Source: INR/ICN, FPB

**Graph 16 - Export cycle**



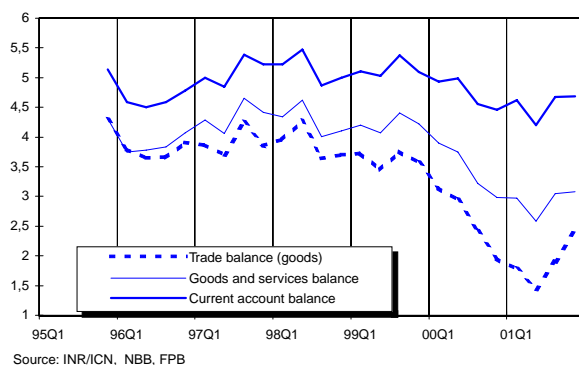
The graph of the export cycle shows that exports have been above their trend level for both Belgium and the euro area since mid-1999. The high level of synchronisation of the export cycles for Belgium and the euro area is noteworthy. Both export cycles peaked in the fourth quarter of 2000 and have been on a steep downward trend since then. Exports were already below trend at the end of 2001 in both Belgium and the euro area. A turnaround can, however, be expected for this year.

**Graph 17 - Export growth and leading indicator**



The steep downturn in the export cycle of the Belgian economy is also reflected in the moving average growth rates on graph 17, which have plummeted during the course of 2001. Export growth has followed the decline in Belgian export markets very closely throughout last year. These have indeed not been spared by the sharp fall in world trade volume and have been shrinking on a yoy basis in 2001. On annual average, export growth was also negative (-1.0%) last year after a very strong expansion (9.7%) in 2000. An improvement is expected for this year. The leading indicator for export growth actually shows a turning point in the second quarter. Belgian export markets are expected to pick up strongly by the end of the year as world trade gathers momentum.

**Graph 18 - Belgium foreign balances (4 quarters cumul,% of GDP)**



Import growth fell even more dramatically than export growth in 2001 due to the slowdown in final (both internal and external) demand. The yoy growth rate of import volumes for the third quarter was already negative. On annual average, a marked expansion of almost 10% in 2000 has given way to a decrease by 1.4% last year. Consequently the contribution of net exports to GDP growth has remained slightly positive in 2001.

In 2001, Belgium's terms of trade have deteriorated slightly after strong losses in 1999 and 2000. Moreover, the recent oil price hike could induce a further deterioration of the terms of trade. Despite the deterioration of the terms of trade the current account surplus increased from 4.5% in 2000 to 4.7% in 2001.

## Labour market

**Table 6 - Labour market indicators**

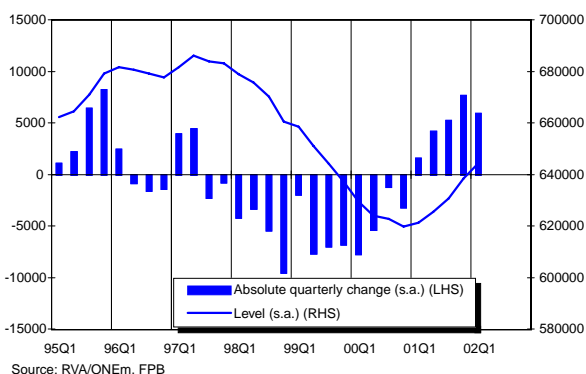
	00	01	01Q2	01Q3	01Q4	02Q1	01M11	01M12	02M1	02M2	02M3	02M4
Unemployment (excl. older) [1]	474.4	469.7	436.8	502.2	481.6	473.7	471.0	471.1	476.0	474.6	470.4	461.3
Unemployment (incl. older) [1]	624.1	629.1	595.6	662.4	643.3	637.3	632.8	633.0	638.7	638.1	635.1	627.9
Unemployment rate-FMTA/MfET[2]	10.8	10.7	10.0	11.5	11.0	10.8	10.8	10.8	10.9	10.8	10.8	10.5
Unemployment rate-Eurostat [3]	6.9	6.6	6.6	6.5	6.7	6.8	6.7	6.7	6.7	6.8	6.8	.

[1] Level in thousands; [2] In % of labour force of June 1999, not seasonally adjusted

[3] Seasonally adjusted, in % of labour force (Eurostat standard); recent figures of unemployment rate are based on administrative data and can be revised

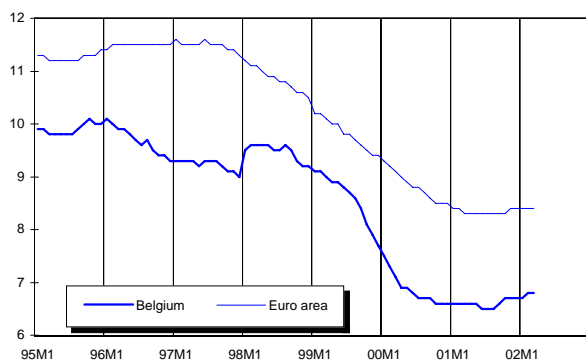
Source: RVA/ONEm, FMTA/MfET, Eurostat, FPB

**Graph 19 - Evolution of unemployment (incl. older)**



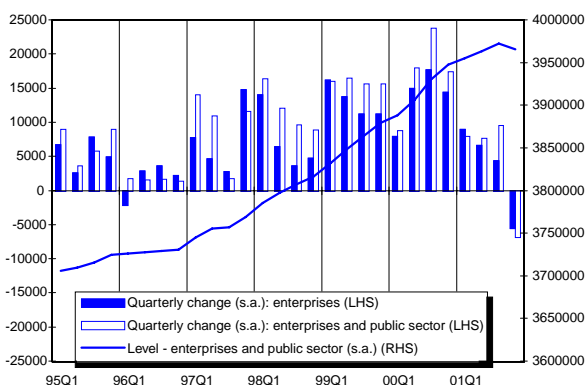
Source: RVA/ONEm, FPB

**Graph 20 - Harmonised unemployment rates (% of labour force)**



Source: Eurostat

**Graph 21 - Evolution of domestic employment**



Source: INR/ICN, FPB

Broad unemployment soared by another 6000 persons on average during the first quarter of the current year. Encouraging unemployment figures for April do, however, suggest that (in seasonally adjusted terms) we may be on the brink of a turning-point in the official unemployment evolution. This turning-point seems to have been reached somewhat more rapidly in the Flanders region, whereas during the second half of last year - in the wake of the economic downturn - unemployment had been increasing considerably more in Flanders than in the rest of the country, even allowing for the impact of region-specific administrative changes in the way unemployed people are registered. At the same time it is worrying that the increase in the number of "older unemployed people retiring from the labour market" again seems to be accelerating somewhat, according to the latest figures. Typically, this category reacts to an economic downturn with a considerable lag, because it depends on new entries into unemployment (of people aged 49 or over) that occurred one year ago. Moreover, the announcement of new measures that will soon make access to early retirement via this system more difficult, may also be contributing to a temporary boost in the proportion of older unemployed people who are 'opting out' of the labour market while it is still possible.

Private sector job creation decelerated gradually during the first three quarters of last year (0.2% quarter-on-quarter growth on average), but - given the unemployment information - may be conjectured to have turned negative during the last quarter of last year and the first quarter of the current year. Quarter-on-quarter employment growth in agriculture and manufacturing had already been negative throughout 2001. Towards the end of last year growth figures for employment also turned negative or weakened drastically in construction and market services, with the sole exception of community, social and personal services. Although growth in value added is expected to have picked up again from the first quarter of this year onwards, the lagged response of employment to the sharp decline in GDP growth during last year makes it very unlikely that overall employment growth in 2002 will be significantly positive.

Prices

**Table 7 - Inflation rates: change compared to the same period in the previous year, in%**

	00	01	01Q2	01Q3	01Q4	02Q1	01M11	01M12	02M1	02M2	02M3	02M4
Consumer prices: all items	2.55	2.47	2.95	2.53	2.22	2.73	2.13	2.18	2.90	2.63	2.67	1.81
Food prices	0.86	4.23	4.55	4.67	4.97	5.08	4.72	4.54	5.92	4.90	4.43	2.67
Non food prices	3.87	1.71	2.89	1.62	0.07	0.82	-0.19	0.15	1.04	0.56	0.86	0.68
Services	2.01	2.46	2.07	2.50	3.58	4.04	3.87	3.62	3.68	4.22	4.23	2.78
Rent	1.45	1.91	1.87	1.88	2.09	2.30	2.08	2.10	2.24	2.30	2.35	2.32
Health index	1.88	2.74	3.01	2.97	2.82	3.09	2.80	2.66	3.24	3.05	2.98	2.01
Brent oil price in USD (level)	28.4	24.4	27.3	25.3	19.3	21.1	18.9	18.5	19.5	20.1	23.8	25.6

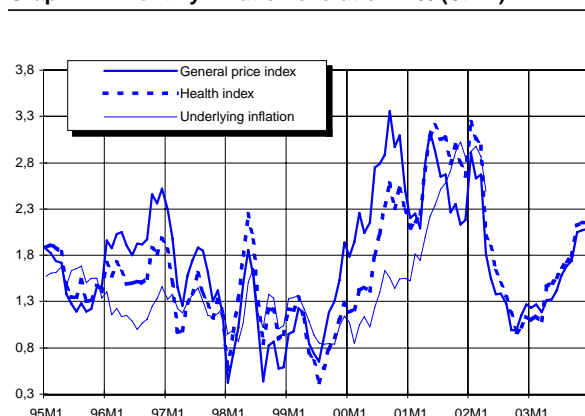
Source: MEZ/MAE

**Table 8 - Monthly inflation forecasts**

	02M1	02M2	02M3	02M4	02M5	02M6	02M7	02M8	02M9	02M10	02M11	02M12
Consumer prices: all items	110.22	110.40	110.69	110.72	111.09	111.13	111.06	110.93	110.93	110.76	111.05	110.95
Consumer prices: health index	109.93	110.09	110.33	110.11	110.47	110.58	110.55	110.46	110.45	110.27	110.56	110.47
Moving average health index	109.45	109.67	109.90	110.12	110.25	110.37	110.43	110.52	110.51	110.43	110.44	110.44
	03M1	03M2	03M3	03M4	03M5	03M6	03M7	03M8	03M9	03M10	03M11	03M12
Consumer prices: all items	111.58	111.80	112.00	112.18	112.56	112.71	112.82	112.80	112.86	113.03	113.35	113.26
Consumer prices: health index	111.14	111.35	111.54	111.72	112.13	112.30	112.40	112.38	112.43	112.61	112.94	112.85
Moving average health index	110.61	110.88	111.13	111.44	111.69	111.92	112.14	112.30	112.38	112.46	112.59	112.71

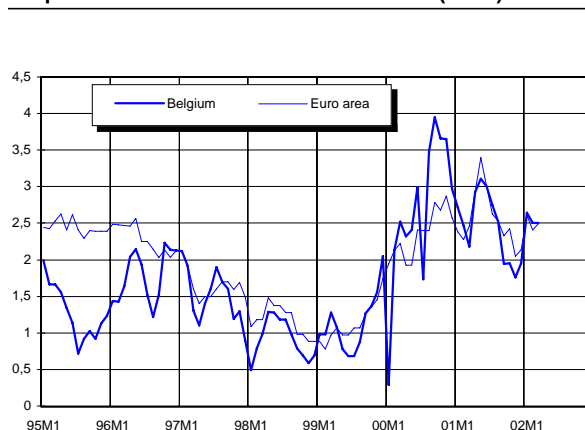
Source: Observations (up to 02M04): MEZ/MAE; forecasts: FPB

**Graph 22 - Monthly inflation evolution in% (t/t-12)**



Source: MEZ/MAE, from 02M5 on: forecasts FPB

**Graph 23 - Harmonised inflation rates in% (t/t-12)**



Source: Eurostat

Headline inflation, as measured by the yoy change in the national CPI, rose again in the first quarter of this year after its downward trend in the second half of 2001. These upward pressures on Belgian prices can be explained by a rise in oil prices which was caused by the tensions in the Middle East, by the bad weather conditions in Belgium and the south of Europe that were the key factor behind the increase in food prices, and by the jump in the price of services. Headline inflation fell by more than 80 percentage points in April because of the rather moderate rises in food and service prices, and as a consequence of the abolition of the radio and television license fee in the Flemish and Brussels Regions. Half of the effect of this factor was taken into account in April, while the other half will be taken into account in October. This implies a drop of 0.3 percentage points in the index figure both in April and October.

Underlying inflation fluctuated around 2.9% (yoy) in the first quarter of the year and fell back to 2.5% in April. According to our forecasts, underlying inflation should remain at around its current level in the second quarter and then fall to 2.2% during the last quarter of this year, while it should be 2.3% on average in 2003. All in all, headline inflation should be 1.7% in 2002 and 1.6% in 2003.

According to our monthly forecasts for the 'health index', the pivotal index for public wages and social benefits (currently 111.64) should next be reached in May 2003.

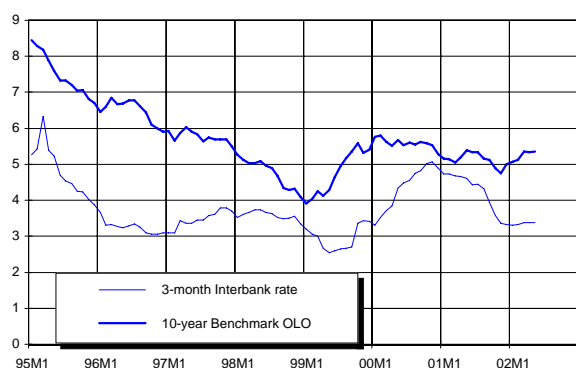
Interest rates

Table 9 - Interest rates

	00	01	01Q2	01Q3	01Q4	02Q1	01M11	01M12	02M1	02M2	02M3	02M4
<b>Short-term money market rates (3 months)</b>												
Belgium	4.36	4.23	4.56	4.24	3.42	3.34	3.36	3.32	3.32	3.33	3.37	3.39
Euro area (Euribor)	4.39	4.26	4.60	4.27	3.44	3.36	3.39	3.34	3.34	3.36	3.39	3.41
United States	6.46	3.69	4.10	3.34	2.06	1.83	2.03	1.83	1.74	1.82	1.92	1.87
Japan	0.25	0.12	0.05	0.05	0.04	0.04	0.04	0.05	0.06	0.04	0.03	0.04
<b>Long-term government bond rates (10 years)</b>												
Belgium	5.59	5.12	5.30	5.21	4.87	5.18	4.74	5.00	5.07	5.13	5.35	5.34
Germany	5.27	4.79	4.93	4.92	4.53	4.94	4.30	4.51	4.94	4.91	4.96	5.20
Euro area	5.43	4.99	5.16	5.07	4.77	5.10	4.62	4.90	4.98	5.04	5.27	5.27
United States	6.03	5.01	5.26	4.97	4.74	5.07	4.62	5.06	5.00	4.94	5.29	5.20
Japan	1.77	1.32	1.27	1.34	1.34	1.45	1.33	1.33	1.42	1.51	1.41	1.38

Source: NBB, ECB

Graph 24 - Interest rate levels in Belgium, in%

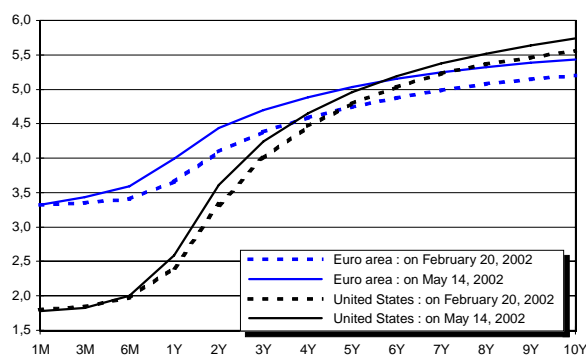


Source: NBB

The ECB and the Federal Reserve both left their central rates unchanged during recent months. As a consequence the Federal Funds rate and the ECB's main refinancing rate are still 1.75% and 3.25% respectively. The monetary policy makers obviously consider the risk of harming economic growth by raising interest rates to be somewhat greater at present than the risk of raising inflation by leaving interest rates unchanged.

Short-term money market rates have hardly changed in the euro area since the beginning of the year because monetary policy is not expected to be tightened in the coming months. The US short-term interest rates show a more pronounced rise (13 basis points between January and April) since the Federal Reserve is expected to raise its central rate in the near future in view of its very loose monetary policy stance at present.

Graph 25 - Yield curves for the euro area and the US



Source: Datastream, data based on interest rate swaps

Long-term interest rates, which were heavily influenced by the real economy during recent months, have risen by almost 30 basis points between January and March both in the euro area and the United States, due to improving leading indicators that heralded the beginning of the recovery. In April, however, government bond rates again declined in the US and stabilised in Europe as several figures indicated that the recovery could be less powerful than expected at the beginning of the year, causing investors to reallocate their money from assets back into bonds.

These developments in the money and bond markets caused a small rise in the slope of the American and the European yield curve. It should be noted, however, that the yield curve in the US was especially influenced recently by the rise in interest rates over 1 to 3 years which is a consequence of the surge in inflationary expectations.



## Exchange rates

**Table 10 - Bilateral exchange rates**

	00	01	01Q2	01Q3	01Q4	02Q1	01M11	01M12	02M1	02M2	02M3	02M4
BEF per USD	43.65	45.05	46.20	45.28	45.07	46.01	45.42	45.28	45.66	46.34	46.02	45.51
USD per EUR	0.924	0.895	0.873	0.891	0.895	0.877	0.888	0.891	0.883	0.871	0.877	0.886
UKP per EUR	0.609	0.622	0.614	0.619	0.620	0.615	0.619	0.618	0.616	0.612	0.616	0.614
JPY per EUR	99.58	108.73	107.06	108.17	110.77	116.09	108.68	113.71	117.13	116.29	114.85	115.86

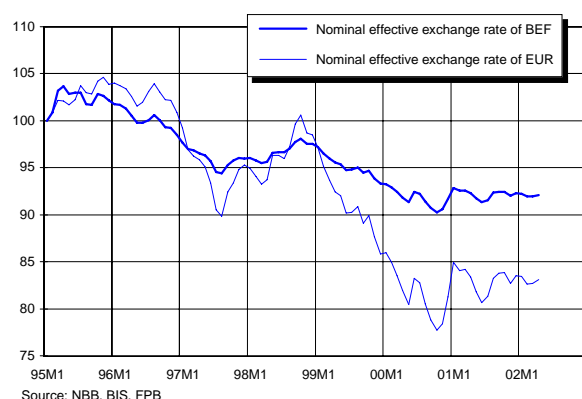
**Table 11 - Nominal effective exchange rates (Jan. 95 =100)**

	00	01	02	01Q2	01Q3	01Q4	02Q1	01M12	02M1	02M2	02M3	02M4
Effective exchange rate BEF	91.8	92.2		91.8	92.1	92.3	92.1	92.3	92.2	91.9	92.0	92.1
Growth rate [1]	-3.5	0.5		-0.9	0.4	0.1	-0.2	0.2	0.0	-0.3	0.0	0.1
Id. with constant rate till year end			-0.1									
Effective exchange rate EUR	81.6	83.1		82.0	82.8	83.3	82.9	83.5	83.4	82.6	82.7	83.1
Growth rate [1]	-10.5	1.8		-2.9	1.0	0.7	-0.5	1.0	-0.1	-1.0	0.1	0.5

[1] Change (%) compared to previous period

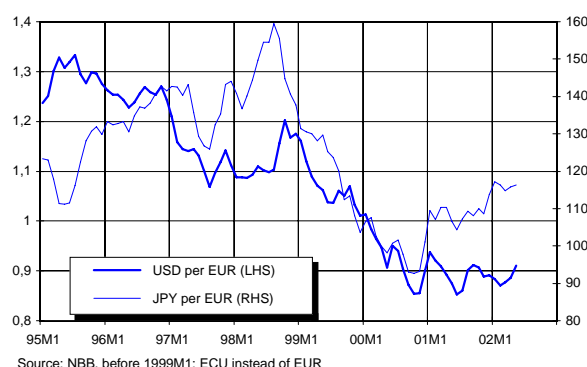
Source: NBB, BIS, FPB

**Graph 26 - Effective exchange rates (Jan. 95=100)**



The euro depreciated by about 1.4% against the dollar in February, which was due to expectations that the US recovery would begin earlier and would be more powerful than the upturn in the euro area. From March onwards, however, the euro started on a rising trend which brought it back to a level in April similar to that seen in January. This appreciation started when investors began to believe that the recovery of the American economy would be less strong than expected, and it gained momentum when concerns arose about the structural features of the US economy. Market participants consider that the current strength of the dollar is not in line with the large external deficit of the US.

**Graph 27 - Euro-dollar and euro-yen bilateral exchange rates**



After the major depreciation of the yen at the end of 2001 and in January 2002, it appreciated again by about 1.9% against the euro between January and March despite the poor shape of the Japanese economy. This appreciation was mainly caused by Japanese firms selling foreign assets to massage their accounts at the end of the fiscal year. When this effect disappeared, however, the yen began to depreciate again driven by the lack of better economic prospects. This depreciation was amplified on the one hand by Standard & Poor's lowering their rating of Japan because of the huge government debt, and on the other hand by policy makers stating that an appreciation of the yen would not be in line with economic fundamentals.

The depreciation of the euro against the currencies of its three main trading partners in February caused a decline in its effective exchange rate which has been turned into a rise thanks to the appreciation of the euro against sterling in March and its appreciation against the yen and the dollar in April.

**Tax indicators**

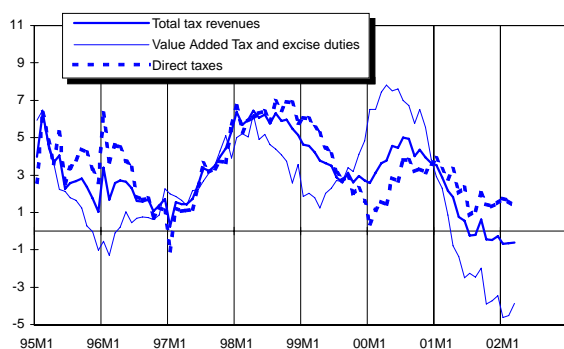
**Table 12 - Tax revenues (1)**

	00	01	01Q2	01Q3	01Q4	02Q1	01M10	01M11	01M12	02M1	02M2	02M3
Total [2], of which:	6.3	2.2	3.1	3.7	1.1	-0.2	-4.3	2.3	5.0	-0.3	-1.7	1.2
Direct taxes, of which:	6.2	4.0	6.8	3.5	3.1	1.6	-2.0	2.8	7.5	6.6	-4.0	0.0
Withholding earned income tax (PAYE)	5.6	4.8	5.8	7.2	0.8	8.7	3.7	6.3	-5.2	-46.8	80.6	5.8
Prepayments	4.4	-0.3	9.0	-13.0	-0.5	.	-12.3	.	11.6	.	.	.
Value Added Tax and excise duties	6.5	-1.0	-4.0	3.9	-1.8	-3.7	-9.8	2.1	2.1	-10.6	-1.4	3.1

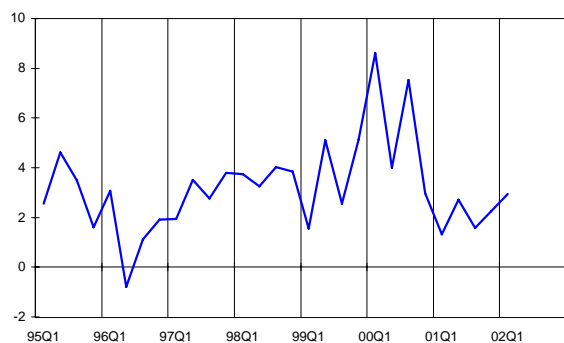
[1] Change (%) compared to same period previous year; [2] Total received by federal government, excl. of death-duties

Source: MvF/MdF, FPB

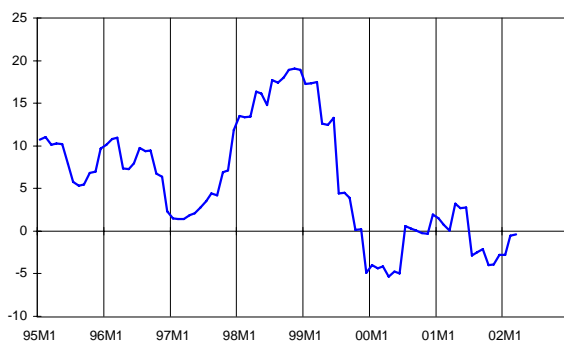
**Graph 28 - Real tax revenues (3)**



**Graph 29 - Real withholding earned income tax (PAYE) (4)**



**Graph 30 - Real prepayments (3)**



[3] Change (%) over past 12 months, compared to previous 12 month period, deflated by consumer price index

[4] Change (%) over past 4 quarters, compared to previous 4 quarter period, deflated by consumer price index

The severe slowdown in economic activity that occurred from mid-2000 onwards clearly influenced the evolution of tax revenues. Total tax revenues grew by only 2.2% in 2001, after growth rates of 6.3% in 2000 and almost 4% in 1999. A growth rate in real terms as low as the one seen in 2001 had not been observed since the beginning of the 1980s. Both direct and indirect taxes were affected, but the impact on indirect taxes was substantially larger.

In the first quarter of 2002, total tax revenues were 0.2% lower as compared with the same quarter of 2001. In real terms, the 12-month moving average remained almost stable and was negative in March for the sixth consecutive month.

The negative yoy growth rate for total tax revenues in the first quarter of this year resulted from a yoy decline in indirect tax revenues (value added tax and excise duties) and slight positive yoy growth of direct taxes. Indirect taxation revenues had already fallen over the whole of 2001 (-1.0%) and, during the first three months of this year, no signs of improvement could be seen. In fact the continuing weakness of household spending (both private consumption and housing investment) is thus far preventing a recovery in indirect tax revenues. The increase in car sales during more recent months (after the bi-annual motor show) and the gradual recovery of the private consumption cycle during the course of the year should lead to higher indirect tax revenues in the remaining quarters of the year.

Advance payments are traditionally very low during the first three months of the year (less than 4% of the annual total), and the figure for the first quarter is therefore rather unimportant (and therefore not reported in the table).

Due to administrative reasons, PAYE revenue (mainly from wages) has shown a very erratic pattern during the first few months of 2002, making a clear interpretation of the recent figures more difficult.

## How do energy and carbon taxation affect the economy and CO<sub>2</sub> emissions in Belgium?

This working paper brings together three analyses of the impact of energy and carbon taxation in Belgium. These were produced at the request of the Secretary of State for Energy and Sustainable Development and the Minister for Consumer Affairs, Public Health and the Environment.

In this paper we look at the harmonisation (increase) in energy levies up to the average level in our neighbouring countries and the introduction of a CO<sub>2</sub> levy. In the latter case both the case where all energy products are taxed and the case where the levy is only applicable to road transport have been analysed. All policy variants are intended to reduce CO<sub>2</sub> emissions in Belgium within the context of the Kyoto Protocol. The simulations cover the period from 2002 to 2012. In each case their impact is discussed on the macro-economy, specific sectors, public finances, energy consumption and CO<sub>2</sub> emissions. The exercises have been built using the Hermes macro-sectoral model. The base simulation corresponds to the medium-term forecast for 2001 - 2006 issued in April 2001, extended to cover the period from 2007 to 2012.

The use or non-use of the tax revenue (e.g. to reduce social security contributions or finance further investment) is very important in determining the impact on economic activity. In the variants that include redistribution of the proceeds of energy or CO<sub>2</sub> levies, the impact on GDP appears to be slightly positive. The adverse

effect on domestic demand, both in terms of private consumption and investment, is more than compensated for by the fall in import requirements (particularly in the energy domain). The direct impact on consumer prices is tempered by the favourable effect of lower employers' social security contributions on production prices. Since the measure refers to increases in the price of energy products, its impact on the health index will be much smaller than on the general consumer price index.

The results in terms of employment are positive but highly divergent. The best results are obtained for the general CO<sub>2</sub> levy, where 70% of the total ex ante tax revenue flows back via a reduction in employer's social security contributions. As regards energy-related CO<sub>2</sub> emissions, the 'incentives' simulated in this working paper prove - even in the case of an extensive fiscal measure such as the general CO<sub>2</sub> levies (with ex ante tax revenue of more than 5 billion euros in 2012) - to be insufficient by far in order to meet the Kyoto commitment. Levies on energy consumption should be seen as just one part of an overall package of measures aimed at cutting CO<sub>2</sub> emissions.

*"The impacts of energy and carbon taxation in Belgium. Analysis of the impacts on the economy and on CO<sub>2</sub> emissions", F. Bossier, I. Bracke, F. Vanhorebeek, Working Paper 02-02, May 2002.*

## Poverty and the digital divide in Belgium

This working paper presents the results of a study about the links between societal dualisation and the digital divide.

As is the case in most developed countries, poverty has become an increasingly important issue on the agenda of Belgian politicians. This is due to the existence of problems such as long-term unemployment, the specific problems of workers who are poorly educated and/or offer low productivity, and the emergence of new forms of deprivation. It is possible that these and other problems are all symptoms of a deeper problem, namely poverty.

One of the most remarkable changes of the last few decades is the spread of ICT in Belgium as in all developed countries. As ICT goods have emerged in everyday life, the incapacity to handle ICT goods can cause a person's human capital value to decrease, resulting in financial deprivation and, ultimately, in poverty. Likewise it is

conceivable that those in a situation of financial deprivation, social and economical exclusion have fewer opportunities to gain experience of the use of ICT, and will therefore be less likely to buy the ICT goods they potentially could afford. To summarize, if the societal gap between the poor and the non-poor coincides with the digital divide - as we can expect that does, then the problem of dualisation will worsen as the spread of ICT continues. All this, however, first requires that the common assumption of the existence of dualisation should be confirmed by empirical research. This in turn, requires multidimensional poverty to be defined empirically.

Multidimensional poverty can be defined as the simultaneous occurrence of social exclusion of a household from various aspects of life. Based on a representative data set for Belgium in 1998, this study starts by ascertaining the underlying dimensions of poverty. Roughly speaking, these can be defined as "economic exclusion",

“deprivation” and “poor psychological health and societal participation”.

In the second step of the analysis, households are grouped on the basis of their scores for these three dimensions of poverty. The number of groups is not set exogenously, but is determined on the basis of statistical information. A subdivision into two groups turns out to be optimal: a small subgroup of about 8% of the households in the sample turns out to have significantly higher scores on all three dimensions of poverty, as compared to the main group. So the existence of both multidimensional poverty and societal dualisation is empirically confirmed. Non-Belgian households, and households in the French-speaking part of Belgium, are particularly vulnerable to multidimensional poverty.

In the third step of the analysis, it is considered whether poor households are lagging behind with their adoption of ICT goods relative to other households. The data includes information on the possession of a colour television, a video recorder, a telephone, an answering ma-

chine, a personal computer, a GSM and finally an internet connection.

The common assumption that poor households are lagging behind is confirmed, as poor households report the possession of more advanced ICT goods such as the PC, a GSM or a video recorder proportionally less often. This gloomy conclusion is, however, modified by the conclusion that poverty and (non) possession of an internet connection do not appear to be correlated, at least for those households owning a personal computer. Lastly, the study shows that especially the first dimension of poverty (poor economic integration) is related to the non-possession of ICT goods. This is in line with earlier conclusions from other studies that most people learn about (the use of) ICT on the job and with the help of colleagues rather than friends.

“*Dualisering in het digitale tijdperk - Een onderzoek naar de verbanden tussen multidimensionale armoede en informatie- en communicatietechnologie*”, G. Dekkers, Working Paper 04-02, May 2002.

## Automatic fiscal stabilisers in the euro area

In this working paper we use the NIME model to examine the effects of automatic fiscal stabilisers on fluctuations in output in the euro area.

The NIME model is a macro-econometric world model developed at the FPB. This model is built to make medium-term forecasts of the Belgian international economic environment and to study the transmission of the effects of economic policies and exogenous shocks to the Belgian and European economies. In the NIME model, automatic fiscal stabilisers are determined on the expenditure side by unemployment benefits and interest payments and on the revenue side by direct labour income taxes, profit taxes, social security contributions and indirect taxes. Three shocks are applied to the model, i.e., a temporary drop in private consumption, a permanent increase in the nominal money supply, and a permanent decline in trend productivity. For each shock we simulate the model with the automatic fiscal stabilisers operating freely and we compare the simulation results with the results obtained under a sustainable alternative regime that tempers the working of the automatic fiscal stabilisers.

First we discuss the effects of the two shocks that do not have permanent real effects, i.e., a temporary decline in private consumption and a permanent increase in the money supply. The simulation results show that the effects on output are smallest if the fiscal stabilisers are allowed to operate. The evidence also suggests, however,

that the automatic fiscal stabilisers delay full adjustment, if compared with an alternative regime where the direct income tax rate is manipulated to maintain fiscal balance in every period.

Next we study the case of a permanent decline in trend productivity. We note that in the long run such a shock induces a change in relative prices, and that a change in the direct labour income tax rate - or another discretionary measure - is necessary to reach, in the long run, the target debt to GDP ratio. We therefore conclude that automatic stabilisers are not sustainable in the face of real shocks, and additional discretionary measures are required.

Finally, we discuss some limitations of our analysis. Our analysis does not take into account the effects of tax increases on trend productivity or on the natural rate of unemployment, nor does it consider the existence of perception and implementation lags in the design of discretionary tax policies. We also assume a well-disciplined government that allows the automatic stabilisers to operate in a downturn and uses the gains during the upturn to reduce debt.

“*Automatic fiscal stabilisers in the euro area - Simulations with the NIME Model*”, E. Meyermans, Working Paper 05-02, May 2002.”

## Environmental accounting

The last decade has seen a growing awareness of the impact of the economy on the environment. This has given rise to the development of environmental accounts. This Planning Paper presents the work that the FPB has carried out in this context during the period 1998-2000.

Economic activities affect the environment in various ways. On the one hand the economy extracts natural resources to be used in the production process and on the other hand it uses the environment to dump the waste produced during the production process and as a consequence of activities involving consumption. The national accounts do not take the impact of these economic activities on the environment into account, although the exhaustion of the natural resources and the degradation of the environment do affect human well-being. Consequently, the national accounts fail to present a proper reflection of the state of society. The environmental accounts try to remedy this flaw by incorporating the interactions between the economy and the environment, even if these interactions do not entail any monetary exchange. Technically this is achieved by the creation of satellite accounts, which are linked to the core national accounts.

Two important concepts, the development of which was

coordinated by Eurostat, are the National Accounting Matrix including Environmental Accounts (NAMEA) and SERIEE (Système européen pour le rassemblement des informations économiques sur l'environnement). The NAMEA is a system of accounts of which the national accounts form the core. Accounts reflecting physical flows are linked to this monetary core. SERIEE provides a system of accounts in which economic data concerning the environment are pooled. These consist of environmental protection expenditure accounts (EPEA), environmental tax accounts, and environmental industry accounts.

The FPB has been involved in both the NAMEA and the SERIEE project since 1998, with financial support from the EC. These projects constitute a first step in the process of producing regular environmental accounts for Belgium in future. Planning paper 90 situates them in the global historical context of national and environmental accounting. It discusses the methodologies used in the Belgian context and presents sectoral results concerning air pollution for the period 1994-1996.

“Comptes nationaux environnementaux - Outil d'une politique de développement durable. De groene nationale rekeningen - Instrument voor een beleid van duurzame ontwikkeling”, J. de Villers, S. Van Den Berghe, *Planning Paper 90, April 2002.*

## Long-term budgetary prospects for Social Security

The ageing of the population and its consequences on the financial prospects for social security are a major concern. The FPB has carried out an analysis of these problems and the results can be found in Planning Paper 91, which is entitled “Financial prospects for Social Security 2000 - 2050”.

A fall in the birth rate, a rise in life expectancy, the baby-boom generation arriving at retirement age en masse by 2010: pensions and health care expenditure will grow but to what extent? Will there be enough people working in future to bear the burden? Will they pay more social security contributions and taxes? The FPB tries to answer this by taking other elements into account, besides the demographic factor: future evolution of the female employment rate, economic growth, regulations concerning pension benefits and other social security benefits, the general evolution of the budget.

It is impossible, of course, to make fine predictions extending to 2050. On the basis of detailed modelling of our social security system, however, it is possible to

evaluate the size of the financial problems that this system will have to support according to different scenarios. The “Budgetary Prospects for Social Security 2000 - 2050” presents a number of possible scenarios of demographic and economic evolution which may test the “resistance” of the Belgian system of social welfare, under its current rules, when faced with the shock of demographic ageing.

Based on the FPB's scenarios, the growth in spending on legal pensions in 2050 will be between 2.4% and 3.1% of gross domestic product (GDP) and the growth in health care expenditure will be around 3% of GDP. Moreover, the fall in spending relating to younger age groups (family benefit, unemployment benefit etc.) will reduce this increase in spending by some 2% of GDP.

All in all, the budgetary cost of the ageing of the population will be between 3.3% and 3.9% of GDP. Those numbers should be reduced by a further 0.5% of GDP if one takes in account the mechanical impact of reducing the student population on educational spending. The

impact of ageing is therefore manageable under certain conditions.

The prospect of an increase in employment rates, reforms of the pensions system which mean that the legal retirement age for women is 65 for all, the progressive lowering of the mean pension as a percentage of the mean wage caused by a “salary ceiling”, the reduced frequency of pensioners with a dependent spouse and the ageing of the pensioner population.

This result is, however, dependent of the continuing growth in the female employment rate, the long-term fall in the unemployment rate, the pursuit of a restrictive social policy in terms of adjustment of social securi-

ty benefits to the evolution of welfare while permitting the evolution of wages to impact the benefit ceiling, productivity gains remaining close to the long-term trends for the Belgian economy. Moreover, the lowering of interest charges for public debt (more than 5% of GDP in 50 years) could also contribute to the financing of the budgetary cost of ageing.

*“Perspectives financières de la sécurité sociale 2000-2050: Le vieillissement et la viabilité du système légal des pensions”*  
*“Verkenning van de financiële evolutie van de sociale zekerheid 2000-2050. De vergrijzing en de leefbaarheid van het wettelijk pensioensysteem”*, M. Englert, N. Fasquelle, M.-J. Festjens, M. Lambrecht, M. Saintrain, C. Streel, S. Weemaes, *Planning Paper 91, March 2002*

## Other Recent Publications

[Economic Forecasts 2002](#), February 2002,  
(available in Dutch and in French).

[Medium Term Economic Outlook 2002 - 2007](#), April 2002,  
(available in Dutch and in French).

[Working Paper 09-01](#), December 2001,

“Evaluatie van de impact van fiscale en niet-fiscale maatregelen op de CO<sub>2</sub>-uitstoot. Evaluation de l’impact des mesures fiscales et non fiscales sur les émissions de CO<sub>2</sub>”,  
F. Bossier, I. Bracke, I. Callens, H. de Beer de Laer, W. Van Ierland, F. Vanhorebeek,

## Research in progress

### The MODTRIM II model

A quarterly model for the Belgian economy was built during the period 2000-2001. Despite its newness, this model has already been re-estimated a couple of times due to the almost continuous changes in the methodologies used in the national accounts. The model was used during the last three forecasting rounds (July, November 2001 and February 2002) and its quarterly results were presented graphically in the Economic Budget. The simulation properties of the model following exogenous shocks have already been tested but not yet utilized in a practical exercise.

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### The NEMESIS model

In collaboration with a network of European research institutions, the FPB is developing a regional macro-sectoral econometric model for Europe, whose baseline should be available soon. This aims at providing tools for decision-making in the fields of energy, the environment and economic policy.

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### Impact of ICT in Belgium.

As a follow-up of its study on ICT diffusion in the Belgian economy, the FPB studies the effects of ICT on the Belgian economy. This project has six compo-

nents: macro-economic impact, micro-economic impact, digital divide and dualisation, ICT and the localisation of economic activities, e-government, and Internet and indirect taxation.

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### Cities and regions

The aim of the research is to get an insight in the specialisation and dynamism of cities and regions in Belgium. Structural changes in the sectoral composition of the Belgian economy is taken into account. On a regional level, the Belgian regions are compared with some other major European regions. On a city and town level, a study on the factors determining the location of economic activities and the location of households is undertaken.

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### Labour market analyses

Three areas are currently being investigated in the field of labour market analysis: 1. the impact of labour turnover on the evolution of wages, 2. the impact of three special employment programmes aimed at specific groups, 3. the development of a macro-econometric model of a segmented labour market including wage setting, labour supply and demand, and matching.

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## Recent history of major economic policy measures

May 2002

The European Council of Ministers unanimously supported the European Commission in its strategy to respond to the illegal safeguard measures taken by the USA on steel in late March. Following the expiry of the mandatory 60 day consultation period, the EU presented a request for the establishment of a panel in WTO to rule on the legality of the measures. In the short-term, the EU will intensify its efforts to negotiate an agreement with the US, which includes both compensation and product exclusions from the US safeguard action. At the same time, the EU will also notify to the WTO a "short list" of potential suspensions of concessions under the WTO Safeguard Agreement that could be applied as early as 18 June.

The European Council adopted the new Postal Services Directive, pushing forward the gradual and controlled implementation of the Internal Market for postal services, combining more competition with maintaining a universal service. Basically, Member States will have to open up to competition from 2003 the delivery of letters weighting more than 100gr; and from 2006 the delivery of letters weighting more than 50gr.

April 2002

Social policy measures for 2003 are announced concerning disability benefits for wage-earners (minimal benefits increased by 1%, replacement rate increased from 45% to 50% of the wage for single persons), financial support for the frail elderly (by increasing the income threshold below which access to the solidarity benefit is granted) and for handicapped people (a.o. by maintaining the "participation" benefit for those who earn an income). The budgetary cost of those measures amounts to 100 million euro. Disability benefits for self-employed will also be increased by 50% in July 2002 during the first disability year and by 2.65% after one year; before taking a final decision there will be a round of consultations.

SN Brussels Airlines, the successor of bankrupt Sabena, made its first flights to Africa. The company plans to build up a network covering African and European destinations.

The first independent railway company started operating freight services between Antwerp and Munich. This historical event marks the penetration of the European liberalisation onto the Belgian railway network. It was made possible in 1999 when European Directives on railway liberalisation were translated into Belgian law.

March 2002

The European Commission adopted safeguard measures on steel. Following the US action to severely restrict steel imports on 20 March, the EU measures are designed to prevent floods of steel imports being diverted into the EU. The measures have been drawn up with scrupulous attention to WTO rules. These temporary measures, due to enter into force in the coming days, will last for a maximum of 6 months.

The Belgian federal government approved a proposal of ministerial decree on the designation of ESO (Elia System Operator) as the operator of the transport electricity network. ESO's shareholders are Elia (70%) and Publi-T (30%).

The European Council in Barcelona took several decisions in the field of energy, including, among others, the freedom of choice of supplier for all European non-household consumers as of 2004 for electricity and for gas (this will amount to at least 60% of the total market) and the target for Member States of a level of electricity interconnections equivalent to at least 10% of their installed production capacity by 2005.

The Belgian council of ministers agreed on the preliminary bill introduced by the Secretary of State for Energy and Sustainable Development on giving up any new investment in nuclear power plants and on deactivating existing nuclear power plants 40 years after their entry into operation.

The Federal Government announces the implementation of the corporate tax reform (this reform has already been decided in October 2001). Corporate tax revenues should remain unchanged, the reform being designed so as to be neutral with respect to fiscal revenues. An ad hoc Working Group is preparing a report in order to assess the budgetary consequences of the reform.

The Senate approved a new agreement on cooperation between the federal and regional governments and a new governance structure for the national railway company (NMBS/SNCB). The agreement sets out details on the railway investment plan 2001-2012. The new governance structure is meant to make the governance of the company more efficient.

January 2002

Following the positive opinion expressed by the Commission for Electricity and Gas Regulation (CREG), the Secretary of State for Energy has delivered a 20-year concession contract to the firm C-Power for the settlement of a park of 50 windturbines in the North Sea, reaching a capacity of 115 MW.

The World Trade Organisation confirmed that the Foreign Sales Corporation Replacement Act, brought in by the US in response to condemnation by a WTO Panel in August 2001 of its original FSC export subsidy system, is also incompatible with WTO rules. Both the WTO Panel and Appellate Body have stated in clear terms that the US must end this WTO-incompatible practice.

The European Union's new tariff arrangements for developing countries from 1 January updates the Generalised Scheme of Tariff Preferences (GSP). The new GSP regulation will cover the years 2002 to 2004. Product coverage has been widened, or preferential margins improved, or both. The new regulation fully incorporates the 'Everything But Arms' arrangements. While the general GSP arrangements maintain duty free access for all non-sensitive products, they grant a flat rate reduction of 3.5 percentage points on the duty rates of all other products included in the scheme.

Euro notes began to be distributed in all participating states on 1 January at 00.00. No major logistical problems were reported. Public reaction was positive throughout the countries of the euro area.

A more complete overview of "Recent history of major economic policy measures" is available on the FPB web site (<http://www.plan.be>)

Abbreviations for names of institutions used in this publication

BIS	Bank for International Settlements
CPB	Netherlands Bureau for Economic Policy Analysis
CRB/CCE	Centrale Raad voor het Bedrijfsleven / Conseil Central de l'Economie
DULBEA	Département d'Economie Appliquée de l'Université Libre de Bruxelles
EC	European Commission
ECB	European Central Bank
EU	European Union
FEBIAC	Fédération Belge des Industries de l'Automobile et du Cycle "réunies"
FMTA/MFET	Federaal Ministerie van Tewerkstelling en Arbeid / Ministère fédéral de l'Emploi et du Travail
FPB	Federal Planning Bureau
IMF	International Monetary Fund
INR/ICN	Instituut voor de Nationale Rekeningen / Institut des Comptes Nationaux
IRES	Université Catholique de Louvain - Institut de Recherches Economiques et Sociales
MEZ/MAE	Ministerie van Economische Zaken / Ministère des Affaires Economiques
MvF/MdF	Ministerie van Financiën / Ministère des Finances
NBB	National Bank of Belgium
NIS/INS	Nationaal Instituut voor de Statistiek / Institut National de Statistique
OECD	Organisation for Economic Cooperation and Development
RSZ/ONSS	Rijksdienst voor Sociale Zekerheid / Office national de la Sécurité Sociale
RVA/ONEm	Rijksdienst voor Arbeidsvoorziening / Office National de l'Emploi

Other Abbreviations

BEF	Belgian franc
BoP	Balance of Payments
CPI	Consumer Price Index
ECU	European Currency Unit
EMU	Economic and Monetary Union
EUR	Euro
JPY	Japanese yen
LHS	Left-hand scale
OLO	Obligations linéaires / Lineaire obligaties
qoq	Quarter-on-quarter, present quarter compared to previous quarter of s.a. series
RHS	Right-hand scale
s.a.	Seasonally adjusted
t/t-4	Present quarter compared to the corresponding quarter of the previous year
t/t-12	Present month compared to the corresponding month of the previous year
UKP	United Kingdom pound
USD	United States dollar
VAT	Value Added Tax
yoy	Year-on-year, i.e. t/t-4 (for quarters) or t/t-12 (for months)