

# Quarterly Newsletter of the Federal Planning Bureau

---

*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

*Both confidence indicators and some hard data now suggest that economic activity in the euro area should register a moderate recovery during the last part of 2003. Even if risks are still present, they are more balanced than a few months ago.*

*During the last few months, confidence is rising again in Belgium. GDP growth is forecast to pick up slightly in the second half of the year, and amount to 0.9% in 2003. With a far less dynamic pace than was seen during the previous cyclical recoveries in 1996 and 1999, annual average GDP growth should amount to 1.8% next year.*

*This year, as a result of the stronger euro and the weakness of the euro area economy, net exports should make a very negative contribution towards economic growth (-0.9%). Real GDP growth should be exclusively driven by domestic demand (1.8%) as a result of the cutback in personal income tax rates and the improvement of business profitability. Next year, domestic demand should grow at the same pace as this year, but GDP growth should be more balanced.*

*A gradual improvement in domestic employment is not expected to take place until the last quarter of 2003. In response to this slowly improving labour market situation in 2004, the household savings rate should not begin to decrease until the second half of 2004. Next year, CPI inflation should be by 1.4%, as compared with 1.6% this year. This fall is inspired by the past appreciation of the euro and the moderate development of unit labour costs.*

### *Editorial Board*

Henri Bogaert  
Michel Englert  
Bart Hertveldt  
Evelyne Hespel  
Jan van der Linden  
Joost Verlinden

### *DTP & Web Publishing*

Adinda De Saeger  
Geert Bryon  
Dominique van der Wal

### *Printed by*

FPS Economy, S.M.E.s,  
Self-employed and Energy

*STU 3-03 was finalised on September 12th 2003.*

**The Federal Planning Bureau (FPB) is a public agency under the authority of the Prime Minister and the Minister of Economic Affairs. The FPB has a legal status that gives it an autonomy and intellectual independence within the Belgian Federal public sector.**

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



# Table of Contents

---

<b>Special Topic</b> .....	<b>3</b>
• Belgian transport outlook to 2010	
<b>Economic Forecasts</b> .....	<b>5</b>
• Economic forecasts 2003-2004	
<b>Summary of Economic Forecasts</b> .....	<b>7</b>
• Economic forecasts for Belgium by the Federal Planning Bureau	
• Economic forecasts for Belgium by different institutions	
<b>Recent Economic Developments</b> .....	<b>8</b>
• General economic activity	
• Private consumption	
• Business investment	
• Housing investment	
• Stock building	
• Foreign Trade	
• Labour market	
• Prices	
• Interest rates	
• Exchange rates	
• Tax indicators	
<b>Recent publications</b> .....	<b>19</b>
• Belgian environmental accounts	
• ICT in Belgium: analysis of economic and social impacts	
• NIME: Simulations of the international transmission of shocks	
• NIME: Simulation of medium term risks	
• Labour market policies in a macro-econometric model for Belgium	
• ICT, new transactional standards and taxation	
• Other Recent Publications	
• Research in progress	
<b>Economic Policy Measures</b> .....	<b>27</b>
• Recent history of major economic policy measures	
<b>Abbreviations</b> .....	<b>28</b>

---

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>).

## Belgian transport outlook to 2010

Transport is the activity that has experienced the most dramatic increase in energy consumption and CO<sub>2</sub> emissions during the last ten years and this trend is likely to continue in a “business as usual” context over the next thirty years. This last result is one of the main outcomes of a recent FPB study, “Belgian energy outlook to 2030”, describing and analysing long-term energy scenarios<sup>1</sup>. Given this reference trend, an alternative scenario has been evaluated that simulates the impact of modal shift to the detriment of road transport and of higher vehicle loading factors, from the viewpoint of both energy consumption and environmental implications. The main results of this evaluation at the 2010 horizon are presented in this special topic.

The Belgian Energy Outlook to 2030 describes a long-term reference energy scenario<sup>2</sup> and evaluates several variants and policy scenarios against this reference scenario. The reference scenario offers a coherent picture of the evolution of energy supply and demand, based on continuing trends and structural changes in terms of economic activity, energy prices and technological developments. As far as transport is concerned, the energy outlook covers both passenger and freight transport.

### Overall trends in the reference scenario

In the reference scenario, passenger transport activity is projected to increase at a rate of 0.8% pa in 2000-2010. This constitutes a significant slowdown of activity in comparison to past trends that can be explained by a rather stable Belgian population and some saturation effects in the mobility of persons. Air transport is the fastest growing mode of transport. This trend results from

rising real incomes leading to increased leisure air travel and from the development of low-cost airlines.

The growth rate of transport activity by private car is 0.7% pa in the period to 2010 compared with 1.7% in the period 1990-2000. Despite this slowdown and the dramatic increase in air travel, private cars remain the major transport mode for passenger transport. The share of private cars in total passenger transport stabilizes at 79% in 2010. In contrast, both rail transport and public road transport continue to lose market share.

During the past few decades freight transport has been growing more rapidly than GDP. In the period to 2010, freight transport (2.4% pa) grows at the same pace as overall economic activity (2.2% pa). Since the 1970s, freight transport by road has been growing more rapidly than overall freight transport. This trend is assumed to continue in the reference scenario. Both rail transport and inland navigation increase at rates well below average. Consequently, both modes of transport will lose market share but the decrease would be less marked than in the past.

Improvements in the energy efficiency of vehicles<sup>3</sup> cannot compensate for the growth of transport activity and energy consumption of the transport sector continues to increase at a rate of 1% pa in 2000-2010. Although this rate is higher than the rates of increase projected in the other sectors (industry, tertiary and residential sectors), it is below the growth rate of energy use in the transport sector in 1990-2000 (2.3% pa). Since the scope for fuel switching is limited in the transport sector (the sector relies almost exclusively on petroleum products), the increase in energy consumption leads to an increase in CO<sub>2</sub> emissions in 2000-2010 (+0.7% pa).

1. “Belgian energy outlook to 2030”, D. Gusbin, B. Hoornaert, Planning Paper 94, Federal Planning Bureau, Forthcoming.
2. Calculated using the PRIMES model, a partial equilibrium energy model, developed by NTUA for the European Commission.

3. Resulting in particular from the implementation of the agreement between the EC and the European, Korean and Japanese car manufacturers.

**Table 1 - Projected evolution of transport demand in the baseline scenario**

	1970	1980	1990	2000	2010	growth 90//00	growth 00//10
Passenger transport [Gpkm] <sup>a</sup>	61.9	85.2	112.0	135.1	145.9	1.9%	0.8%
Public road transport	9.3	9.1	10.9	12.4	12.7	1.3%	0.3%
Private cars (+ motorcycles)	42.2	65.9	90.4	107.4	114.9	1.7%	0.7%
Rail	8.5	7.8	7.3	8.6	8.7	1.7%	0.1%
Aviation	1.1	1.8	3.0	6.5	9.3	8.1%	3.7%
Freight transport [Gtkm] <sup>b</sup>	28.1	30.4	39.0	46.5	57.2	1.8%	2.1%
Road	13.5	16.5	25.0	32.5	41.5	2.6%	2.5%
Rail	7.9	8.0	8.4	7.7	8.4	-0.9%	0.9%
Inland navigation	6.7	5.9	5.6	6.4	7.3	1.2%	1.4%

a. Gpkm: 1 billion passenger kilometers, passenger kilometer: transport of a passenger over one kilometer

b. Gtkm: 1 billion tonne kilometers, tonne kilometer: transport of one tonne over one kilometer

Source: EU Energy and transport in figures – Statistical pocket book 2002: FPB, Energy outlook to 2030

## Impact of modal shift and higher loading factors

The alternative transport scenario has been constructed on the basis of the EC "White Paper on European Transport Policy for 2010" and Belgian government's proposals. The focus was on modal shift and better vehicle loading and occupancy rates.

The measures in the White Paper combine correct pricing policies with revitalizing alternative modes of transport for road and investment in the trans-European network<sup>1</sup>. The objective is to induce a modal shift and more specifically to allow the market shares of non-road transport modes to return to 1998 levels. These measures should also result in better vehicle occupancy rates and truck loading factors. The former impact is also an objective emphasised by the Belgian government through the promotion of car pooling.

In this alternative scenario (referred to below as the transport scenario), no change was assumed regarding total transport activity (both passenger and freight transport activity) as compared with the reference scenario. The evolution of the market shares of the different transport modes up to 2010 is in line with the trends in option C of the White Paper, with the additional constraint that the market share of rail passenger transport should represent at least 7.6%<sup>2</sup> of total passenger transport activity, aviation excluded.

**Table 2 - Energy demand and CO<sub>2</sub> emissions – transport scenario vs. reference scenario**

	Change activity <sup>a</sup>	Change Energy demand	Change CO <sub>2</sub> emissions
Passenger transport	0%	-12%	-12%
Public road transport	13%	3%	3%
Private cars	-2%	-11%	-11%
Rail	21%	4%	6%
Aviation	-11%	-17%	-17%
Freight transport	0%	-16%	-16%
Trucks	-6%	-17%	-17%
Rail	22%	13%	14%
Inland navigation	7%	-1%	-1%
Transport sector	0%	-14%	-13%
Total	0%	-4%	-3%

a. Transport activity is expressed in Gpkm or Gtkm; GDP is the indicator for the whole economy

Source: FPB, Belgian energy outlook to 2030

For passenger transport, there will be a shift from private car to urban road transport and rail (including metro and tram) and rail transport will gain passenger kilometres at the expense of air transport over long distances. The growth rates of transport activity involv-

ing private cars and aviation would shrink to 0.5% and 2.4% pa respectively over the 2000-2010 period.

As for freight transport, the shift towards freight trains and inland navigation gives rise to a lower growth rate for road freight transport (+1.9% pa) as compared with the GDP growth rate in 2000-2010. Nevertheless, freight transport by truck remains the dominant transport mode with a market share of 68% in 2010. Rail activity benefits most from the policy objectives and amounts to 18% of total freight activity in 2010. The market share of inland navigation grows by one percentage point as compared with the reference projection.

The new allocation between transport modes results in an energy saving of 14% of energy demand by the transport sector. This energy saving results from the combination of three factors: better loading, a shift towards less energy-intensive transport modes and delayed penetration of more energy-efficient technologies. The last factor mainly concerns aircraft, for which significant energy efficiency improvements are projected, and partly compensates for the impact of the two others.

Road freight transport contributes most to the energy saving. In contrast, the shift towards rail transport results in a higher demand for electricity. This, however, increases only slightly by some 50 GWh, which represents no more than 0.05% of total electricity demand in 2010.

The modal shift and better loading factors have a positive impact on CO<sub>2</sub> emissions. In absolute terms, road transport contributes most to the reduction of CO<sub>2</sub> emissions, followed by aviation. The impact on emissions from the increase in rail transport activity is limited, because most Belgian railway lines are electrified. The additional electricity demand from the railways (as compared with the reference scenario) increases CO<sub>2</sub> emissions by power generators. This increase, however, is negligible compared with the decrease resulting from the savings in petroleum products.

The objectives in terms of modal shift and better loading in the transport scenario make it possible to stabilize total energy-related CO<sub>2</sub> emissions<sup>3</sup> in 2010 at 1990 level, compared with an increase by about 4% in the reference scenario over the 1990-2010 period.

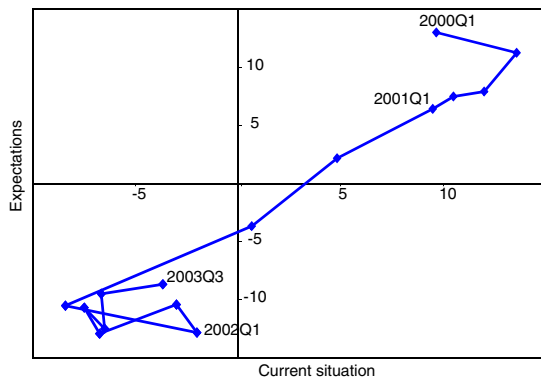
1. European Commission, White Paper - European Transport Policy for 2010: a time to decide, 2001  
2. Objective fixed by the previous government

3. Excluding CO<sub>2</sub> emissions from aviation bunkers that are not accounted for in the Kyoto Protocol.

The FPB has prepared economic forecasts for the Institute of National Accounts (INA). These forecasts serve as the basis for the federal budget in 2004. As usual, the economic budget is based on the hypothesis of 'unchanged policy'. This implies, among other things, that the effects of the policy intentions, which have been included in the coalition agreement of the new Government but have not been elaborated yet, have not been taken on board in these forecasts.

The geopolitical uncertainty which has had a firm grip on the world economy since the late summer of last year, faded considerably as the war in Iraq came to an end. Among other things, this resulted in lower oil prices and a worldwide recovery in share prices, after a downward price correction which had lasted for more than two years. In that context, the growth of the world economy and international trade should gain momentum during the second half of 2003, followed by a sustained recovery next year. In this respect, both the United States and the Asian, Latin American and Central European economies are expected to achieve stronger economic growth than this year.

**Graph 1 - Assessment of the business situation in the euro area, quarterly averages of survey results**



Economic activity in the eurozone was not very encouraging during the first half of this year as a result of the geopolitical tensions and the weak German economy. Although rock bottom does seem to have been reached, the latest surveys data point to a moderate recovery of economic growth during the second half of 2003. The present consensus prospects for the euro zone indicate growth of about 0.5% this year and 1.75% next year.

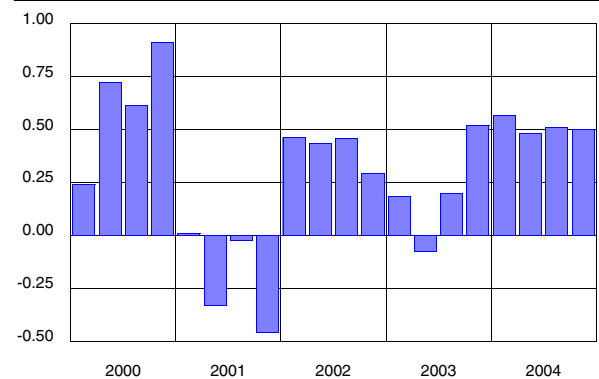
The principal risks surrounding the recovery scenario for the world economy have been on the downside for a long time, although more recent developments have reduced such risks. On the one hand, the indicators for the euro area that are pointing towards a recovery are not

yet very robust, which may delay the turning point longer than expected. In particular there are uncertainties surrounding the amount of additional corporate balance sheet adjustments needed to complete the deleveraging process and increase the productivity and profitability of European firms. On the other hand, these forecasts postulate a rather moderate worldwide recovery. This is illustrated by the fact that, until the end of 2004, Belgian foreign markets are hardly expected to grow any faster than their trend growth and should, therefore, still be lower than their long-term trend at the end of the projection period.

**The Belgian economy in 2003 and 2004**

During the first six months of this year the Belgian economy also had a hard time. In the early spring, consumer confidence reached its lowest level seen in the last 15 months, while industrial confidence deteriorated even further during the second quarter of this year. The provisional flash estimate indicates that Belgian GDP shrank during the second quarter of this year (-0.1% quarter-on-quarter), after moderate growth of 0.2% in the first quarter.

**Graph 2 - Quarterly evolution of GDP qoq growth rates, seasonally adjusted and corrected for calendar effects**



During the last few months, both employer and consumer confidence are rising again. GDP growth is forecast to pick up slightly (by 0.2% qoq during the third quarter and 0.5% during the fourth quarter). Considering this recovery of the economic activity during the second half of the year, GDP growth in 2003 should amount to 0.9%. With quarter-on-quarter growth rates of about 0.5% in 2004, which is a far less dynamic pace than was seen during the previous cyclical recoveries in 1996 and 1999, annual average GDP growth should amount to 1.8% next year.

### Domestic demand driven economic growth in 2003

Exports fell dramatically during the second half of last year and the first quarter of this year. As a result of the stronger euro and the fact that almost two thirds of Belgian exports go to the euro area, exports may not benefit to the full from the expected recovery of world trade during the second half of this year. As a result, export growth should be negative this year (-1.1%).

The past appreciation of the euro, on the other hand, also makes imported products considerably cheaper. Moreover, a further controlled wage development (within the framework of a negotiated wage norm for 2003-04) and an acceleration of productivity growth result in a very moderate increase in nominal unit labour costs. As a result, enterprises are able to restore their profit margins per unit, which gives an important boost to business investment (2.6%). Moreover, households' purchasing power has grown considerably this year due to the cutback in personal income tax rates, supporting growth in private consumption (1.3%).

As a result, real GDP growth should be exclusively driven by domestic demand this year (1.8%), while net exports should make a very negative contribution towards economic growth (-0.9%).

### More balanced growth in 2004

In the wake of the upturn in the US and large parts of Asia, the euro area business cycle should become stronger during the next few quarters. This should allow Belgian export markets to reach a growth rate next year that is significantly higher than was seen in the last three years. Moreover, the adverse effects of the past appreciation of the euro should gradually disappear. All in all, exports should grow next year by 4.8%, the highest growth rate since 2000.

Domestic demand should grow next year at the same pace as this year (1.8%). Investment should see stronger growth next year than this year (2.9% in 2004 as compared with 2.1% in 2003), but public consumption and stock building are expected to contribute less towards economic growth. Next year, private consumption should increase by 1.5%, which is barely higher than this year; the household savings rate should increase for the fourth consecutive year. In fact, in response to a slowly improving labour market situation in 2004, households' propensity to save should not begin to decrease until the second half of 2004.

The almost continuous growth in domestic employment since the second half of the 1990s came to an abrupt end during the fourth quarter of 2001. Since then, domestic

employment, seasonally adjusted, has decreased by more than 30,000. A gradual improvement is not expected to take place until the last quarter of 2003, thus bringing employment in 2004 to a level which is about 16,500 units higher than in 2003 (after falling by 5,000 persons this year). This year, the employment rate (ratio of the total working population to the population of working age) should drop back for the second consecutive year (to 61.5%, as compared with 62.3% in 2001), but should recover slightly next year (to 61.6%). After a major increase this year, the unemployment rate should, on an annual average, also show a sustained, though smaller rise in 2004.

**Graph 3 - Evolution of employment and employment rate (annual averages)**



Next year, inflation, measured on the basis of the national consumer price index, should increase by 1.4%, as compared with 1.6% this year. This slightly lower figure will be seen despite the fact that next year the downward effect of the abolition/reduction (depending on the region) of radio and television license fees is almost exhausted. The expected fall in inflation is mainly due to the continued fall in underlying inflation (which is currently still close to 2%) which, in turn, is inspired by the past appreciation of the euro and the moderate development of unit labour costs.

The pivotal public sector index level was passed in May 2003. As a result, social security allowances were adjusted by 2% to the higher cost of living in June. The same happened to civil servants' wages in July. The monthly forecasts for the health index indicate that the pivotal index – which currently stands at 113.87 – should not be exceeded in 2004.

“Economische begroting 2004”, “Budget économique 2004”, INR/ICN, September 2003

## Economic forecasts for Belgium by the Federal Planning Bureau

Changes in volume (unless otherwise specified) (cut-off date of forecasts: September 30, 2003)

	2001	2002	2003	2004
Private consumption	0.8	0.4	1.3	1.5
Public consumption	2.7	1.9	1.9	1.6
Gross fixed capital formation	0.3	-2.5	2.1	2.9
Final national demand	0.4	0.8	1.8	1.8
Exports of goods and services	1.3	1.0	-1.1	4.8
Imports of goods and services	1.1	1.2	-0.1	5.0
Net-exports (contribution to growth)	0.2	-0.1	-0.9	0.0
Gross Domestic Product	0.6	0.7	0.9	1.8
p.m. Gross Domestic Product - in current prices (bn euro)	253.80	260.01	268.86	277.96
National consumer price index	2.5	1.6	1.6	1.4
Consumer prices: health index	2.7	1.8	1.4	1.3
Real disposable income households	1.7	1.3	1.7	1.9
Household savings ratio (as % of disposable income)	15.4	16.2	16.5	16.9
Domestic employment (change in '000, yearly average)	60.5	-12.4	-5.0	16.4
Unemployment (Eurostat standardised rate, yearly average) [1]	6.7	7.3	8.0	8.2
Current account balance (BoP definition, as % of GDP)	4.0	4.7	4.8	4.9
Short term interbank interest rate (3 m.)	4.2	3.3	2.3	2.4
Long term interest rate (10 y.)	5.1	5.0	4.1	4.3

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

## Economic forecasts for Belgium by different institutions

	GDP-growth		Inflation		Government balance		Date of update
	2003	2004	2003	2004	2003	2004	
Federal Planning Bureau	0.9	1.8	1.6	1.4	.	.	9/03
INR	0.9	1.8	1.6	1.4	.	.	9/03
National Bank of Belgium	1.0	.	1.2	.	-0.6	.	6/03
European Commission	1.2	2.3	1.4	1.3	-0.2	-0.1	3/03
OECD	1.3	2.3	1.4	1.2	0.0	0.2	4/03
IMF	0.8	1.9	1.4	1.4	-0.5	-0.2	9/03
ING	0.8	2.0	1.5	1.5	-0.4	-0.1	9/03
Fortis Bank	0.8	1.9	1.7	1.8	-0.3	0.0	9/03
Dexia	1.0	2.0	1.7	1.8	-0.6	-0.1	9/03
KBC Bank	0.8	1.9	1.5	1.1	-0.6	-0.2	9/03
Morgan Stanley	0.70	1.9	1.70	1.9	-0.7	-0.6	9/03
Petercam	0.75	1.5	1.5	0.8	-0.75	-0.75	9/03
IRES	0.8	1.7	1.4	1.2	-0.6	-0.8	7/03
DULBEA	0.5	1.8	1.25	1.0	-0.75	-0.75	9/03
Consensus Belgian Prime News	0.8	1.7	1.5	1.4	-0.5	-0.2	9/03
Consensus Economics	0.6	1.6	1.4	1.4	.	.	9/03
Consensus The Economist	0.7	1.6	1.3	1.1	.	.	9/03
Consensus Wirtschaftsinstitute	1.0	1.6	1.3	1.1	.	.	4/03
<b>Averages</b>							
All institutions	0.9	1.9	1.5	1.4	-0.5	-0.3	
International public institutions	1.1	2.2	1.4	1.3	-0.2	0.0	
Credit institutions	0.8	1.8	1.6	1.4	-0.6	-0.3	

Collaborating institutions for The Economist: ABN Amro, Deutsche Bank, EIU, Goldman Sachs, HSBC Securities, KBC Bank, Merrill Lynch, J.P. Morgan Chase, Morgan Stanley, Nordea, Decision Economics, BNP Paribas, Royal Bank of Canada, Citigroup, Scotiabank, UBS.

Wirtschaftsforschungsinstitute: DIW (Berlin), Ifo (München), HWWA (Hamburg), IfW (Kiel), IWH (Halle), RWI (Essen)

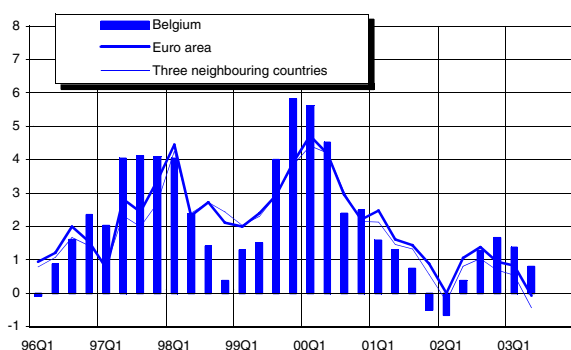
General economic activity

**Table 1 - GDP growth rates, in %**

			YoY growth rates, in %					QoQ growth rates, in %				
	01	02	02Q2	02Q3	02Q4	03Q1	03Q2	02Q2	02Q3	02Q4	03Q1	03Q2
Germany	0.8	0.2	0.5	0.9	0.3	0.4	-0.6	0.2	0.1	0.0	-0.2	-0.1
France	2.1	1.2	1.5	1.3	1.4	1.0	0.0	0.6	0.3	-0.1	0.2	-0.3
Netherlands	1.3	0.2	0.2	0.7	0.1	0.0	-0.9	0.5	0.1	-0.2	-0.3	-0.5
Belgium	0.8	0.7	0.4	1.3	1.7	1.4	0.8	0.4	0.5	0.3	0.2	-0.1
Euro area	1.6	0.8	1.1	1.4	0.9	0.8	-0.1	0.5	0.2	0.1	0.0	-0.1
United States	0.3	2.4	2.2	3.3	2.9	2.0	2.5	0.3	1.0	0.3	0.4	0.8
Japan	0.4	0.1	-0.3	1.7	2.3	2.9	3.0	0.9	0.8	0.6	0.6	1.0

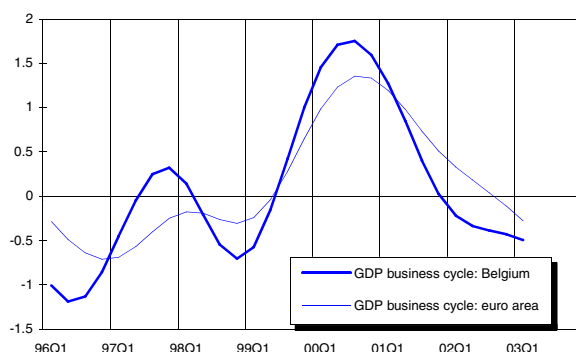
Source: INR/ICN, National sources, Eurostat

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



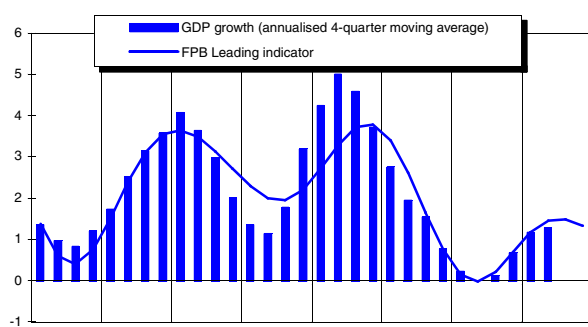
Source: INR/ICN, National sources, Eurostat

**Graph 2 - GDP business cycle**



Source: INR/ICN, Eurostat, FPB

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



Source: INR/ICN, FPB

After a modest increase in the beginning of the year, economic activity in the US accelerated in 2003Q2. The main contributors to this speeding up were private consumption expenditures and federal defence spending. The improvement in private non-residential investment during that quarter brought some hope of a change for the better. Moreover, in recent months, most US leading and confidence indicators have been on a rising trend, bringing upward revisions in US growth forecasts as well as an improvement in stock market performance. The Japanese economy is also performing better than was previously expected since activity has been supported by favourable development in its export market and by some recovery in domestic demand.

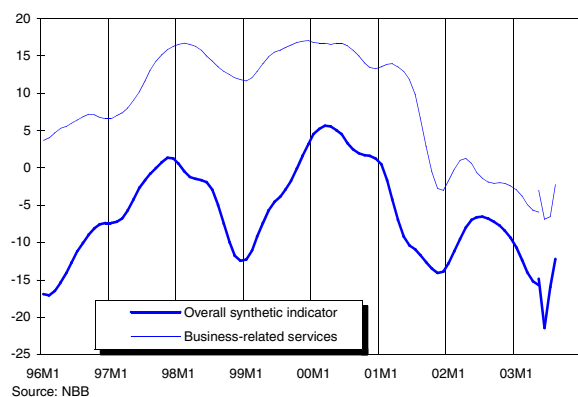
In the euro area, economic activity stagnated in the first half of 2003. During the second quarter, GDP growth was negative in France, and, for the second consecutive quarter, in Italy and Germany. The Netherlands once again strongly underperformed the European average as Dutch exporters were severely affected by the deterioration of their export price competitiveness exacerbated by the appreciation of the euro.

A small decline in activity was also registered in Belgium in the second quarter of 2003. Nevertheless, for the third consecutive quarter, the Belgian economy outperformed the average qoq GDP growth of its three main neighbouring countries. Up to the first quarter of 2003, the Belgian business cycle and the euro area business cycle both remain on the downwards trend and neither of them is yet pointing towards a turning point. Since the middle of last year, however, the slope is less pronounced in Belgium than in the euro area. This may be due to the robustness of Belgian domestic demand counteracting the negative impact coming from the weakness in the export business cycle.

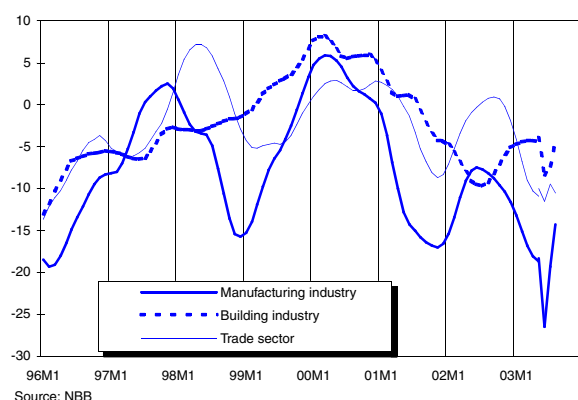
The FPB leading indicator for Belgium also shows that Belgian GDP should register a gradual although only modest recovery in the course of 2003, which remains in line with our forecast of GDP growth of around 1%.



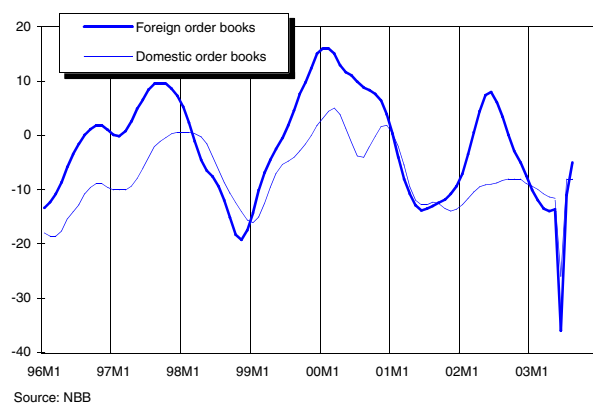
**Graph 4 - Business cycle: global evolution**



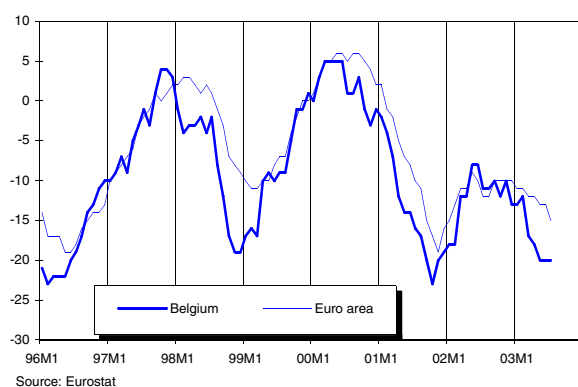
**Graph 5 - Business cycle: sectoral evolution**



**Graph 6 - Manufacturing industry: order books**



**Graph 7 - Industrial confidence: international comparison**



Business survey indicators for the Belgian economy have been rather volatile during the past few months. In June, business confidence deteriorated in all three branches that are incorporated in the overall synthetic indicator (manufacturing industry, building industry and the trade sector) and in the business-related services sector, reaching historically low levels. In July, much of the fall recorded in the previous month was wiped out. This recovery was once again in all branches. Moreover, the overall business indicator continued to rise in August, climbing to its highest level since February 2003. Such a substantial improvement in the global business climate during two consecutive months had not been seen since the second half of last year.

Both the deterioration in the business climate in June and the improvement in July and August were most striking in *manufacturing industry*. The recent upturn in indicators relating to trends and the assessment of foreign order books point to a less gloomy export performance in the second half of this year. The seasonally adjusted synthetic curve for manufacturing industry has been above its smoothed level (which reflects the fundamental trend) for two months now. This means that the downturn in manufacturing industry, that began in the second quarter of 2000 (and was only briefly interrupted during the first half of 2002), should soon come to an end. As has already been observed in the past, the turning point in industrial confidence should be reached somewhat earlier in Belgium than in the euro area. The smoothed *trade sector* indicator remained on an upward path for the major part of 2002 and began to fall three months later than in manufacturing industry. During the last few months, trade sector indicators have been rather stable and no clear improvement has emerged as yet. It is expected that the upturn in the trade sector should follow the manufacturing sector with a certain time-lag. During the last few quarters, the business cycle in the *building industry* has been somewhat at odds with the rest of the economy: an upturn was seen from the summer of last year onwards, at a time when the rest of the economy began its downturn. The current question is whether this recovery will last. Recently, the business climate in the structural building work industry has shown some signs of saturation, but from next year some impetus should begin to come from civil engineering and road works (in the run-up to the municipal elections in 2006). The indicator in the *business-related services sector* has fallen over the past three years by about the same amount as the overall synthetic indicator, which was not the case in previous downturns. In fact, corporate demand for financial and business services has been hit particularly hard in the current downturn as companies have striven to improve profitability and restore balance sheets. As a result, the traditional cycle-smoothing role of services has been somewhat reduced in the current downturn.

## Private consumption

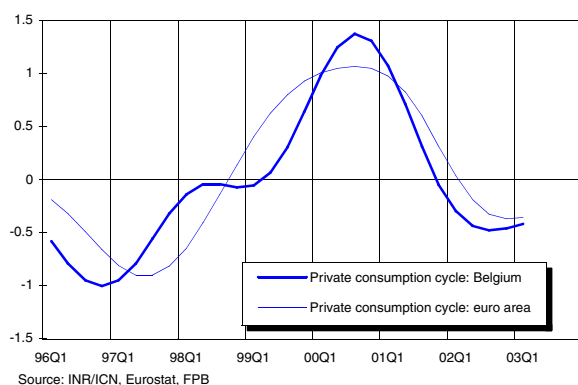
**Table 2 - Private consumption indicators**

	01	02	02Q3	02Q4	03Q1	03Q2	03M3	03M4	03M5	03M6	03M7	03M8
Turnover (VAT) - retail trade [1]	4.5	17.7	3.5	55.7	11.3	3.5	3.3	4.6	4.4	1.5	.	.
New car registrations [1]	-5.1	-4.3	-10.6	-14.0	-12.1	-7.8	-9.0	-16.5	-9.3	5.9	0.8	10.2
Consumer confidence indicator [2]	0.6	-2.7	-2.7	-3.7	-14.3	-11.0	-18.0	-11.0	-11.0	-11.0	-12.0	-11.0

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

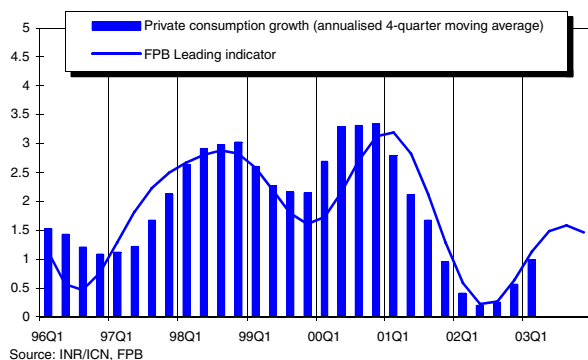
Source: NIS/INS, Eurostat, Febiac, FPB

**Graph 8 - Private consumption cycle**



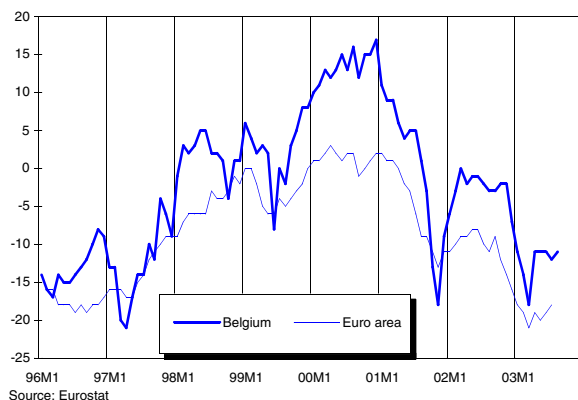
Source: INR/ICN, Eurostat, FPB

**Graph 9 - Private consumption growth and leading indicator**



Source: INR/ICN, FPB

**Graph 10 - Consumer confidence: international comparison**



Source: Eurostat

Belgian and euro area private consumption were both about 0.5% lower than their trend values by the end of 2002, but both cycles now seem to have started out on a weakly rising path. This means that, after two years of below trend growth, private consumption is now growing faster than its trend. It appears that both cycles are moving well together as was also the case in past years.

If the reclassification of public radio and television broadcasting companies is not taken into account (which artificially lowered consumption growth by 0.5 percentage points), Belgian private consumption grew by 1.1% last year. In fact, real disposable income growth held up well despite the economic slowdown, which was due among other things to income tax reductions. The rise in the savings rate, however, restrained private consumption growth somewhat. During the first quarter of this year, private consumption increased by 0.5% which was a positive surprise after the stabilisation in 2002Q4. This picture was not confirmed by all indicators. It is true that retail sales performed much better during the beginning of this year as compared with last year, but consumer confidence fell quite heavily during the first few months of this year and car sales performed worse in comparison with the same period last year (although it should be noticed that car sales received a 'seasonal' boost during 2002Q1 due to the bi-annual motor show).

During the last few months, positive signals were given by most indicators. Consumer confidence picked up again, since people are now more optimistic about the development of economic activity and the labour market. At the same time, the strong growth rates of retail sales have been confirmed in the second quarter of this year, while yoy growth rates in car sales recently turned positive again. The FPB leading indicator also points to an acceleration in private consumption growth rates until the third quarter of 2003.

Euro area consumer confidence also picked up from the second quarter of this year onwards which indicates that private consumption should develop more or less in the same way in Belgium and Euroland this year.

## Business investment

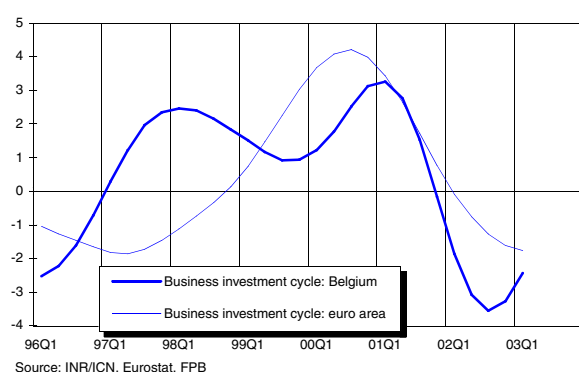
**Table 3 - Business investment indicators**

	01	02	03	02Q3	02Q4	03Q1	03Q2	03M2	03M3	03M4	03M5	03M6
Investment (VAT) [1]												
Industrial companies	-0.4	-0.9	.	-12.8	5.6	2.6	-3.1	-12.3	7.1	-4.2	0.1	-5.0
Non-industrial companies	5.1	-0.8	.	-4.0	0.0	-4.3	10.1	-8.9	-7.0	12.1	13.5	4.5
Total companies	3.1	-0.7	.	-7.1	2.3	-1.4	5.2	-9.9	-1.9	6.5	8.3	0.9
Investment survey [1]	-1.0	-13.0	5.1									
Capacity utilisation rate (s.a.) (%)	80.7	79.9	.	79.9	79.5	78.6	77.7					

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

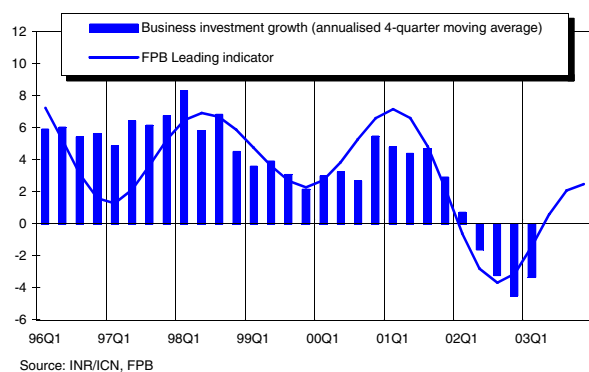
Source: NIS/INS, NBB, FPB

**Graph 11 - Business investment cycle**



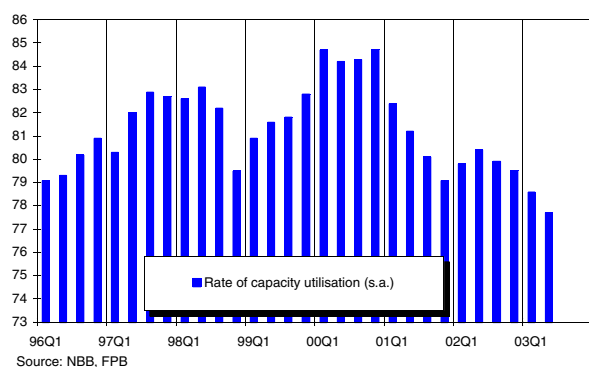
A few months ago both the Belgian and the euro area investment cycles seemed to have bottomed out at the end of 2002, which now has been confirmed for Belgium, with the turning point reached in 2002Q3, while the euro area investment cycle has continued its downward path. It should be mentioned, however, that the fall in the Belgian cycle was much more severe than in the euro area. Consequently, even after two quarters of strong growth, Belgian business investment is still 2.5% lower than its trend value.

**Graph 12 - Business investment growth and leading indicator**



Business investment was seriously hit by the economic slowdown. As negative qoq growth rates dominated the picture during the last two years, real investment declined by 4.5% in 2002. The latest investment survey carried out by the National Bank of Belgium (NBB) points in the same direction, showing that investment at current prices in manufacturing industry declined by 13%. VAT-based statistics show that the decline was not limited to the industrial sector. These developments have brought the investment rate at constant prices (real investment as a percentage of GDP) down from 14.5% in 2001 to 13.8% in 2002.

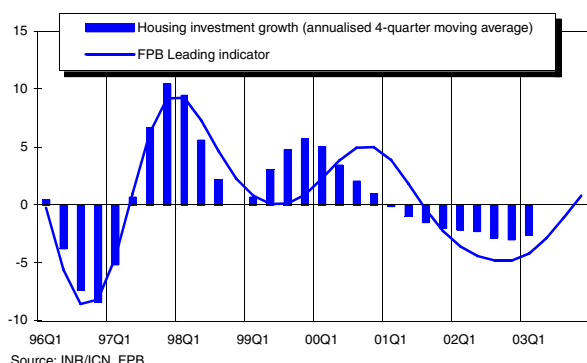
**Graph 13 - Capacity utilisation in manufacturing industry**



On the basis of the turning-point in the Belgian investment cycle one might think that the downward adjustment of capital stock as a reaction to the over-investment at the end of the last decade has come to an end. This is supported by the latest observations, since real business investment should have increased by 1.3% in 2003Q1 after a growth rate of 4% in 2002Q4. The FPB leading indicator also shows that investment growth should continue to improve and reach a positive growth rate this year, which is supported by the results of the spring investment survey by the NBB. Other indicators, however, present a gloomier picture. The capacity utilisation rate declined for the fourth consecutive quarter in 2003Q2 and reached its lowest level of the past nine years, while the first VAT statistics for the second quarter of this year indicate a rather poor performance. All in all, it is expected that business investment will continue to rise as the economic upturn strengthens.

## Housing investment

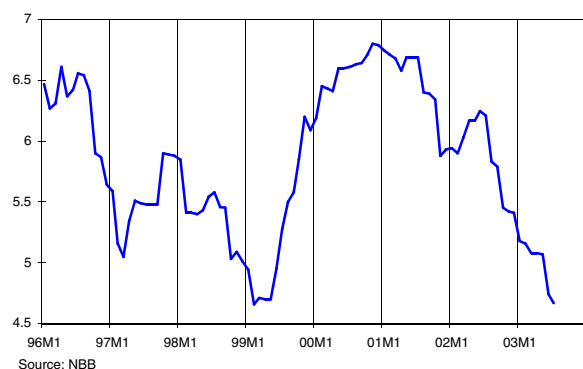
**Graph 14 - Housing investment growth and leading indicator**



According to the latest quarterly national accounts, housing investment growth (qoq) became positive (0.7%) in the first quarter of 2003. Accordingly, annualised 4-quarter moving average growth (as given in graph 14) started to rise in this quarter, having previously fallen for eight consecutive quarters.

The change for the better from 2003 onwards was already announced by the related FPB leading indicator (cf. previous STU), which is based on quarterly surveys of architects, monthly business surveys in the house-building industry and mortgage applications submitted (for building and conversion projects). The results of surveys of architects and the development of mortgage applications, which usually have about a one-year lead, and a number of indicators taken from monthly business surveys in the house-building industry, which have a shorter lead, all indicated a turning-point in residential building activity at the turn of the year 2002-2003. Moreover, the FPB leading indicator suggests a further strengthening of building activity during the coming quarters, but continuing gloom in the labour market should limit the speed of this recovery.

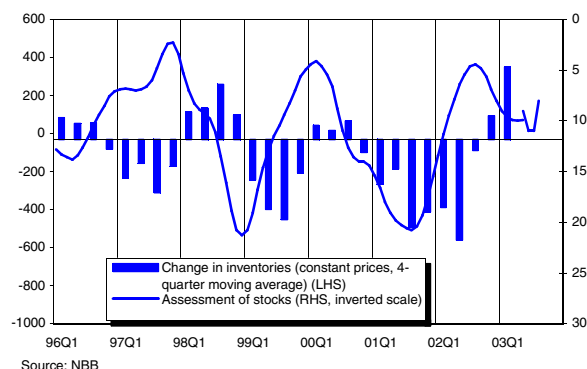
**Graph 15 - Mortgage rate (%)**



Mortgage rates have been following a marked downward trend since the beginning of 2001, bringing them in June to levels close to the low seen at the beginning of 1999. Despite the increase in mortgage rates during the last few weeks, they are still at historically low levels.

## Stock building

**Graph 16 - Stock building indicators**



According to the latest quarterly national accounts, the level of stocks increased in the first quarter of 2003, having already increased in the second half of 2002. This three-quarter period of stock rebuilding follows a period of two and a half years during which stocks have been falling almost interruptedly. To some extent this rebound in stocks can be interpreted in a positive way, as meaning that cost-cutting is coming to an end. However, as a growing number of entrepreneurs consider their stocks to be excessive (cf. graph 16) it follows that at least part of the rebuilding was unintentional, because the fall in the business cycle from mid-2002 onwards was generally unexpected. Another part may have been mainly technical and explained by precautionary stock building of oil products ahead of the military conflict in Iraq.

## Foreign Trade

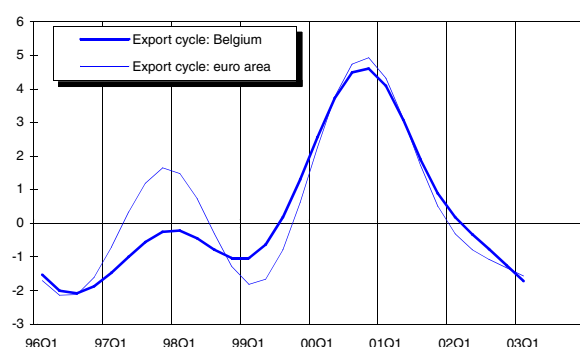
**Table 4 - Belgium - Trade statistics (goods, intra/extrastat)**

	01	02	02Q2	02Q3	02Q4	03Q1	02M12	03M1	03M2	03M3	03M4	03M5
Exports - value [1]	4.2	7.6	7.7	10.3	10.4	0.3	8.9	1.2	1.3	-1.3	-1.9	-7.7
Imports - value [1]	3.8	5.8	3.5	9.2	11.6	-0.3	11.3	0.8	2.2	-3.5	-4.0	-9.2
Exports - volume [1]	2.0	8.5	9.9	11.6	10.5	1.6	9.8	0.9	3.7	0.3	0.8	-2.4
Imports - volume [1]	1.5	8.3	8.1	12.9	11.3	1.9	9.7	2.2	3.4	0.3	-0.5	-2.3
Exports - price [1]	2.2	-0.9	-2.0	-1.2	-0.1	-1.2	-0.8	0.2	-2.3	-1.6	-2.7	-5.5
Imports - price [1]	2.4	-2.3	-4.2	-3.4	0.3	-2.2	1.4	-1.4	-1.3	-3.8	-3.5	-7.1

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

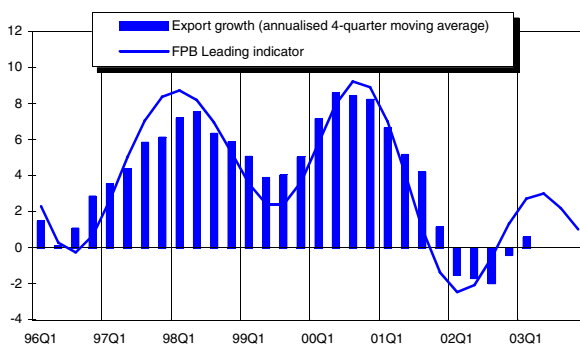
Source: INR/ICN, FPB

**Graph 17 - Export cycle**



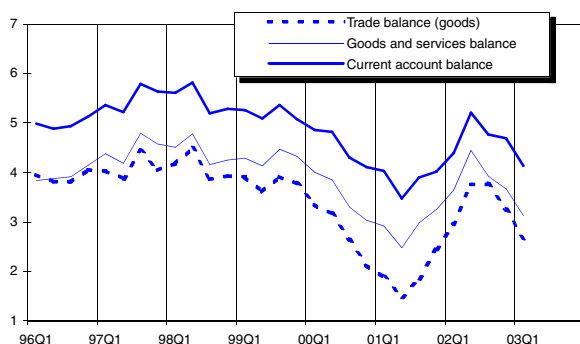
Source: INR/ICN, Eurostat, FPB

**Graph 18 - Export growth and leading indicator**



Source: INR/ICN, FPB

**Graph 19 - Belgium foreign balances (4 quarters cumul,% of GDP)**



Source: INR/ICN, NBB, FPB

Unlike most components of domestic demand, the Belgian export cycle has not yet reached its bottom. This means that the expected recovery will certainly not be an export-led one. The euro area export cycle did not perform much better and also continued its decline.

World trade stagnated from mid-2002 until 2003Q1, but has begun a gradual recovery due to the pick-up in US economic activity. It could take some time for Belgian exports to benefit from this because of their dependency on imports from neighbouring countries. In fact, Germany and the Netherlands are currently facing the second recession in two years and GDP also fell in France during the second quarter of this year. Moreover, the appreciation of the euro during the first half of this year will not be very helpful in stimulating exports.

Most leading indicators for exports, such as the OECD leading indicators for our three main trading partners, have recently begun to improve, although they are still at very low levels. This indicates that exports should improve during the second half of this year. The FPB leading indicator points to a small positive growth rate for this year, despite its decline during the second half of the year. It should be noted, however, that this decrease has appeared after a period in which the indicator was clearly too optimistic.

The first trade statistics for the second quarter of this year again show that yoy growth rates in imports and export volumes are both declining. It should be stressed that yoy growth rates in these statistics were influenced upwards in 2002 by new activity in the pharmaceutical industry, while they were artificially low in 2003 due to a new method of measuring imports and exports in the diamond sector. The latter lowered yoy growth rates by 1 to 1.5 percentage point.

Despite the improvement in the terms of trade in 2003Q1, the Belgian current account surplus expressed as a percentage of GDP declined for the third consecutive quarter due to relatively robust domestic demand as a result of which imports fell by less than exports.

## Labour market

**Table 5 - Labour market indicators**

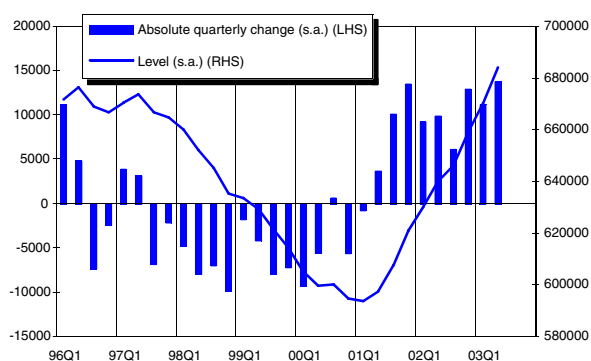
	01	02	02Q3	02Q4	03Q1	03Q2	03M3	03M4	03M5	03M6	03M7	03M8
Unemployment [1][2]	604.7	643.8	646.2	659.0	670.2	684.0	673.5	679.9	682.0	690.1	690.7	690.9
Unemployment rate [2][3]	12.6	13.3	13.4	13.6	13.8	14.1	13.9	14.0	14.0	14.2	14.2	14.2
Unemployment rate-Eurostat [3][4]	6.7	7.3	7.3	7.5	7.8	8.0	7.8	7.9	8.0	8.0	8.1	.

[1] Level in thousands, s.a.; [2] Broad administrative definition; [3] In % of labour force, s.a.

[4] Recent figures are based on administrative data and may be subject to revision

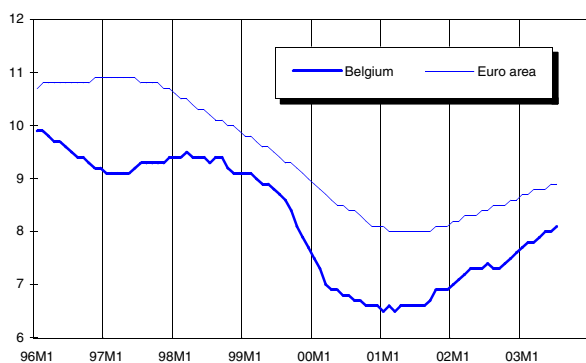
Source: RVA/ONEm, FPS Employment, Eurostat, FPB

**Graph 20 - Evolution of unemployment (incl. older)**



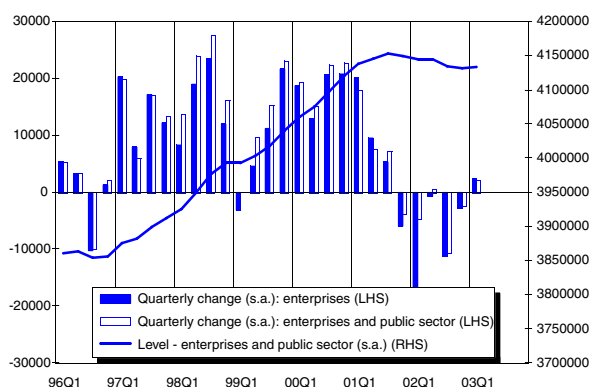
Source: RVA/ONEm

**Graph 21 - Harmonised unemployment rates (% of labour force)**



Source: Eurostat

**Graph 22 - Evolution of domestic employment**



Source: INR/ICN

The latest figures from the quarterly national accounts indicate that, quarter-to-quarter and seasonally adjusted, private sector employment remained more or less stable during the fourth quarter of 2002 (a decrease of 0.1%) and the first quarter of 2003 (increase by 0.1%). These figures suggest that the heaviest losses of job losses have been incurred during the first three quarters of 2002, reflecting a period of labour shedding in the wake of the drop in economic activity.

At the same time the economic downturn apparently has apparently led to an increase in pushed upwards new entries into the subsidized early retirement scheme. The number of people in this scheme had fallen come down dramatically between 1996 and 2001, following the implementation of measures discouraging entry. On a month-to-month basis, the total number of people in the scheme ceased shrinking to diminish during 2002 and even grew expanded during the first half of the current year (by more than 1,000 persons), thus adversely affecting labour force growth.

Nevertheless, due to structural factors (increased participation of women in on the labour market), the labour force is continuing continues to grow significantly, which implies that - with employment as good as stable - unemployment (broad administrative definition) has continued to soar during the first quarter (by more than 11,000 persons). In view of the further deterioration in of unemployment during the second quarter (increase by slightly less than 14,000 persons), it can may be confirmed that employment has not yet begun started to pick up.

With employment not expected to respond react to the recovery before the final quarter, on a yearly average basis domestic employment is expected to shrink slightly in 2003 (by 0.1%), giving rise to occasioning a further fall drop in the employment rate (national accounts concept) from 61.8% to 61.5% and implying a considerable increase in the unemployment rate (broad administrative definition; from 13.3% to 14.1%).

Prices

**Table 6 - Inflation rates: change compared to the same period in the previous year, in%**

	01	02	02Q4	03Q1	03Q2	03Q3	03M4	03M5	03M6	03M7	03M8	03M9
Consumer prices: all items	2.47	1.64	1.26	1.57	1.38	1.69	1.48	1.04	1.62	1.49	1.79	1.80
Food prices	4.23	2.20	0.98	0.96	1.94	3.02	1.81	1.31	2.72	2.56	3.08	3.42
Non food prices	1.71	0.60	1.21	2.27	0.60	0.96	0.67	0.28	0.86	0.71	1.21	0.95
Services	2.46	2.66	1.29	0.85	1.95	1.71	2.30	1.77	1.78	1.73	1.62	1.77
Rent	1.91	2.46	2.53	2.34	2.28	2.18	2.28	2.22	2.33	2.19	2.15	2.22
Health index	2.74	1.78	1.09	1.20	1.39	1.59	1.47	1.11	1.60	1.47	1.64	1.67
Brent oil price in USD (level)	24.4	25.0	26.8	31.4	26.1	28.4	24.9	25.8	27.7	28.5	29.8	27.0

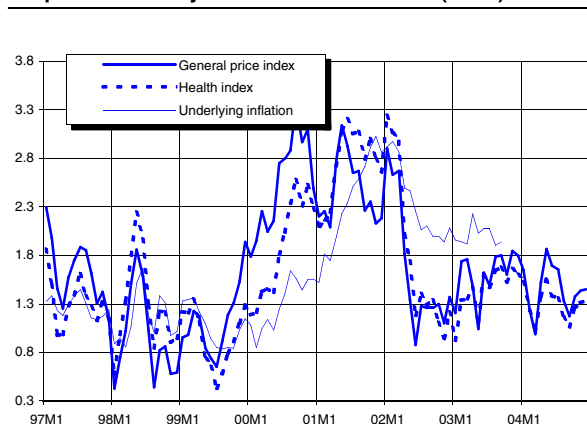
Source: FPS Economy, Datastream

**Table 7 - Monthly inflation forecasts**

	03M1	03M2	03M3	03M4	03M5	03M6	03M7	03M8	03M9	03M10	03M11	03M12
Consumer prices: all items	111.55	112.32	112.64	112.36	112.04	112.37	112.59	112.89	113.22	112.87	113.05	113.06
Consumer prices: health index	110.94	111.56	111.82	111.73	111.57	111.85	112.06	112.20	112.47	112.11	112.29	112.31
Moving average health index	110.60	110.88	111.22	111.51	111.67	111.74	111.80	111.92	112.15	112.21	112.27	112.30
	04M1	04M2	04M3	04M4	04M5	04M6	04M7	04M8	04M9	04M10	04M11	04M12
Consumer prices: all items	113.39	113.71	113.75	114.07	114.13	114.27	114.45	114.39	114.55	114.42	114.67	114.70
Consumer prices: health index	112.63	112.93	112.95	113.27	113.30	113.40	113.58	113.50	113.66	113.52	113.76	113.81
Moving average health index	112.34	112.54	112.71	112.95	113.11	113.23	113.39	113.45	113.54	113.57	113.61	113.69

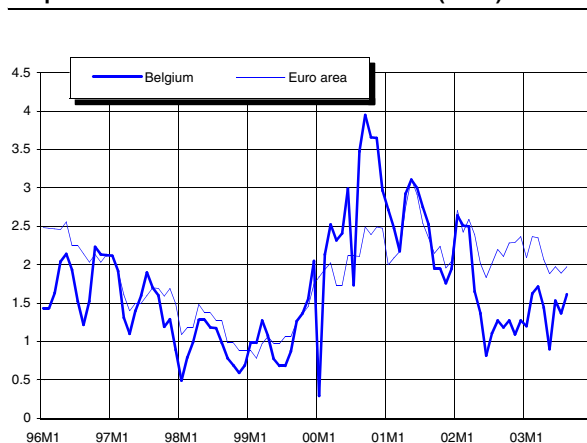
Source: Observations (up to 03M9): FPS Economy; forecasts: FPB

**Graph 23 - Monthly inflation evolution in% (t/t-12)**



Source: FPS Economy, from 03M10 on: forecasts FPB

**Graph 24 - Harmonised inflation rates in% (t/t-12)**



Source: Eurostat

During the last few months, consumer price inflation, as measured by the yoy change in the national CPI, has continued its 'yo-yo' movement in parallel with the development of oil prices. After reaching a peak of 1.8% in March, NIPC inflation fell to 1.0% in May. During the same period, crude oil prices expressed in US dollar decreased by 15% and by more than 20% expressed in euro. Due to renewed uncertainties surrounding the rebuilding of Iraq's oil-producing capacity and lower than expected oil stocks in the US, the Brent oil price rose to a level above 30 USD per barrel in August. Reinforced by higher fresh food prices, consumer price inflation picked up again to 1.8% both in August and September.

In spite of significant fluctuations in NIPC inflation during the first eight months of this year, underlying inflation remained rather stable, in a narrow band around 2%. In August, underlying inflation fell to 1.9%, a level that was confirmed in September. A further deceleration in underlying inflation during the remaining months of this year is expected, particularly as low import prices (due to the past appreciation of the euro) progressively feed into consumer prices.

All in all, average CPI inflation should be 1.6% this year and 1.4% in 2004. According to our monthly forecasts for the 'health index', the pivotal index for public wages and social benefits (currently 113.87) should not be exceeded in 2004.

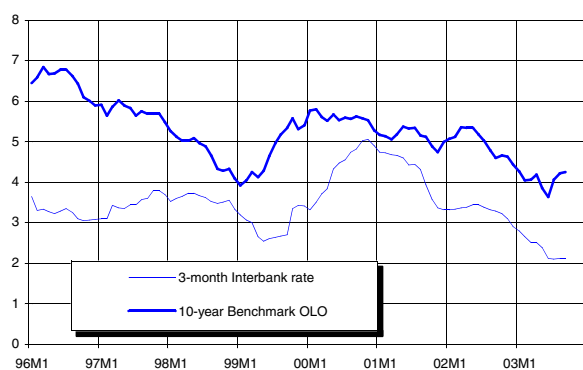
Interest rates

Table 8 - Interest rates

	01	02	02Q3	02Q4	03Q1	03Q2	03M3	03M4	03M5	03M6	03M7	03M8
<b>Short-term money market rates (3 months)</b>												
Belgium	4.23	3.29	3.33	3.08	2.66	2.34	2.51	2.51	2.38	2.12	2.10	2.12
Euro area (Euribor)	4.26	3.32	3.36	3.11	2.68	2.36	2.53	2.54	2.41	2.15	2.13	2.14
United States	3.69	1.73	1.76	1.49	1.26	1.17	1.23	1.25	1.22	1.04	1.05	1.08
Japan	0.12	0.02	0.02	0.01	-0.01	-0.01	-0.01	0.00	0.00	-0.02	-0.06	-0.05
<b>Long-term government bond rates (10 years)</b>												
Belgium	5.12	4.97	4.81	4.58	4.13	3.89	4.07	4.18	3.86	3.63	4.06	4.22
Germany	4.79	4.81	4.73	4.43	4.07	3.97	3.91	4.02	4.14	3.74	3.79	4.20
Euro area	4.99	4.90	4.73	4.53	4.11	3.93	4.07	4.20	3.90	3.68	4.01	4.20
United States	5.01	4.59	4.23	3.99	3.90	3.60	3.80	3.94	3.54	3.32	3.94	4.38
Japan	1.32	1.24	1.20	0.98	0.79	0.59	0.71	0.65	0.57	0.54	1.01	1.17

Source: NBB, ECB

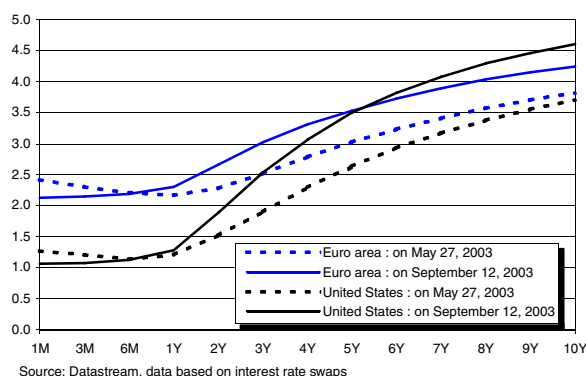
Graph 25 - Interest rate levels in Belgium, %



Source: NBB

The persistent weakness of economic activity in the euro area during the second quarter of 2003, combined with the further appreciation of the effective euro exchange rate, as well as increased worries regarding deflation trends, led the ECB to reduce its main refinancing rate from 2.5% to 2.0% on 6 June 2003. On 25 June, the US Federal Reserve also decided to lower its federal funds rate, but only by 25 basis points (to 1 percent). Since, at that time, the US economy was still exhibiting a growth rate below potential and inflationary expectations remained subdued, the Fed perceived an increased probability of deflation.

Graph 26 - Yield curves for the euro area and the US



Source: Datastream, data based on interest rate swaps

Lower growth and inflation expectations both in the US and in the euro area led to a strong decline in long-term government bond rates in May-June 2003, leaving the negative differential between bond yields in the US and the euro area virtually unchanged. The trough was, however, reached in mid-June. Since then, bond yields rose strongly in the US, reflecting a combination of growing optimism about short-term economic activity and corporate earnings prospects, diminishing fears of deflation and worries over the rapid deterioration of the US fiscal position. Partly due to spillovers from the US, as well as shifts in portfolios linked to the rise in stock prices, government bond yields also rose in the euro area, although to a lesser extent than in the US. As a result, US long-term interest rates exceeded euro long-term rates in August for the first time since March 2002.

Contrary to the sluggish situation prevailing in June, the financial markets seem to be more optimistic than three months ago about US and European economic prospects since they are not expecting any further rate cut in either the US or the euro area, but rather a faster and stronger rebound in interest rates. This is revealed by the steeper shape of the yield curve in the US and the euro area for maturities between one and five years.



## Exchange rates

Table 9 - Bilateral exchange rates

	01	02	02Q3	02Q4	03Q1	03Q2	03M3	03M4	03M5	03M6	03M7	03M8
BEF per USD	45.05	42.67	41.00	40.29	37.58	35.49	37.32	37.15	34.87	34.57	35.46	36.17
USD per EUR	0.895	0.945	0.984	1.001	1.074	1.137	1.081	1.086	1.157	1.167	1.138	1.115
UKP per EUR	0.622	0.629	0.635	0.637	0.670	0.702	0.683	0.690	0.713	0.703	0.701	0.700
JPY per EUR	108.73	118.12	117.36	122.50	127.69	134.67	128.23	130.21	135.74	138.06	135.00	132.39

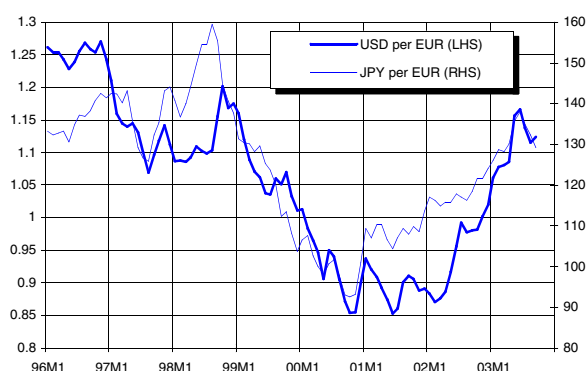
Table 10 - Nominal effective exchange rates (1990=100)

	01	02	02Q3	02Q4	03Q1	03Q2	03M3	03M4	03M5	03M6	03M7	03M8
Euro	79.7	82.1	83.4	84.5	88.5	92.5	89.4	90.0	93.6	93.8	92.6	91.5
Growth rate [1]	1.8	3.0	2.8	1.4	4.7	4.5	0.8	0.7	3.9	0.2	-1.3	-1.1
US dollar	121.2	119.9	116.1	116.5	111.8	108.1	111.3	111.4	106.8	106.1	107.6	108.7
Growth rate [1]	6.8	-1.1	-4.3	0.3	-4.0	-3.4	-0.4	0.0	-4.1	-0.6	1.4	1.1
Japanese yen	147.9	140.2	144.0	139.7	139.7	137.0	140.0	138.3	137.3	135.4	136.3	137.4
Growth rate [1]	-8.2	-5.2	3.0	-3.0	0.0	-1.9	0.9	-1.2	-0.7	-1.4	0.7	0.8

[1] Change (%) compared to previous period

Source: BIS, NBB

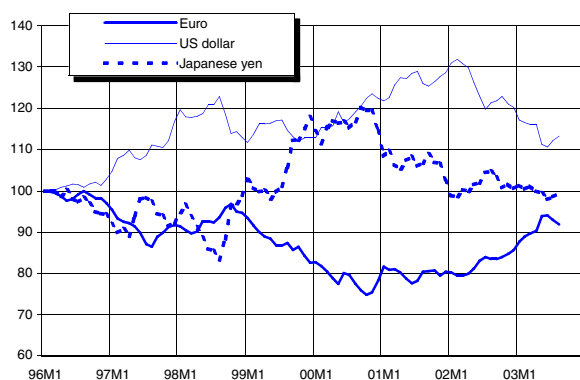
Graph 27 - Euro-dollar and euro-yen bilateral exchange rates



Source: NBB, before 1999M1: ECU instead of EUR

The appreciation of the euro against the US dollar continued until the end of May 2003, when the euro, at an exchange rate of 1.19 US dollar, reached its all-time high since the launch of monetary union. This appreciation was mainly driven by concerns over the widening US current account deficit and the deterioration in the US fiscal position in a context of below potential US growth and less attractive US yields. Since mid-June, however, the upward revision of market expectations for the US economic activity both in 2003 and 2004, in the light of improved business and consumer confidence, led to a rapid decline in the euro/US long term yield gap, supporting the US dollar. The US dollar has also benefited from intervention by the Japanese central bank in the financial markets in order to prevent the yen from appreciating.

Graph 28 - Nominal effective exchange rates (Jan. 96=100)



Source: NBB, BIS

The euro also strongly appreciated against the Japanese yen and UK sterling during the second quarter of 2003. During the summer months, however, and particularly in August, more favourable prospects for the Japanese economy led to an increase in Japanese long term yields and a weakening of the euro against the Japanese yen, while, despite subdued UK economic activity, the euro also lost part of its gains against sterling.

As a consequence of these developments, the nominal effective euro exchange rate went up by 4.5% in the second quarter of 2003 (after almost 5% in the first quarter). Despite its depreciation during the summer, by early September the euro was still around 9% above its average level of 2002.

**Tax indicators**

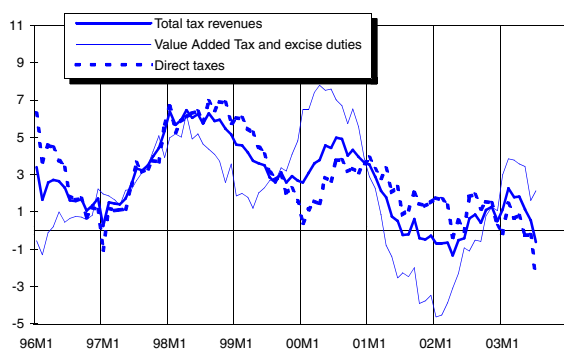
**Table 11 - Tax revenues (1)**

	01	02	02Q3	02Q4	03Q1	03Q2	03M2	03M3	03M4	03M5	03M6	03M7
Total [2], of which:	2.2	2.2	5.9	0.5	4.9	-1.9	18.5	-7.5	-1.8	-1.1	-2.7	-2.5
Direct taxes, of which:	4.1	1.8	8.0	-1.4	2.7	-2.5	26.1	-14.1	-2.7	-5.5	0.1	-8.2
Withholding earned income tax (PAYE)	6.0	2.5	1.8	-1.5	2.9	-2.0	5.9	5.0	-3.1	11.1	-11.0	-16.4
Prepayments	-0.3	-6.4	-1.7	-9.5	.	3.2	.	.	3.5	.	.	-10.0
Value Added Tax and excise duties	-1.0	2.7	3.9	3.0	8.6	-2.0	12.6	1.1	-0.6	5.3	-10.5	7.3

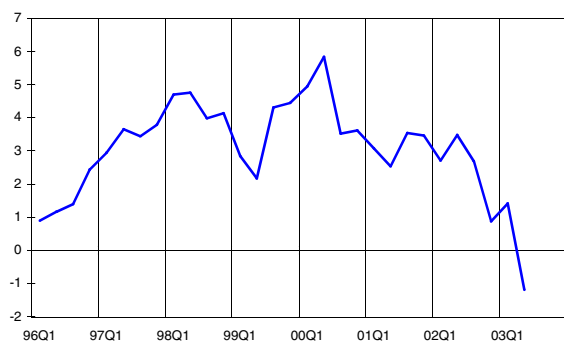
[1] Change (%) compared to same period previous year; [2] Total received by federal government, excl. of death-duties

Source: FPS Finance, FPB

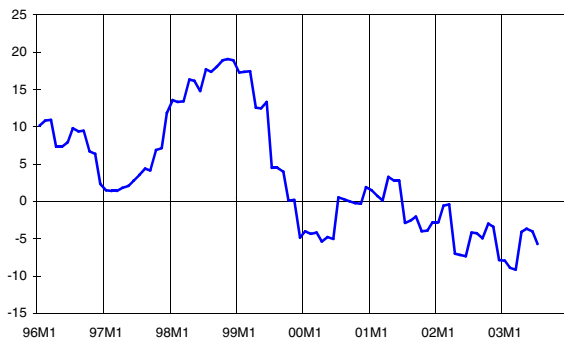
**Graph 29 - Real tax revenues (3)**



**Graph 30 - Real withholding earned income tax (PAYE) (4)**



**Graph 31 - 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 weakness of economic activity since the beginning of 2003 is negatively influencing the evolution of fiscal revenue. In the second quarter of 2003, the yoy nominal growth rate for most main fiscal categories is very low or negative.

Based on the 12-month moving average, however, the real growth rate in indirect taxes (VAT and excise duties) has recovered by the end of 2002 and is currently showing a moderately positive pace of growth. This corresponds to the upturn in the private consumption cycle in the last quarter of 2002, confirmed by a relatively sustained growth rate of private consumption in the first quarter of 2002.

PAYE revenue (mainly on wages) has decelerated significantly in real terms since mid-2002, on a yoy four-quarter moving average basis. This evolution reflects the fall in employment and additional reductions in the rates of withholding earned income tax: rate bands were twice indexed to prices in 2002 and, in January 2003, the remaining 1% of the "3% crisis levy" was cancelled while an additional part of the 2001 personal income tax reform came into force.

The growth profile of the 12-month moving average of total advance payments in real terms stays on its negative trend started two years ago. Advance payments in April 2003 (first due date for advance payments) rose by 3.5% in nominal terms as compared with the corresponding period in 2002, but they decreased again in July 2003 (second due date), by about 10% as compared with July 2002. This decrease is due to prepayments by both self-employed workers and corporate businesses. The corporate tax reform that came into force in January 2003 may have contributed towards this decrease.

## Belgian environmental accounts

This planning paper presents the current state of the environmental accounts in Belgium.

Environmental accounts are satellite accounts of the national accounts. They allow environmental and economic data to be combined in a straightforward fashion, since the environmental data are allocated to the economic agents mentioned in the national accounts. As such they constitute the ideal data base for studying issues such as the decoupling of the growth of environmentally harmful emissions from economic growth. In combination with integrated economic-environmental models they also make it possible to calculate the environmental effects of economic policy and vice versa. The use of environmental accounts in policy design is already well established in several European countries, including the Netherlands.

The methodology used to build environmental accounts is being developed by an international forum. The United Nations and Eurostat are developing a system of environmental accounts encompassing all environmental issues. Clearly it takes time to set up such a large system of accounts. The Belgian environmental accounts currently consist of three sets of accounts, namely the environmental protection expenditure accounts (EPEA), the national accounting matrix including environmental accounts for air pollution (NAMEA Air), and the national accounting matrix including environmental accounts for water pollution and water use (NAMEA Water). The EPEA contain data covering the period 1997-2000, the NAMEA Air covers the years 1994-2000, and the NAMEA Water covers the 1997-1999 period.

A distinct increase in environmental protection expenditure in Belgium can be seen between 1997 and 2000. Nominal average yearly growth was as high as 6.8%. This was higher than the growth in GDP. Consequently, the share of environmental protection expenditure in GDP rose from 1.63% to 1.74%. This increase was mainly attributable to the government. Enterprises, however, continued to be the most important source of financing of environmental protection expenditure, providing over half of the total. The government's share rose to one-third. The largest proportion of environmental protection expenditure in Belgium was allocated to water protection and waste collection and disposal.

Environmental expenditure has apparently not been in vain. We saw a distinct fall in most air and water pollution indicators. Greenhouse gas emissions into the air and emissions of arsenic and nitrogen into water, however, clearly increased. Small increases were also observed in two other types of water pollution, namely the

biochemical oxygen demand and emissions of phosphorus. Except for emissions of arsenic and nitrogen into water, the evolution was more favourable for industries than for households. Nevertheless, industries continued to be the most important source of pollution, although for some types of water pollution households were more important.

The eco-efficiency of households evolved positively, indicating that consumption per unit of pollution increased. An analysis of different consumption categories showed that this was not the case with regard to greenhouse gas emissions from the transport sector. The eco-efficiency of industries, measured as the value added per unit of pollution, increased for all types of air pollution. For arsenic and nitrogen emissions into water the eco-efficiency of the industries decreased.

Sectoral ecoprofiles were drawn up for the most polluting industries, defined as those industries responsible for a share of 20% of at least two types of water pollution and/or a share of ten percent of at least two types of air pollution. Four industries were selected in this way, namely agriculture, the chemical industry, the basic metals industry, and the electricity and gas industry. The analysis showed that eco-efficiency increased in agriculture and the chemical industry for most types of air and water pollution. The basic metals industry on the other hand, showed heavy losses in eco-efficiency for several types of water pollution. The electricity and gas industry showed a loss in eco-efficiency with respect to water pollution, and a gain with respect to air pollution. Since this industry is much more important from the point of view of air pollution, the overall picture for the electricity and gas industry is positive. This positive picture is strengthened by a comparison with the evolution of eco-efficiency of the electricity industry in terms of air pollution in France, the Netherlands and the United Kingdom, where developments were less favourable than in Belgium.

If, instead of focusing on the contribution of producers, the emphasis is placed on consumption, input-output analysis has shown that exports were the component of final demand contributing most to air and water pollution by Belgian producers. This is to be expected, since Belgium is a small, open economy, with a high degree of international trade, and Belgian exports also consist mainly of industrial goods, which are a lot more polluting to produce than services.

*"De Belgische milieurekeningen / Les comptes environnementaux belges", G. Vandille, B. Van Zeebroeck, Planning Paper 93, June 2003.*

The divergence in economic growth paths between industrialized countries represents one of the most salient developments of the 1990s as it contrasts with the convergence of GDP per capita growth rates observed since the end of the Second World War. Among the reasons given for these developments, the evolution of productivity on both sides of the Atlantic Ocean is often cited. The more rapid increase in American productivity may itself be partly due to a greater capacity for innovation and easier diffusion of technical progress throughout the economy. This better performance in terms of innovation and diffusion has been particularly clear in the case of information and communication technologies (ICT).

What precisely do we know about the role played by ICT? An answer to this question is a prerequisite for implementing consistent and efficient economic policies. A better understanding of the economic and social consequences of ICT in Belgium is the central goal of the research project conducted by the FPB over two years. This project was financially supported by the Federal Science Policy Office (S 2/64/01).

The first part of this book is devoted to the analysis of ways in which ICT has impacted the economic organization of the Belgian society. This part begins from the most general level and moves towards the most specific level.

The impact of ICT on short-term and long-term macroeconomic growth is analyzed first. The production of ICT creates value added and jobs and therefore sustains economic activity. Even though this sector is relatively small in Belgium, its contribution towards growth and job creation during the last decade has been significant. The cyclical impact of ICT production and diffusion is hard to assess given the opposite effects of these technologies on stock management and investment decisions. ICT does, however, have a potential positive effect on productivity due to capital deepening and total factor productivity (TFP) growth. This TFP increase could be seen in ICT producer sectors as well as in ICT user sectors, where it generated waves of innovation. In order for this effect to materialise, these technologies must be more integrated within production processes. This requires not only expenditure on ICT equipment but also, and perhaps above all, complementary intangible investments. Indeed, the optimal return on ICT investment is conditional upon a reorganization of activities throughout the value chain and an increase in labour skills. The government can play a major role by implementing a proactive policy, for example in the field of e-government.

To gain a better picture of the current level of ICT integration in the production processes of Belgian enterprises, the FPB conducted an in-depth survey of four sectors of activity. In general, these observations reinforce the conclusion concerning the delay in implementation of B2B by Belgian enterprises. According to the data, however, the role of ICT in product innovation seems to be as important as in process innovations. Moreover, and as expected, producers of intangible products seem to be more open to ICT use than producers of tangible goods. The survey also shows that ICT is generally used to increase the number of loyal customers and suppliers, supporting the lock-in hypothesis. This survey also sheds some light on the type of public interventions that are welcomed by firms. The acquisition of digital skills by workers and financial support for in-company employee training are mentioned most often. The second priority concerns the infrastructure and the availability of affordable high-speed broadband connections. The Belgian situation is rather favorable in this respect. Other factors related to infrastructure are also pointed out, however: the low level of equipment of customers and suppliers, ICT set-up costs and the high prices of telecom services. The third priority consists in the improved security of electronic transactions. Competition policy in general is also judged to be an important tool for minimizing the power of incumbents and, in particular, the danger of lock-in.

The implementation of e-government is then analyzed. The influences of public authorities on ICT diffusion are diverse. The State is the only economic agent large enough to sustain the development of some segments of the ICT market. Moreover, given the positive externalities of R&D activities, public support for ICT is generally available. This support is particularly important in the case of high-tech sectors such as ICT, where innovation abilities are essential for the survival of enterprises. In addition, the government creates the legal framework for economic activities and this framework may influence how much ICT will be involved in doing business. Finally, the State is able to assume the risk of a technological change and in this way, to play a prime role in ICT diffusion. By integrating these new technologies, the government not only shows the way to the rest of the economy but also creates incentives to use them in contacts with the administration. Modern economies must therefore face the challenge of ICT integration in the production of public services. If this integration is successful, it leads to a more efficient and transparent administration, thereby improving the welfare of citizens and civil servants. As has already mentioned for the private sector, however, public ICT investments are insufficient by themselves to achieve this goal. They have to be ac-

accompanied by a public sector reorganization. The current vertical structure of public departments needs to be replaced by a horizontal structure that corresponds to the needs of the population. The success of such a reform requires a clear political will and financial resources which, given the budgetary constraints that exist, mean that choices must be made in terms of priorities. To achieve success, the public authority must also minimize the risks involved in implementation of the on-line administration.

The effects of ICT go beyond the 'pure economic' effects described above. A fundamental innovation such as ICT inevitably has social and societal consequences of its own. The possible relationship between social dualisation and the digital divide is therefore considered, i.e. the gap between those who have access to ICT and those who do not. Such a relationship exists if a digital divide deprives those households that are already in a precarious state, and if this gap between poor and non-poor households widens as a result of ICT diffusion.

A multidimensional measure is developed for a representative data set from 1998, resulting in three latent dimensions of poverty: 'weak economic integration' (level of education and labour market integration), 'deprivation' and 'low socio-economic well-being'. The analysis shows that households that are labelled as poor, amounting to about 8 percent of the sample, proportionally lag behind with regard to the diffusion of several ICT-based consumer items, such as mobile phones, computers and internet connections. The gap between poor and non-poor households therefore coincides with the digital divide. Another conclusion is that one of the discerning factors between non-poor and poor households, apart from deprivation, is the latter's lower average level of education and labour market integration.

Despite the increasing average level of education of the labour force in Belgium, the position in the labour market of those with a lower level of education has deteriorated during the past decade. This deterioration is seen in terms of relative wages and in terms of employment opportunities. Clearly, this development is caused by the increasing demand for skills. This increase is itself causally related in more than one way to the increasing use of technology in the production process. As a consequence, it must be concluded that ICT widens the social gap.

It follows from this that the position of vulnerable groups could be improved by improving their ICT skills as well as their other skills. Increasing ICT skills requires not only that low-skilled individuals should be given the possibility to acquire these skills, but also that access

to ICT for these individuals, and especially to computers and the Internet, should be improved. With regard to the Internet, it is argued that PIAP's (Public Internet Access Points), useful as they are for the population as a whole, may be less effective when the aim is to make the Internet more accessible to vulnerable groups. Instead, lowering the purchase and/or access prices of these goods should be considered.

Four strategies that can be used to incorporate ICT in learning can then be presented. These strategies use technology as a "curriculum, delivery mechanism, complement to instruction" and "instructional tool". Looking at the advantages and disadvantages of these strategies for learners, both adults and children, one can conclude that it is less effective to use the first strategy (technology as a curriculum, or teaching ICT skills) when dealing with deprived adults who have a low level of education. The reasons for this are, first of all, that these individuals often have less experience with technology – and therefore a more negative attitude towards it. Moreover, they often have a lower self-esteem and "self-efficacy", which results in a lower motivation to acquire technology skills. Thirdly, they may lack the necessary basic skills needed to acquire technology skills. For these reasons it may be useful to teach technology skills in an indirect way, i.e. by using the second to fourth strategies for teaching other skills (including basic skills). As far as the teaching of ICT skills to children is concerned, directly teaching these skills (the first strategy) could be very effective, as long as computers and the Internet are made accessible to these students. Moreover, ICT should also be used in the teaching of other subjects. This not only requires teachers to have a certain level of technology skills and the motivation to use them, but also that the teaching of different subjects should be coordinated with the teaching of ICT skills, so that skills acquired in the ICT course can be applied in the general subjects.

Government policy can influence the positive effects of ICT on economic growth while minimizing the risk of social exclusion. In this respect, the major role of education and training should be emphasized. Public policy should also influence the quality of infrastructure while lowering the cost of purchase and use.

*"Informatie- en communicatietechnologieën in België. Analyse van de economische en sociale impact",  
"Les technologies de l'information et de la communication en Belgique. Analyse des effets économiques et sociaux",  
G. Dekkers, C. Kegels,  
Kluwer Uitgevers, 196 p., 2003.*

## NIME: Simulations of the international transmission of shocks

The international transmission of shocks: some selected simulations with the NIME model.

The NIME macro-econometric model is one of the analytical tools developed and used by the Belgian Federal Planning Bureau to improve its understanding of developments in the Belgian international economic environment. This paper shows some concrete applications of this model by analyzing the spillover effects of shocks from the United States (US) to the euro area and the rest of the world. The shocks we investigate are a temporary increase in public expenditures in the US, a US-led world-wide permanent increase in total factor productivity, an increase in the risk premium in the US stock market, and a temporary increase in the US short-term interest rate. We will discuss here how these shocks affect economic activity in the US and how they are transmitted to the euro area. Such an analysis can be useful because it answers questions that are often asked by economists who want to assess their medium term projection of the euro area economy.

In the NIME model, shocks are transmitted across the different country blocks of the model<sup>1</sup> via several channels. First there is international trade in goods and services, whereby exports and imports are determined by relative prices and by the effective foreign and domestic output level, respectively. The impact of changes in exports and imports on overall domestic activity should, however, be limited, since exports, for example, constitute about 15 percent of gross domestic product in the euro area, 25 percent in the non-euro eu countries, and 9 percent in the US. Second, there are financial flows that respond to the expected asset returns in the different country blocks. If exchange rates are fixed at a predetermined level, interest rates adjust in order to equalise expected returns, adjusted for a risk premium, across country blocks. If exchange rates are flexible and interest rates are set to accommodate domestic objectives, exchange rates adjust to induce capital gains in order to equalise expected returns across country blocks. Given the importance of the changes in exchange rates and interest rates on economic activity and its composition, the subsequent analysis will consider shocks under a flexible and fixed exchange rate regime. Third, in the productivity shock variant, the technological innovations in the leading country, i.e., the US, are diffused with an assumed one-year lag to the other country blocks. Moreover, economic agents in the other country blocks

anticipate these future spillover effects and adjust their expenditure plans in line with their expectations.

The structure of the working paper is as follows. We start by briefly describing the nime model. The next section shows the simulation results for a temporary increase in public expenditures in the US. Here public expenditures in the US are increased by about 3.5 percent, inducing, ex ante, a one percent-point increase in the deficit to gdp ratio. The next section illustrates the case of a permanent productivity shock in the US. There the shock is not only transmitted via the traditional trade and financial flows, but also via (expected) changes in trend productivity. Next we discuss a one percent-point permanent increase in the risk premium in the US stock market, while the following section shows the simulation results for a temporary increase in the US interest rate. The final section draws some conclusions.

The simulations illustrate the fact that the international transmission of shocks via international trade is rather limited, since most of the country blocks constitute large, relatively closed economies. The simulations do, however, show that spillover effects can be very important due to financial linkages, especially under a fixed exchange rate regime where there is a direct link between the interest rates of the country blocks. The simulations also show that expectations can be an important factor in accelerating international adjustment.

In this working paper, we focus mainly on the spillover effects on the euro area, because this is the main trading partner for Belgium. The simulation results for the other country blocks can be found in Appendix of the working paper. We emphasise that the simulations in this paper are of an illustrative and technical nature, and they should not be considered as forecasts. Furthermore, when interpreting the simulations of this paper, it should be remembered that the NIME model is a Keynesian model with classical long-run properties. In the long run, the economy is at its natural equilibrium, whereby relative prices clear the markets and nominal variables do not affect equilibrium in the real sector. In the medium run, however, the model has typical Keynesian features, whereby prices adjust sluggishly to their equilibrium value, supply is determined by demand, and expectations have some backward-looking features.

1. These country blocks are the euro area (EU), the non-euro European Union countries (NE), the United States (US), Japan (JP) and the "rest of the world" (RW).

*"The international transmission of shocks. Some selected simulations with the NIME model", E. Meyermans, Working Paper 9-03, July 2003.*

## NIME: Simulation of medium term risks

### An assessment of the risks to the medium-term outlook of the Belgian international economic environment Simulations with the NIME model

Each year, the Federal Planning Bureau (FPB) prepares a medium-term outlook for the Belgian economy using its macro-econometric HERMES model<sup>1</sup>. One of the key inputs in this exercise is a baseline scenario for the Belgian international economic environment, which includes an outlook for the output, imports, prices and financial variables of Belgium's major trading partners. Traditionally, this international environment is based on the medium-term outlook presented by the European Commission in its Autumn Forecasts or the most recent available medium-term outlook from the Organisation for Economic Co-operation and Development (OECD).

The baseline scenario for the international economic environment used by the FPB is a consensus projection, and it does not include an assessment of the risks that may affect the international economy. This paper presents simulations using the NIME model that evaluate the effects of four risks that were perceived to weigh on the international economic environment scenario during the preparation of the last medium-term outlook for the Belgian economy<sup>2</sup>. These four risks are: a temporary world-wide autonomous drop in private consumption, a further monetary easing by the European Central Bank (ECB), a fiscal consolidation in the euro area, and a sustained world-wide stock market fall.

The structure of this paper is as follows. After a brief introduction, the paper presents a brief overview of the NIME model. NIME is a macro-econometric world model that divides the world into five different country blocks<sup>3</sup>, and it can be used to study the transmission of exogenous shocks to the Belgian international economic environment.

In the next section, we simulate the effects of an autonomous drop in private consumption across the different country blocks<sup>4</sup>. This drop is calibrated in such a way that it induces a one percent-point increase in the savings rate of the household sector in each of the country blocks. We find that such a drop in consumption affects Belgian export markets, which immediately shrink by 0.8 percent and gradually recover afterwards.

In the following section, we simulate the effects of a situation in which the ECB delays its monetary tightening, as is assumed in the baseline scenario, by one year. We find that such a measure could increase Belgian export markets by up to about 0.4 percent after three years.

We go on to simulate the effects of a fiscal consolidation, whereby we assume that an additional cut takes place in public expenditures in the euro area, equivalent to a one percentage point reduction in the ex ante fiscal deficit to GDP ratio. Here, we find that Belgian export markets fall by about 0.2 percent, as Keynesian effects dominate the adjustment process.

In the next section we assess how the 2002 worldwide stock market correction tempered world growth and inflation. We find that the stock market shock tempered the growth of Belgian export markets by about 0.6 percent.

Finally, the last section of the paper presents summary tables showing the main results for each of the variants.

*"An assessment of the risks to the medium-term outlook of the Belgian international economic environment. Simulations with the NIME model", E. Meyermans, P. Van Brusselen, Working Paper 12-03, August 2003.*

1. See Bossier e.a. (2000) for the HERMES model. See the latest medium term economic outlook at: <http://www.plan.be>.  
 2. The cut-off date of this projection was April 2003.  
 3. These country blocks are the euro area (EU), the non-euro European Union countries (NE), the United States (US), Japan (JP) and the "rest of the world" (RW).

4. Except for the "Rest of the World" block.

## Labour market policies in a macro-econometric model for Belgium

Recent theoretical and empirical developments in labour economics and the increasing importance of supply-side aspects in the design of labour market policies have incited the Federal Planning Bureau to work out a specific model of the Belgian labour market<sup>1</sup>. This new macro-econometric model is tuned to assess the short-run and long-term effects of policies that affect taxes on labour, unemployment benefits, the efficiency of matching demand and supply on the labour market, and the labour force in Belgium.

This model forms the basis material for two working papers. Working paper 13-03, published in French and Dutch, proposes a theoretical and econometric description of the model. The properties of the model are also investigated in this paper using stylised employment policies simulations. Working paper 14-03 offers an ex-post employment policy evaluation: the reductions of employers' social security contributions (SSC) granted in Belgium during the 1995-2000 period.

**Working Paper 13-03**

The model spells out the long-run behaviour and short-term dynamics of the market sector, without imposing any public sector budget or a balance of payments constraint. In the long run, value added and the input of (homogeneous) labour and capital are constrained by a Cobb-Douglas production function, wage contracting, a value added price mechanism driven by monopolistic competition, an additional labour cost that reflects the cost of matching demand and supply on the labour market, and a mechanism that ties producer, consumer and investment prices. The short-run dynamics, however, are very much aggregate demand driven, reflecting disposable income, investment demand, world demand and international price competitiveness.

The long-run equilibrium real wage cost responds to the tax wedge, labour market tensions, labour market productivity and the replacement ratio between unemployment benefits and take-home wages. The long-run equilibrium wage is set either by collective bargaining between employers and employees in a 'right to manage' model, or by rent sharing between employers and employees in a 'job search' model: the difference between the two models relies essentially on using two different indicators of tensions in the labour market, namely the unemployment rate in the former and the unemployment-vacancy-ratio in the latter.

Long-run equivalence is imposed on the employers' social security contribution rate and the direct tax rate and the social security contribution rate paid by employees. In the short run, however, the real wage cost turns out to be more sensitive to the employer social security rate than to employee tax rates.

The model, specified by error correction equations, is estimated over 1970-2000. Econometric tests cannot pinpoint which model reproduces past evolutions best. Theoretical policy simulations indicate that the models generate quite different long-term effects in the face of permanent shocks in spite of similar short-run dynamics. On the one hand, the long-run economic impetus (in terms of employment and value added) of labour tax cuts, lower unemployment benefit ratios and efficiency gains in labour market matching is far greater in the case of the 'job search' model than in the 'right to manage' model. On the other hand, the 'right to manage' model economy is far better at absorbing an increase in the labour force than the 'job search' model economy.

The *general* reason for these differences in labour market policy efficiency is that any rise (fall) in labour market tensions in the 'right to manage' model (through the unemployment rate) reinforces upward (downward) pressures on the real wage cost to a larger extent than in the 'job search' model (through the unemployment-vacancy-ratio). The partial and variable coverage of matches and vacancies by administrative data could account for this phenomenon. Specific reasons explain more pronounced differences in the cases of the replacement rate and the matching efficiency simulations. Wage cost elasticity is higher in the 'job-search' wage equation than in the 'collective bargaining' wage equation. In the 'job-search' model, matching efficiency not only influences the indirect labour cost (search cost), but also, unlike the other version of the model, the wage bargaining process.

*"Een nieuw macro-econometrisch arbeidsmarktmodel: schatting, basissimulatie en arbeidsmarktbeleidsimulaties / Un nouveau modèle macro-économétrique du marché du travail: estimation, simulation de base et simulations de politiques d'emploi", C. Joyeux, K. Hendrickx, L. Masure, P. Stockman, Working Paper 13-03, September 2003.*

**Working Paper 14-03**

Working Paper 14-03 assesses the impact of Belgium's policy of reducing employers' SSC on labour market sector performance in 1995-2000. These SSC reductions mainly include the Maribel measure (from which mainly blue-collar industry workers benefited, effective until

1. This model has been developed as part of a research programme financed by the Economics and the Employment Ministries.



1999:1), the measure aimed at low-wage employment (in effect until 1999:1), the structural measure (an all-sector and all-worker encompassing SSC reduction, in effect as from 1999:2) and various special measures aimed at additional job creation in start-up firms ('Plan-plus'), the low-skilled and/or the long-term unemployed ('Dienstenbanen / Emplois service' and 'Voordeelbanen / Emplois avantage à l'embauche', in effect since 1998 and 1995). In 2000, SSC reductions amounted to 2.6 billion euro, up from 1.5 billion euro in 1998 and 1999.

The two versions of the labour market model produce

similar results. According to the 'right-to-manage' model ('job-search' model), the SSC reductions raised employment by 35,700 (38,700) units in 2000. Due to sluggish adjustment in the labour and goods market, most of the estimated effect on employment in 2000 is accounted for by the SSC reductions already existing prior to 2000 and only marginally by the 1.1 billion euro increase in SSC reductions in 2000.

*"Een macro-economische evaluatie van de werkgeversbijdrage verminderingen in 1995-2000", C. Joyeux, P. Stockman, Working Paper 14-03, September 2003.*

## ICT, new transactional standards and taxation

This Working Paper describes the challenges and the outlook for tax systems in the context of the "new transactional standards" that have emerged from information and communication technologies.

A "global information infrastructure" has emerged from the convergence of information and communication technologies. It is more than a telecommunication tool, and appears to be a transaction instrument: it provides new ways of interacting for individuals and organizations, maximising network externalities.

The global information infrastructure changes the perception of space and time so that, in the business sector, it leads to the reorganization of production structures, in the directions of both greater geographical fragmentation and greater integration of previously distinct functions. It leads to both a shortening of trade circuits and a multiplication of transnational business arrangements. The matter that it conveys is perfectly homogeneous (electrical impulses) but constitutes a very wide range of intangible objects, in particular financial or commercial objects. In short, it modifies the way in which commercial deals are made as well as the objects of those deals. These changes present many challenges to tax systems.

The new transactional standards form part of the movement towards economic and financial globalization. From this point of view, the fiscal problems they raise are of the same kind as those arising from other phenomena of economic and financial globalization. Moreover, new commercial objects and the weakening of the traditional concept of the "localization of economic activity" is increasingly challenging the concept on which taxation laws are based. Lastly, the technical and organizational features of the global information infrastructure are contributing towards making the control and collection of taxes more difficult.

In this paper, these problems are examined from the perspectives of income tax, taxation on products and customs duties. Concerning direct income taxes, the paper discusses, among other topics, the question of how the taxable basis could be distributed between different national jurisdictions involved in increasingly complex and volatile multinational chains of value added formation. As regards levies on products, one of the principal challenges facing the international community concerns the design of coherent overall systems of taxation that are adapted to suit the e-trade context and guarantee the neutrality of taxation. As regards customs duties, the main concern is whether it will be possible to maintain the regulatory function associated with this type of taxation, within the context of commercial flows of intangible products.

Tax systems, notably in the field of international taxation, result from historical developments characterized by successive and inter-related contributions from different players. The resulting construction is now extremely complex and it seems difficult to modify any element of it without compromising the overall equilibrium. It is difficult at present to assess whether the directions taken by the debate on taxation – a debate that reveals divergences of interest between different regions of the world - will lead to even greater complexity in the tax systems or, on the contrary, to some streamlining.

*"TIC, nouveaux standards transactionnels et fiscalité - défis et perspectives", M. Saintrain, Working Paper 15-03, August 2003.*

## Other Recent Publications

**Medium Term Economic Outlook 2003 - 2008**, April 2003  
(available in Dutch and in French).

**Planning Paper 92**, January 2002  
"Les charges administratives en Belgique pour l'année 2000", Greet De Vil, Chantal Kegels  
(available in Dutch and in French).

**Working Paper 04-03**, February 2003  
"The Use Tables for Imported Goods and for Trade Margins - An Integrated Approach to the Compilation of the Belgian 1995 Tables", B. Van den Cruyce.

**Working Paper 05-03**, February 2003  
"Effets économiques de diverses modalités d'accroissement des taxes sur l'énergie en Belgique/De economische effecten van diverse modaliteiten van energieheffingen in België",  
F. Bossier, F. Vanhorebeek.

**Working Paper 06-03**, May 2003  
"MODTRIM II: A quarterly model for the Belgian economy", B. Hertveldt, I. Lebrun.

**Working Paper 07-03**, May 2003  
"La demande d'électricité en Belgique à l'horizon 2010 - Analyse comparative de projections réalisées entre 1999 et 2001", B. Callens, D. Gusbin.

**Working Paper 08-03**, May 2003  
"ICT diffusion and firm-level performance: case studies for Belgium", C. Huveneers.

**Working Paper 16-03**, Septembre 2003  
"Effets de certains subsides temporaires à l'embauche : une analyse micro-économique des plans plus et du plan avantage à l'embauche",  
M. López Novella.

## Research in progress

**The NEMESIS model**

In collaboration with a network of European research institutions, the FPB is developing an international macro-sectoral econometric model. Present developemnts include an extension to new geographical areas (US, Japan) and an upgrade of the modelling of public finances. A new baseline and variants concerning energy, environment and R&D policies are being prepared.

*contact: fb@plan.be*

**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.

*contact: ds@plan.be*

**Long-term energy projections**

The FPB is updating its long-term energy projections for Belgium. The aim is to describe the present situation and make projections up till 2020/2030 for energy demand and supply. Alternative scenarios (renewable energy, nuclear energy, transport de-

mand, etc.) will also be analysed. The results will be presented in a colloquium at the beginning of next year.

*contact: dg@plan.be*

**Reforms in network industries**

The FPB analyses the economic impact of reforms in network industries in Belgium. The aim is to get a better understanding of the main economic mechanisms at play, to benchmark the Belgian situation with other European countries and to quantify the economic impact of the reforms.

*contact: jvd1@plan.be*

**The NIME model**

The NIME model is the macro-econometric world model of the FPB. On-going research includes a new specification for the natural rate of unemployment, labour supply, and gross capital formation, and the introduction of a separate block for the EU accession countries. Future studies will focus on the impact of labour market policies and on medium term scenarios for the Belgian international economic environment.

*contact: em@plan.be, pvb@plan.be.*

## Recent history of major economic policy measures

July 2003

The new coalition at the federal level presents a new medium term budgetary framework: for public administrations as a whole, the budget should be in balance in 2003 and 2004 and move towards a surplus (0.3% of GDP in 2007). The public debt ratio should be below 90% in 2007, taking the Belgacom pension fund into account and including the debt of the national railways company (7.8 billion euros). Social security should be in balance, and an increased contribution from the Regions and the Communities towards the budgetary consolidation is envisaged.

This budgetary framework should be consistent with a real average growth rate in primary expenditure by the federal administration of 1.2% yearly and new investment in public enterprises (notably the national mail and railways companies). The tax burden should continue to decline, mainly thanks to the gradual implementation of the 2001 personal income tax reform. Increased taxation on energy consumption should be compensated by a reduction of some lump-sum taxes on vehicles. Financial assets invested abroad and having hitherto escaped taxation, could be legalized by paying a special tax and reinvesting them in Belgium.

With regard to social security, provision is made for a real average growth rate in public expenditure on health care of 4.5% yearly and new reductions in social security contributions from 2004 onwards (0.8 billion euros); the new coalition plans to increase some benefits (ceilings, minimum benefits) and to improve social insurance for the self-employed.

Job creation should be encouraged by various measures, notably through lower social security contributions. An "employment conference" will be set up and should lead to the implementation of a package of eight measures proposed by the government. The new coalition expects employment to be increased by 200,000 during the next four years.

June 2003

The ECB decides to lower its main refinancing rate by 50 basis points, from 2.5% to 2.0%.

The opening of the electricity and gas markets was completed in the Flanders region, which covers two thirds of the Belgian population. All Flemish customers, both industrial and household, now have a free choice of energy supplier. To avoid an excessively dominant position being occupied by the incumbent (Electrabel) the national competition authority initiated some measures, including the auction of part of the incumbent's virtual production capacity.

May 2003

During the past four months, several measures were introduced in the field of e-government. Most important among these are: the decision to start up a crossroads bank for enterprises which will centralise and simplify interaction with government; the introduction of a new interactive internet portal for the Government of Flanders; the implementation of the EU directive organising the legal statute of e-business services; the introduction of the electronic identity card; the implementation of a Walloon database on local taxes and the introduction of personal tax returns via the internet.

Measures were also taken during the past four months to encourage further diffusion of ICT in small enterprises. For example the Walloon government issued a decree providing financial support to cover part of the initial set-up cost of ICT in SMEs.

March 2003

Fully in accordance with EU legislation, an important step was taken towards the opening up of the railway market. All international freight traffic on the so-called trans-European rail freight freeways (TERFF) was liberalised. For Belgium, this means almost the whole railway network. At the same time two independent regulators started their operations. One is involved with capacity management while the other acts as an arbitrator.

The energy market regulator (CREG) determined the tariffs for access to the electricity transmission network in the liberalised market for the period from 1 April to 30 June 2003. These tariffs are lower than those that were previously in force.

In the airline sector, the European Commission has approved an alliance between British Airways and SN Brussels Airlines. This cooperative agreement gives SN's passengers access to BA's long haul network.

The ECB decides to lower its main refinancing rate by 25 base points, from 2.75% to 2.5%.

January 2003

Fully in accordance with EU legislation, a next step in the opening up of the postal market was set. The thresholds for free entry allowance are lowered from 350 grams to 100 grams, and from five times the standard tariff to three times the standard tariff.

December 2002

The EU Council adopted a Regulation implementing the "Kimberley Process" certification scheme by setting up a system of certification and import and export controls for rough diamonds in the Community. The Kimberley Process certification scheme is aimed at breaking the link between the diamond trade and the financing of armed conflicts.

The Walloon decree relative to the organization of the gas market was adopted on 19 December 2002.

The Copenhagen European Council on December 13 marked the conclusion of accession negotiations with ten new member states. Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, the Slovak Republic and Slovenia are scheduled to join on 1 May 2004.

The ECB decides to lower its main refinancing rate by 50 base points, from 3.25% to 2.75%.

A bill that would give the regulator for telecommunications and postal services markets (BIPT) a position more independent from government was approved by parliament.

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"
FPB	Federal Planning Bureau
FPS Economy	Federal Public Service Economy, S.M.E.s, Self-employed and Energy
FPS Employment	Federal Public Service Employment, Labour and Social Dialogue
FPS Finance	Federal Public Service Finance
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
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)