## 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

In the first half of 2002 the world economy seemed to recover from the sharp decline during 2001. This recovery was not, however, confirmed during the second half of the year.

In this muddled international business climate, the recovery of the Belgian economy is postponed until the second half of 2003. In annual average terms, GDP should grow this year by 1.3%. For the first two quarters of this year, positive but very modest GDP growth is assumed. Growth should be higher during the second half of the year, but clearly not as high as seen in previous economic recoveries in 1996 and 1999. Under these circumstances, the employment rate should fall for the second consecutive year, thus scoring 0.6 points lower than its previous peak in 2001. Consumer price inflation should remain rather stable at around 1.4%.

As economic agents are at present spellbound by the growing threat of a war in the Middle East, and the outcome of that conflict situation is hard to predict, the uncertainty margin surrounding the international economic context, is of course extremely high.

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



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## Reform of network industries in Belgium

Network industries are in the middle of a process of market reform. The essential feature of this reform is the introduction of competition in markets that have, for many years, been monopolies at the national level. Its basic aims are the creation of an EU internal market and an improvement of market performance. One precondition is that network industries must serve the public interest. The purpose of this article is to summarise the current state of affairs concerning the reform of telecommunications, electricity, gas, postal services and railways in Belgium.

#### Intervention in network industries

Network industries have economic characteristics that are significant in determining the efficient functioning of their markets. The first is the existence of network externalities. This means that the benefit a user derives from the network is determined not only by the use of the network as such, but also by the total number of users. The second is the possible existence of natural monopolies in the infrastructure networks. This means that it is not always efficient to have more than one network, so that the single network comes to be in a monopoly position. The third is the delivery of services in the public interest. Economically, network industries provide essential inputs for virtually all other economic activities. Socially, many network services are considered as basic needs for all citizens.

Efficient network industries contribute towards the efficient functioning of other industries and hence also towards competitiveness. It is therefore important for economic policy to create the conditions under which network industries will work efficiently. These conditions, however, are strongly influenced by the characteristics set out above.

In a natural monopoly, a market may, without intervention, behave in such a way that the public interest is not served. In the past, this has led to the creation of state-controlled monopolies that produced both the infrastructure and downstream activities. In the EU context, however, the existence of such monopolies was no longer compatible with the internal market. Furthermore, thinking in this area had evolved so that it was considered that an opening up of network industries would improve their functioning, which is the aim of the Lisbon strategy. Finally, for some industries, technical progress had reduced the cost of infrastructure and enlarged the number of services on offer. Initiatives have therefore been taken to reform certain network industries.

#### Economic significance

As we have already mentioned, network industries are important for the economy. The five industries considered here produced 5.7% of Belgium's value added in 2001 and employed 144,000 persons (Tables 1 and 2)<sup>1</sup>. This is their direct economic impact. Since 1995 their value added growth has been higher than the Belgian average, but employment growth has been lower. This implies an increase in productivity, which has been particularly true in the cases of telecommunications, electricity and gas.

Table 1 - Value added creation of network industries in Belgium (mio EUR, current prices)

	1995	2001	Real growth (average per year)
5 network industries	10,907	13,455	5.5%
Total Belgium	190,125	235,816	2.6%
Share	5.7%	5.7%	

Source: INR/ICN (calculation based on national accounts)

Table 2 - Wage- and salary earners in the Belgian network industries (number of persons)

	1995	2001	Growth (average per year)
5 network industries	141,698	143,858	0.3%
Total Belgium	3,138,650	3,465,683	1.7%
Share	4.5%	4.2%	

Source: INR/ICN (calculation based on national accounts)

The economic significance of these five industries is not limited to them but extends to the whole economy. The backward impact refers to the value added created by activities that supply inputs to the network industries. The forward impact refers to the activities that use the outputs from the network industries, which, in fact, covers virtually every economic activity, including consumer demand.

## The state of reforms in Belgium

The economic reforms were initiated by the EU through a number of directives that prescribed a calendar for the gradual opening up of the markets. The reforms mostly include: separation of infrastructure from downstream activities; transparent and nondiscriminatory access to the infrastructure; control of access pricing; adequacy of investment programmes; phasing of reforms; safeguarding of the public interest; and the appointment of a market regulator.

<sup>1.</sup> Total value added is closely related but not equal to GDP

The telecommunications market was fully opened up for competition in 1998. Entry is allowed into both infrastructure and downstream activities. In September 2002 there were 48 licensees for public network operations in Belgium, 32 for voice telephony and 3 for mobile telephony. Strong competition only exists in the mobile and international calls markets. In the remainder the incumbent (Belgacom) has maintained a dominant position. Its market shares remain large, even though they are on a downward trend. One of the main problems hampering effective competition is the slow opening up of the local loop, which is almost completely controlled by the incumbent. The role of the regulator is therefore crucial, and is mainly focused on controlling conditions for interconnection, broadband access and unbundling of the local loop.

The markets for electricity and gas must, according to EU legislation, be opened up for industrial consumers in 2004 and for all consumers in 2007. This scheme is basically being followed in Belgium, where several administrative levels are involved. The transport networks are an area of federal competence and distribution networks are regional. In one of the regions (Flanders) full market opening will already be achieved this year. At present, the markets are open for large industrial consumers, who collectively represent more than half of the sales volume. In practice only a limited number of customers have switched suppliers, so that the incumbent (Electrabel, a private company) still has a high market share. Legal separations between infrastructure and purchase/sales activities have been decided upon: separate transport network operators are being created, while the creation of distribution network operators is under way. The incumbent, however, still owns significant shares in network operations, as well as electricity generation.

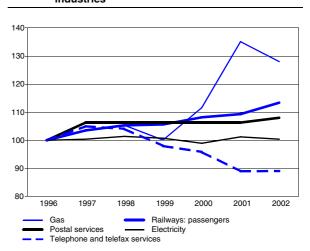
In January 2003, in accordance with EU legislation, the postal market was opened for all items above 100 grams. Until that time the threshold was 350 grams and free entry for express mail was established. This situation led to the rise of about 700 large and small courier services and the entry of some foreign postal incumbents. In 2006 the threshold will be lowered to 50 grams. The large 0-50 grams market segment, however, is still reserved for the incumbent (De Post/La Poste), at least for the time being. Through management contracts with the incumbent, the State safeguards the public interest by imposing public service obligations while compensating for the costs involved.

In the railway industry a significant step will be taken in March 2003 when freight traffic is liberalised on European main lines. Until now only limited third party access had been allowed, leading to the entry of a first competitor in 2002. Full market opening for freight is expected in 2008. For passengers no market opening is foreseen during the next few years. As prescribed by EU legislation there is a separation of the incumbent's (NMBS/SNCB) accounts between infrastructure and train operations. A regulator will be created, who will be in charge of network access management. The public interest is safeguarded by management contracts that impose public service obligations while providing compensation for the costs involved.

### Impact on prices, quality and productivity

Expected outcomes of the market reforms are lower prices, improved quality and higher productivity. Given the early stage of market opening, there is limited evidence for this so far. Graph 1 shows price evolutions from Eurostat consumer price data. In telecommunications there has been a 15% fall in prices since the opening of the market. In gas and electricity there have been tariff revisions, more or less in anticipation of the expected opening of the markets. These were, however, (over)compensated by recent fuel price increases.

Graph 1 - Price developments in the Belgian network industries



Quality in telecommunications has been improved by the large scale digitalisation of the network and the development of new services. From 1995 to 2001, productivity in this industry has grown by about 7% per year. These developments may be related to market reforms, but also to technical progress. In the other industries there have also been quality and productivity improvements in some cases, but these were induced by other developments.

"Network Industries in Belgium: Economic Significance and Reform" D. Gusbin, C. Kegels, P. Vandenhove, J. van der Linden & M. van Overbeke, 2003, Working Paper 1-03.

### **Economic forecasts 2003**

A promising recovery in the world economy during the first half of 2002... was not confirmed in the second half of the year

In the first half of 2002 the world economy seemed to recover from the sharp decline during 2001. This recovery was not, however, confirmed during the second half of the year. Both in the US and the euro area it soon became obvious that the steep climb of yoy growth rates in industrial production would not be sustained during the second half of 2002. From last summer onwards, the stock markets plummeted again. Gradually, the persistent geopolitical instability in the Middle East began to take its toll. As a result of all this the cyclical revival, which was initially of a rather technical nature (reduced destocking) and was stimulated somewhat artificially, especially in the US, by an expansive monetary and budgetary policy, did not lead to a lasting improvement in demand prospects and increasing investment. Although the labour market in the euro area stood firm for a long time, the muddling international business cycle during the second half of the year eventually resulted in a decline in employment.

# Hypotheses on the international context in 2003 amidst extreme uncertainty

At present, economic agents are spellbound by the growing threat of a war in the Middle East. On an economic level, this is currently resulting in higher oil prices, declining stock prices and a cautious attitude among consumers and investors. Considering the fact that the outcome of that conflict situation is hard to predict, the uncertainty margin surrounding the hypotheses on the international economic context, is extremely high.

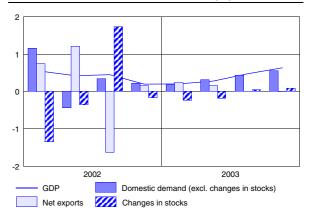
The hypotheses on exchange rates, interest rates, and oil prices in these forecasts are based on prices on the futures markets at the end of January.

The Brent price should remain over 30 dollars per barrel during the full first half of the year, dropping to 26 dollars in the last quarter. This implies that the risk premium included in the oil price should disappear during the second half of the year. Throughout the year, the dollar should recover some lost ground, but should still lose, in annual average terms, 11% in value compared to the euro. As a result, oil prices, expressed in euro, should increase by barely 3% this year. During the first half of the year, the European money market interest rate should fall slightly. After a weak start at the beginning of the year, world trade should gradually improve.

In a context of a muddled international business climate, the recovery of the Belgian economy is postponed until the second half of 2003

After the decline of the international business cycle during the second half of last year, it is not surprising that the economic indicators for the Belgian economy were hardly bright during the first weeks of this year. This was illustrated by the fact that, in January, consumer and business confidence both declined strongly for the second consecutive month, thus reaching their lowest level in the past twelve months.

Graph 1 - Quarterly GDP at constant prices and contributions of its main elements, seasonally adjusted, corrected for calendar effects, qoq



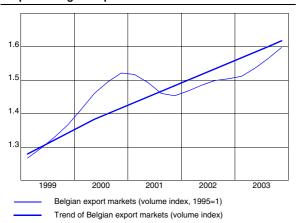
In that context, positive but very modest GDP growth is assumed for the first two quarters of this year (0.2% of qoq in Q1 and 0.3% in Q2). GDP growth should not improve until the second half of the year (0.5% in Q3 and 0.6% in Q4). These growth rates are clearly not as high as those seen in previous economic recoveries in 1996 and 1999. In annual average terms, GDP should increase by 1.3% in 2003.

With a growth rate of 1%, private consumption should record a moderate increase for the third consecutive year. Consumption is not expected to keep pace with the increase in households' purchasing power (1.6%). The increase in the unemployment rate and the fall in stock prices are encouraging households to save a larger proportion of their income (the household savings rate should increase from 15.6% last year to 16.1% this year). The growth in households' real disposable income this year is largely fed by the reduction of personal income taxes, whereas primary gross income should only grow very slightly.

After negative growth in 2002 (-3.6%), business investment should again record limited positive growth (1%) in 2003 as a result of improving profitability and a resumption in growth during the second half of the year.

The uncertain demand prospects and the stock market crisis, however, are preventing a quick recovery of company investment, so that the investment ratio (as a percentage of GDP) should remain stable in 2003 and is not expected to compensate for last year's decline. Last year, housing investment also declined in volume (-2.9%) but it should resume moderate positive growth this year (1.2%). Just like last year, the smaller reduction in stocks should lead to a slightly positive contribution (0.3%) towards GDP growth. All in all, total domestic expenditure should grow by 1.4% this year, after growth of 0.4% last year.

Graph 2 - Belgian export markets



During the first half of 2002, the volume of world trade resumed positive qoq growth rates after a decline (in level) during each of the four quarters of 2001. In the last quarter of last year, however, world trade growth again collapsed and for the first quarter of this year, no improvement whatsoever is to be expected. In the second half of 2003, world trade should return to its long-term trend. That should result in growth of 4.4% in our foreign markets, compared to an increase of only 0.5% last year. Considering the structural loss of market share and a small deterioration of competitiveness, resulting from a more expensive euro, Belgian exports should grow by 2.8% in 2003. Assuming that import growth also picks up (to 3%), net exports should not contribute to GDP growth this year.

## Employment rate declines for the second consecutive year

The sustained growth in domestic employment since the second half of the 1990s stopped abruptly during the last quarter of 2001. At the end of 2002, domestic employment was 23,000 units below its highest level, reached five quarters earlier. Employment growth should only resume slightly during the second quarter of this year. That growth should not, however, be strong enough to lift the annual average employment level above last year's level. On an annual average, domestic employment in 2003 should more or less maintain the status quo as compared with last year (slight fall of 1,000 units), after recording a drop of 9,000 units in 2002. The

employment rate (ratio of employment to population of working age) should fall for the second consecutive year and reach an annual average of 61.6%, thus scoring 0.6 points lower than its previous peak in 2001.

The labour force (FPB's definition) should keep growing in 2003 (by 32,000 units). Nevertheless, demographic shifts hardly contribute to the development of labour supply and there is no more impetus from the regularization campaign. On the other hand, the structural trend towards higher female participation in the labour market is amplified because, at the beginning of this year, the female pension age was raised by one year.

Under these circumstances, the increase in unemployment (FPB's definition) in absolute terms should be somewhat higher than last year (i.e. by 32,400 units), whereas the unemployment rate should grow from 13.3% last year to 13.9% this year. In 2003, the unemployment rate according to the standardized Eurostat definition should increase to 7.7%, as compared with 7.3% in 2002 and 6.7% in 2001.

## Consumer price inflation rather stable at around 1.4% in 2003

This year, inflation, measured by the yoy increase of the national consumer price index, should fluctuate between 1.2% and 1.6% and end up at an annual average of 1.4%. On the one hand, the underlying inflation should fall during the year, among other things as a result of the appreciation of the euro and a moderate evolution of wage costs per product. Energy prices should also have a mitigating effect on inflation during the course of this year. On the other hand, the effect of the abolition of radio and television taxes in Flanders and Brussels should gradually disappear from April onwards. Prices of fresh vegetables and fruit (in early 2003, they were exceptionally more than 10% lower than the level seen a year ago) should also have an upward impact on inflation during the next few months. These mutually compensating effects should lead to a rather stable evolution of inflation during the course of 2003.

With an annual average growth rate of 1.3%, the health index, which is not affected by the higher excise duties on tobacco introduced early this year, should grow somewhat less than the national consumer price index. In accordance with the monthly health index forecasts, the pivotal index – which is currently 111.64 – should next be passed in July 2003. As a result, social benefits should be adjusted by 2% in August 2003 and wages of public servants in September 2003.

Further detailed comments and graphs on these economic forecasts can be found in the section 'Recent economic developments' in this Short Term Update.

## **Economic forecasts for Belgium by the Federal Planning Bureau**

Changes in volume (unless otherwise specified) - Finalised on February 14th 2003

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	2000	2001	2002	2003
Private consumption	3.4	0.9	0.6	1.0
Public consumption	2.3	2.2	1.5	1.5
Gross fixed capital formation	4.1	0.5	-2.6	0.5
Final national demand	3.6	0.5	0.4	1.4
Exports of goods and services	8.2	1.1	-1.0	2.8
Imports of goods and services	8.4	8.0	-1.5	3.0
Net-exports (contribution to growth)	0.3	0.3	0.3	0.0
Gross Domestic Product	3.7	8.0	0.7	1.3
p.m. Gross Domestic Product - in current prices (bn euro)	247.47	254.28	261.83	271.05
National consumer price index	2.5	2.5	1.6	1.4
Consumer prices: health index	1.9	2.7	1.8	1.3
Real disposable income households	2.7	0.5	1.5	1.6
Household savings ratio (as % of disposable income)	15.1	14.9	15.6	16.1
Domestic employment (change in '000, yearly average)	75.1	58.6	-9.0	-1.2
Unemployment (Eurostat standardised rate, yearly average) [1]	6.9	6.7	7.3	7.7
Current account balance (BoP definition, as % of GDP)	4.1	4.0	5.4	5.7
Short term interbank interest rate (3 m.)	4.4	4.2	3.3	2.5
Long term interest rate (10 y.)	5.6	5.1	5.0	4.3
[1] Other unemployment definitions can be found an page 14			•	

<sup>[1]</sup> Other unemployment definitions can be found on page 14

## **Economic forecasts for Belgium by different institutions**

	GDP	-growth	Ir	flation	Governme	ent balance	Date of update	
	2002	2003	2002	2003	2002	2003		
Federal Planning Bureau	0.7	1.3	1.6	1.4			2/03	
National Bank of Belgium	0.7		1.6		0.0		2/03	
European Commission	0.7	2.0	1.6	1.4	-0.1	0.0	11/02	
OECD	0.7	2.1	1.6	1.4	0.0	0.0	11/02	
IMF	0.6	2.2	1.6	1.2	-0.1	-0.3	9/02	
BBL	0.7	1.4	1.6	1.5	-0.2	-0.4	2/03	
Fortis Bank	0.7	1.8	1.6	1.6	0.0	-0.2	2/03	
Dexia	0.7	1.4/2.0	1.6	1.6			2/03	
KBC Bank	0.7	1.6	1.6	1.0	0.0	-0.2	1/03	
Morgan Stanley	0.6	1.2	1.6	1.5	-0.2	-0.3	12/02	
Petercam	0.7	0.75	1.6	0.75	-0.1	-0.5	2/03	
IRES	0.6	1.4	1.6	1.6	0.0	-0.2	12/02	
DULBEA	0.75	1.5	1.75	1.5	0.0	-0.75	11/02	
Consensus Belgian Prime News	0.7	1.6	1.6	1.4	-0.1	-0.1	1/03	
Consensus Economics	0.7	1.6	1.6	1.6			2/03	
Consensus The Economist	0.7	1.4	1.7	1.3			2/03	
Consensus Wirtschaftsinstitute	0.5	1.8	1.6	1.6	-0.8	-0.8	10/02	
Averages								
All institutions	0.7	1.6	1.6	1.4	-0.1	-0.3		
International public institutions	0.7	2.1	1.6	1.3	-0.1	-0.1		
Credit institutions	0.7	1.4	1.6	1.3	-0.1	-0.3		

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

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

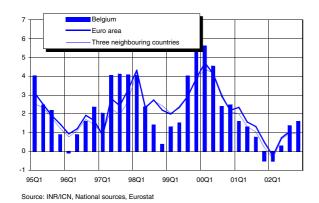
## **General economic activity**

Table 1 - GDP growth rates, in %

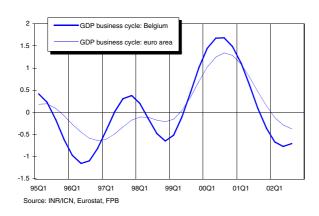
				YoY g	rowth rates,	in %		QoQ growth rates, in %					
	01	02	01Q4	02Q1	02Q2	02Q3	02Q4	01Q4	02Q1	02Q2	02Q3	02Q4	
Germany	0.6	0.2	-0.1	-1.2	0.4	1.0	0.5	-0.3	0.3	0.2	0.3	0.0	
France	1.8	1.2	0.4	0.7	1.2	1.2	1.7	-0.3	0.7	0.4	0.3	0.2	
Netherlands	1.3	0.3	0.6	-0.1	0.2	0.7	0.3	-0.1	0.0	0.3	0.2	0.1	
Belgium	0.8	0.7	-0.5	-0.5	0.3	1.4	1.6	-0.5	0.5	0.4	0.4	0.2	
Euro area	1.4		0.5	-0.2	0.7	1.1		-0.2	0.4	0.4	0.3		
United States	0.3	2.4	0.1	1.4	2.2	3.3	2.8	0.7	1.2	0.3	1.0	0.2	
Japan	0.4	0.3	-2.3	-3.0	-0.2	1.8	2.4	-0.4	0.1	1.3	0.7	0.5	

Source: INR/ICN, National sources, Eurostat

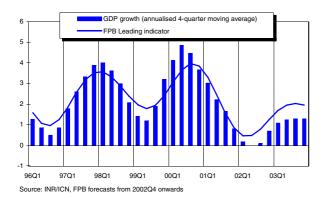
Graph 1 - GDP-growth (t/t-4), in %



Graph 2 - GDP business cycle



Graph 3 - GDP growth and leading indicator



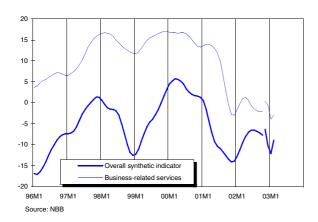
The expected strengthening of the world economy in the second half of last year did not materialise. On the contrary, both soft and hard data pointed to a disappointing setback. Although some stabilisation was seen in the financial markets at the end of 2002, uncertainty among investors and consumers has been exacerbated by rising geopolitical tensions that continue to exert a drag on domestic spending. After strong figures from the US in the third quarter of 2002, economic activity slackened in the last quarter. The rebound in the Japanese economy from the second quarter of 2002 onwards should be only short-lived. Average GDP growth in the euro area remained subdued in 2002, dampened largely by the sluggish evolution of activity in Germany.

Belgian quarterly GDP growth throughout 2002 was in line with the average for the euro area, although growth was slightly higher in the third and the fourth quarter on basis of the first estimations for our neighbouring countries. Yoy growth rates turned out to be positive in both areas from 2002Q2 onwards. The main difference lies in the composition of growth in the third quarter. While the contribution of net exports in Belgium turned out to be negative but was compensated by the rebuilding of stocks, the contribution of net exports to real GDP was positive in the euro area the contribution from changes in inventories became negative.

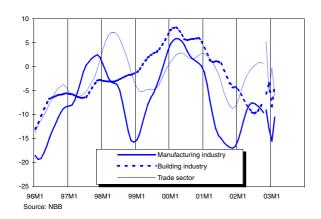
The Belgian business cycle, which used to be considered as a leading indicator for the euro area economy by one quarter, is suggesting that the bottom of this downward cycle might have been reached in the second quarter of 2002. However, the business survey indicator of the National Bank of Belgium, which has an average lead of two quarters with respect to the euro area business cycle, suggests that the upturn may have been hesitating around the turn of the year.

The FPB leading indicator for Belgium indicates that Belgian quarterly GDP growth should remain relatively subdued in the first half of the current year and also that the expected rebound in the second half will be less pronounced than in the previous upturns in 1996 and 1999.

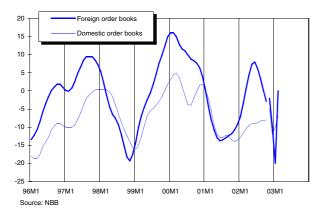
Graph 4 - Business cycle: global evolution



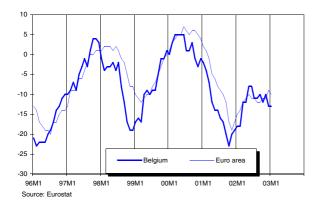
Graph 5 - Business cycle: sectoral evolution



Graph 6 - Manufacturing industry: order books



Graph 7 - Industrial confidence: international comparison



After a short pick up during the first half of 2002, the smoothed overall business indicator has been following a downward trend since mid-2002. So far, 2003 has brought no change for the better. In fact, the overall synthetic indicator continued its fall in January and the small recovery in February will probably fail to lift the average level of 2003Q1 above the level of the final quarter of last year. This should result in the third consecutive quarter with a deterioration in the global business climate. This overall performance conceals rather divergent sectoral developments.

The fall in the overall synthetic indicator since mid-2002 is mainly due to a deterioration of the business climate in the manufacturing industry. The indicators related to foreign order books fell particularly sharply, while domestic orders in manufacturing industry followed a rather flat pattern. The very volatile pattern of the foreign order books indicator during the last few months is hard to interpret; whether the rise of this indicator in February is a forerunner of a fundamental improvement is consequently difficult to assess.

Both the rise and the fall in industrial confidence in 2002 were more pronounced in Belgium as compared with the euro area. This phenomenon is, of course, related to the open character of the Belgian economy and its limited size and has also been observed during past business cycles.

Contrary to what happened in the manufacturing industry, confidence in the trade sector remained on an upward path for the greater part of 2002. During the last few months the trade sector indicators have shown rather erratic movements. The smoothed indicator should probably soon reach a standstill, but its future direction is very hard to foresee.

The building industry shows a different picture. As a consequence of a downturn in both the residential (housing investment) and non-residential (business investment) building sectors, the synthetic building industry indicator did not pick up at the end of 2001 (contrary to what was noted in manufacturing industry and trade). An upturn in the smoothed building industry indicator was only observed from August 2002 onwards, at a time when the rest of the economy began its downturn. The deterioration in the building sector in January 2003 was partly affected by bad weather conditions and this effect disappeared in February; the fundamental trend in the building sector is still pointing slightly upwards.

The weakening of the indicator of the business-related services sector (which is not included in the overall synthetic indicator), which began in June 2002, broadly continued during the first two months of this year.

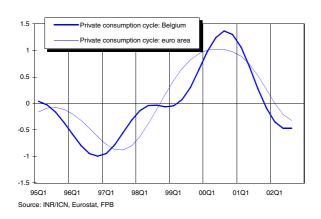
## **Private consumption**

Table 2 - Private consumption indicators

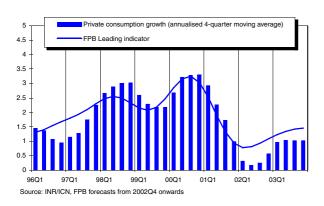
	01	02	02Q1	02Q2	02Q3	02Q4	02M8	02M9	02M10	02M11	02M12	03M1
Turnover (VAT) - retail trade [1]	7.3		0.4	6.1			6.3					
New car registrations [1]	-5.1	-4.3	5.4	-3.6	-10.6	-14.0	-20.8	3.5	-10.7	-18.0	-14.4	-10.2
Consumer confidence indicator [2]	0.6	-2.7	-3.0	-1.3	-2.7	-3.7	-3.0	-3.0	-2.0	-2.0	-7.0	-11.0

[1] Change (%) compared to same period previous year; [2] Qualitative data Source: NIS/INS. Eurostat. Febiac. FPB

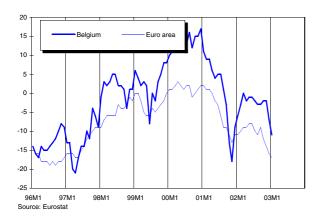
Graph 8 - Private consumption cycle



Graph 9 - Private consumption growth and leading indicator



Graph 10 - Consumer confidence: international comparison



The Belgian private consumption cycle, which began a downward movement in the fourth quarter of 2000, bottomed out during the third quarter of 2002. Since this is not yet the case for the euro area consumption cycle, it seems that the turning point in the consumption cycle will come earlier in Belgium than in the euro area. This is in line with past observations, as peaks and troughs in the Belgian consumption cycle generally occur about two quarters ahead of those in the euro area.

Private consumption growth is estimated to be 0.6% in 2002. This growth rate was negatively influenced by, among others, the gloomy starting point due to the decline of consumption during the last three quarters of 2001. Moreover, the savings rate continued to rise in 2002, which dampened the effect of the stronger growth in disposable income.

A number of consumption indicators reflect the fact that Belgian consumers have become more reluctant to spend. On the one hand, new car registrations declined progressively during the last three quarters of 2002. As a result, total new car registrations reached their lowest level since 1998 last year. The development of consumer confidence, on the other hand, was quite promising during the first half of 2002 as it swiftly recovered from its post-September 11 levels in both Belgium and the euro area. During the second half of last year, however, it again started out on a downward trend that was reinforced by the threat of a military conflict in Iraq. As a result of these tensions Belgian and European consumers have become more pessimistic about the future economic situation and the evolution of unemployment.

This year, households' purchasing power should benefit from fiscal reform. The poor performance of the labour market and the stock markets in 2003 will, however, limit the upside potential for private consumption as they will cause a further rise in the savings rate. As a result private consumption should increase moderately in 2003 (+1.0%), which is confirmed by the evolution of the leading indicator.

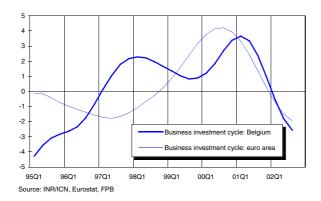
### **Business investment**

Table 3 - Business investment indicators

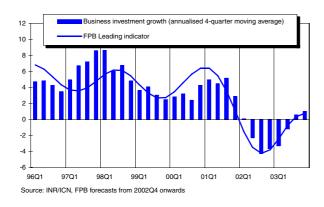
	01	02	03	02Q1	02Q2	02Q3	02Q4	02M4	02M5	02M6	02M7	02M8
Investment (VAT) [1]												
Industrial companies	-1.7			-12.3	-7.4			-7.8	-10.7	-4.1	-15.2	-18.2
Non-industrial companies	5.0			-2.8	-6.5			-11.2	-9.3	0.4	2.0	-11.6
Total companies	2.9			-7.0	-6.6			-9.7	-9.6	-1.1	-4.0	-13.9
Investment survey [1]	-1.0	-14.9	8.3									
Capacity utilisation rate (s.a.) (%)	80.7	79.9		79.8	80.4	79.9	79.5					

[1] Change (%) compared to same period previous year Source: NIS/INS. NBB. FPB

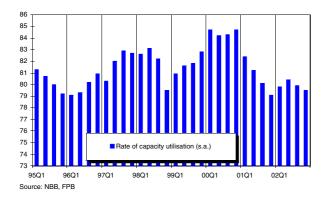
Graph 11 - Business investment cycle



Graph 12 - Business investment growth and leading indicator



Graph 13 - Capacity utilisation in manufacturing industry



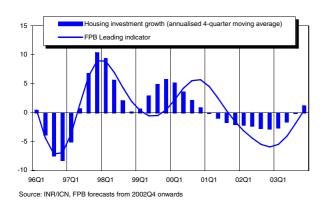
The strong downward movement in the business investment cycle that characterises the current economic slowdown, has not yet come to an end. Although corporate investment again rose in Belgium during the third quarter while it stabilised in the euro area, both series are now 2% or even more below their trend value due to the negative growth rates seen in 2001 and in the first half of 2002.

The poor performance of business investment during the last two years should result in a decline of 3.6% in 2002. Several sources confirm that this year will be less gloomy. Firstly, the latest survey of investment in Belgian manufacturing industry showed that entrepreneurs estimate investment growth to be 8.3% (current prices) this year, which is a lot better than the negative growth rate of -14.9% they expect for 2002. The figure for 2003 should be interpreted with caution, however, since entrepreneurs systematically proved to be too optimistic in the November survey concerning future investment. Secondly, business investment indicators lead to the expectation of a moderate pick-up of investment. The rate of capacity utilisation in manufacturing industry declined somewhat during the second half of 2002, but it remained at a respectable level in view of the weak economic growth during the past two years. These signs should be interpreted with caution as indicators from the NBB business survey related to investment goods also show some hesitation to invest. They declined again recently due to tensions in the Middle East.

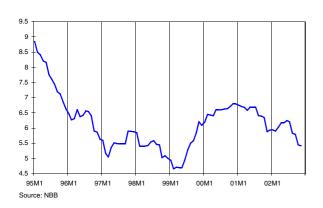
Our latest forecasts confirm this evolution as they indicate that investment growth should be 1% this year. Improved profitability and the modest upturn in the second half of this year should encourage companies to invest, although there is a risk that poor stock market performance and the uncertain outlook will dampen corporate investment. Consequently the investment rate at constant prices (real business investment as a percentage of GDP) should stabilise this year after a decline of 0.6 percentage points last year.

## **Housing investment**

Graph 14 - Housing investment growth and leading indicator



Graph 15 - Mortgage rate (%)

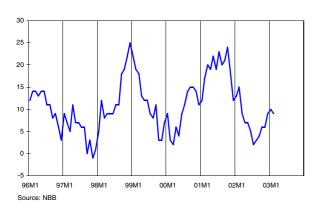


According to the latest quarterly national accounts, housing investment growth (annualised 4-quarter moving average) became negative in the first quarter of 2001 and fell back further until the third quarter of 2002. First estimates for the fourth quarter of 2002 do not suggest any improvement. As a result, housing investment should have decreased by 2.9% last year, after a fall of 2% in 2001.

The FPB leading indicator for housing investment is pointing to a turning point at the beginning of 2003. In fact the results of the quarterly surveys of architects, which have a one-year lead, began to improve from the beginning of last year onwards. Other indicators (with a shorter lead of 2 to 3 quarters) taken from the monthly business surveys in the building industry, edged upwards from the middle of 2002 onwards. There should also be some impulse from the financial side, since mortgage rates showed a marked fall during the second half of last year. According to all this, the annual growth rate of housing investment should again become positive this year. It should, however, remain limited (slightly above 1%) because of the continuing gloom in the labour market situation and the low level of consumer confidence.

## Stock building

Graph 16 - Appreciation of stocks



From 2000Q4 until 2001Q3, stocks fell dramatically. The slowdown in the business cycle was indeed partly fed by substantial destocking by firms. As a result, the contribution of stock building towards economic growth was substantially negative in 2001 (-0.6%).

From the final months of 2001 onwards throughout the first half of 2002, the number of entrepreneurs who considered their stocks to be excessive (graph 16) fell considerably. This suggests that the short recovery seen up to mid-2002, was partly due to the fact that the pace of destocking diminished, implying a small positive contribution of 0.2% on the whole in 2002.

As the business cycle should gradually improve in the second half of 2003, the number of entrepreneurs considering their stocks to be excessive should resume a downward trend. In this context, stocks are expected to fall less than last year, implying that stock building should make again a small positive contribution to economic growth this year (+0.3%).

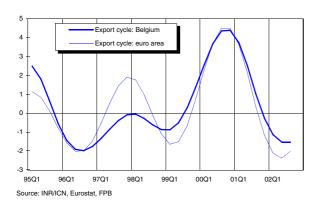
## Foreign Trade

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

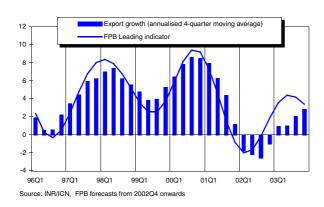
	00	01	01Q4	02Q1	02Q2	02Q3	02M6	02M7	02M8	02M9	02M10	02M11
Exports - value [1]	21.3	4.2	-2.8	2.0	6.9	9.4	2.7	8.3	4.9	14.3	11.5	3.2
Imports - value [1]	24.3	3.8	-5.9	-1.3	1.9	7.8	1.0	6.8	4.2	12.0	11.5	4.2
Exports - volume [1]	10.4	2.0	-0.2	2.5	9.2	10.4	6.6	10.8	5.5	14.1	11.1	3.2
Imports - volume [1]	10.4	1.5	-1.0	0.6	6.8	11.6	8.5	13.3	8.0	13.2	11.1	5.1
Exports - price [1]	9.9	2.2	-2.6	-0.5	-2.0	-0.9	-3.7	-2.2	-0.6	0.2	0.4	0.0
Imports - price [1]	12.6	2.4	-5.0	-1.9	-4.6	-3.5	-6.9	-5.8	-3.5	-1.1	0.4	-0.9

<sup>[1]</sup> Change (%) compared to same period previous year Source: NIS/INS. FPB

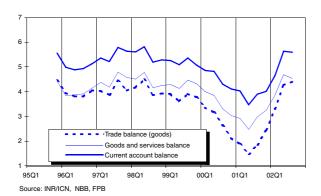
Graph 17 - Export cycle



Graph 18 - Export growth and leading indicator



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



Due to the deterioration of world demand, exports in Belgium and in the euro area have been on a steep downward trend throughout 2001 and in the first half of 2002 and were even below their trend from 2001Q4 onwards. The world economy recovered slightly in the first half of 2002, but this recovery lost momentum in the second half of 2002.

Since the first quarter of 2002, the downswing in both export cycles has been less pronounced than in 2001, and they bottomed out around the middle of the year. Nonetheless, this turning point was not sufficient to reach a positive growth rate for Belgian exports for the whole of 2002. Belgian exports should have declined by about 1% in real terms in 2002, while our exports markets should have registered a modest increase of 0.5%.

Trade statistics indicate that the yoy recovery in export volumes of goods recorded since the beginning of 2002 has gained in strength during the second and the third quarter of 2002. These data, however, are subject to a strong upward bias resulting from the new activity in the pharmaceutical sector from December 2001. When all the activities involving re-export of goods from Belgium are removed, the growth rates in the two latest quarters are significantly lower (around 2%) and do not point to any acceleration. Moreover, the first available figures for the fourth quarter of 2002 indicate a significant deceleration.

The sluggish internal demand in 2002 exerted a drag on imports such that real net exports contributed positively to GDP growth (+0.3%), while no real contribution is expected for this year. The appreciation of the euro throughout 2002 and the weakness of international demand resulted in a decline in world trade prices expressed in euro. Due to the fall in oil prices in the first half of 2002 - compared to the same period in 2001- Belgian import prices declined more than export prices. The same is expected for this year. As a result, the current account surplus recovered further in 2002 and should rise again this year.

### Labour market

Table 5 - Labour market indicators

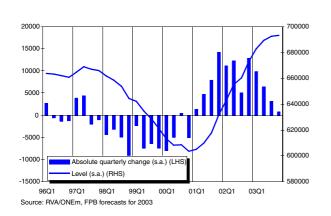
	01	02	02Q1	02Q2	02Q3	02Q4	02M8	02M9	02M10	02M11	02M12	03M1
Unemployment (incl. older) [1]	616.2	657.9	637.3	624.4	689.7	680.4	693.4	690.9	686.1	676.3	678.8	685.3
Unemployment rate (incl. older) [2]	12.8	13.6	13.3	13.5	13.6	13.9	13.5	13.6	13.7	13.9	14.0	14.0
Unemployment rate-Eurostat [2][3]	6.7	7.3	7.1	7.3	7.3	7.5	7.3	7.3	7.4	7.5	7.6	

[1] Level in thousands, not s.a.; [2] In % of labour force, s.a.

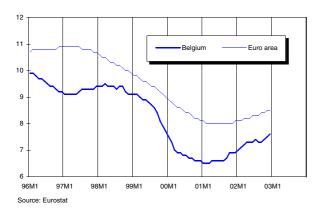
[3] Recent figures are based on administrative data and can be revised

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

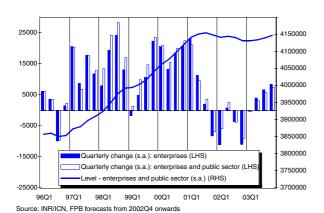
Graph 20 - Evolution of unemployment (incl. older)



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



Graph 22 - Evolution of domestic employment



Broad administrative unemployment soared heavily during the first two quarters of last year (increases of approximately 11,000 and 12,000 persons). During the third quarter, the increase in unemployment slowed considerably (increase of 5,000 persons), which seemed to be in line with a scenario of gradual but persistent recovery. The subsequent loss in momentum of the recovery, however, did adversely affect unemployment figures towards the end of the year (an increase of nearly 13,000 persons), putting the yearly average for the broad unemployment rate at 13.6 % for 2002, up from 12.8 % in 2001.

Changes in registered administrative unemployment have been mirrored rather well in the recent evolution of domestic employment. Heavy job losses during the last quarter of 2001 (-0.24 % in the private sector) and the first quarter of 2002 (-0.33 %) were succeeded by a relatively flat development of employment during the second and third quarters (source: quarterly national accounts). In view of the deterioration in the unemployment figures, it may be conjectured that renewed job losses have been incurred during the fourth quarter, at a rate comparable to those seen early last year. Consequently, at the end of last year private sector employment may have decreased by as much as 0.75 % on a year-on-year basis. The employment rate (yearly average) dropped from 62.2 % in 2001 to 61.8 % in 2002.

Employment growth is not likely to turn significantly positive before the second quarter of the current year, but is expected to gradually pick up during the second half of this year. Unemployment may, however, continue to move upward throughout the year, with the unemployment rate expected to reach 14.2 %. Moreover, due to an unfavourable starting position after the job losses late last year, on a yearly average basis employment will not rise significantly above last year's level. Accordingly, in view of the gradual growth in the population of working age (0.35 % in 2003), the employment rate is forecast to shrink further to 61.6 %.

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

	01	02	02Q1	02Q2	02Q3	02Q4	02M8	02M9	02M10	02M11	02M12	03M1
Consumer prices: all items	2.47	1.64	2.73	1.34	1.26	1.26	1.26	1.26	1.29	1.10	1.37	1.21
Food prices	4.23	2.20	5.08	1.72	1.12	0.98	0.68	1.48	0.86	1.01	1.06	0.09
Non food prices	1.71	0.60	0.82	0.03	0.35	1.21	0.42	0.26	1.30	0.98	1.36	1.76
Services	2.46	2.66	4.04	2.85	2.51	1.29	2.73	2.36	1.39	1.08	1.39	1.00
Rent	1.91	2.46	2.30	2.43	2.58	2.53	2.62	2.56	2.47	2.56	2.55	2.42
Health index	2.74	1.78	3.09	1.64	1.34	1.09	1.28	1.34	1.11	0.94	1.21	0.92
Brent oil price in USD (level)	24.4	25.0	21.1	25.0	27.0	26.8	26.7	28.4	27.5	24.2	28.7	31.1

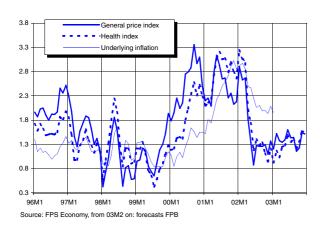
Source: FPS Economy, Datastream

Table 7 - Monthly inflation forecasts

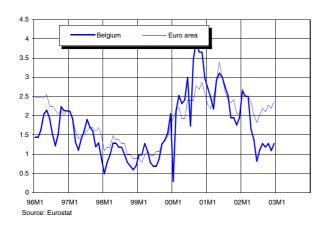
	02M1	02M2	02M3	02M4	02M5	02M6	02M7	02M8	02M9	02M10	02M11	02M12
Consumer prices: all items	110.22	110.40	110.69	110.72	110.89	110.58	110.94	110.91	111.22	111.09	111.00	111.06
Consumer prices: health index	109.93	110.09	110.33	110.11	110.35	110.09	110.44	110.39	110.62	110.43	110.46	110.55
Moving average health index	109.45	109.67	109.90	110.12	110.22	110.22	110.25	110.32	110.39	110.47	110.48	110.52
	03M1	03M2	03M3	03M4	03M5	03M6	03M7	03M8	03M9	03M10	03M11	03M12
Consumer prices: all items	111.55	112.08	112.21	112.21	112.44	112.35	112.53	112.51	112.51	112.45	112.71	112.74
Consumer prices: health index	110.94	111.37	111.47	111.48	111.76	111.72	111.94	111.95	111.96	111.92	112.20	112.26
Moving average health index	110.60	110.83	111.08	111.32	111.52	111.61	111.73	111.84	111.89	111.94	112.01	112.09

Source: observations (up to 03M1): FPS Economy, forecasts FPB

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



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



The year 2002 was marked by a very sharp decline in headline inflation in the second quarter and a stabilisation afterwards. The halving of consumer price inflation, as measured by the yoy change in the national CPI, from 2.7% in Q1 to 1.3% in Q2 was due to a fall in underlying inflation (from 2.9% in Q1 to 2.4% in Q2), lower electricity prices and the abolition of the radio and television license fee in the Flemish and Brussels regions (half of the effect in April). In the third quarter, underlying inflation fell further (to 2.1%), but this was largely offset by higher fuel prices (both for transport and heating). As a result, the decrease in headline inflation came to an end. In the fourth quarter, headline inflation remained stable at its Q3 level (1.26%), again due to two neutralizing factors. Higher fuel prices (the yoy growth rate increased mainly because of the base year effect, in this case the very low oil price during the last quarter of 2001) made up for the second half of the effect of the abolition of the radio and television license fee (in October).

All in all, average CPI inflation was 1.64% in 2002. It is forecast to fall to 1.4% in 2003, mainly as a result of somewhat lower underlying inflation. According to our monthly forecasts for the 'health index', the pivotal index for public wages and social benefits (currently 111.64) should next be crossed in July 2003.

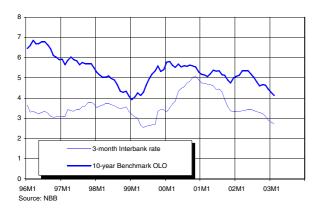
#### **Interest rates**

Table 8 - Interest rates

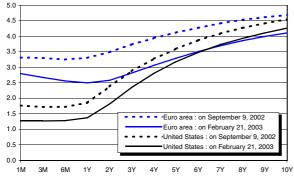
	01	02	02Q1	02Q2	02Q3	02Q4	02M8	02M9	02M10	02M11	02M12	03M1
Short-term money market rates (3 months)												
Belgium	4.23	3.29	3.34	3.42	3.33	3.08	3.32	3.29	3.23	3.10	2.91	2.81
Euro area (Euribor)	4.26	3.32	3.36	3.45	3.36	3.11	3.35	3.31	3.26	3.12	2.94	2.84
United States	3.69	1.73	1.83	1.83	1.76	1.49	1.73	1.76	1.73	1.39	1.34	1.29
Japan	0.12	0.02	0.04	0.03	0.02	0.01	0.02	0.02	0.02	0.03	-0.03	-0.02
Long-term government bond rates												
Belgium	5.12	4.97	5.18	5.29	4.81	4.58	4.80	4.60	4.66	4.64	4.45	4.27
Germany	4.79	4.81	4.94	5.16	4.73	4.43	4.73	4.51	4.27	4.49	4.51	4.22
Euro area	4.99	4.90	5.10	5.23	4.73	4.53	4.71	4.50	4.60	4.59	4.41	4.24
United States	5.01	4.59	5.07	5.08	4.23	3.99	4.22	3.87	3.91	4.03	4.02	4.02
Japan	1.32	1.24	1.45	1.35	1.20	0.98	1.23	1.11	1.04	0.96	0.93	0.84

Source: NBB. ECB

Graph 25 - Interest rate levels in Belgium, %



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



Source: Datastream. data based on interest rate swaps

The Federal Reserve lowered its main official interest rate from 1.75% to 1.25% at the beginning of November 2002. The Fed's main objective was more to preserve confidence in the US financial markets than to stimulate the economy any further. As indicated by the futures, this downward move is considered by the markets as the last one in this cycle.

The weakness of economic activity in the euro area at the turn of the year persuaded the ECB to reduce its main refinancing rate from 3.25% to 2.75% at the beginning of December 2002. This decision was also encouraged by the dampening impact of the appreciation of the euro on internal prices in the euro area. In the current context of a high degree of uncertainty regarding geopolitical developments, it is expected that the ECB will maintain its stance in the coming weeks. Since financial markets do still have doubts about the capacity of the European economy to rebound rapidly, they are expecting a further easing during this spring.

Due to the reallocation of capital flows to the less risky bond markets, long-term government bond rates declined further in the last quarter of 2002 both in the US and in the euro area. During the course of January, however, they rose in the US while declining further in the euro area. The upward move in the US can partly be explained by the fiscal package proposed by the Bush administration which could lead to an increase in the issuance of Treasury bonds, but also by some perception of upward inflation prospects due to the depreciation of the US dollar, while the opposite is true for the euro area.

As a result of all these developments, the yield curve became slightly steeper in the US as compared with the situation that prevailed five months ago.

## **Exchange rates**

Table 9 - Bilateral exchange rates

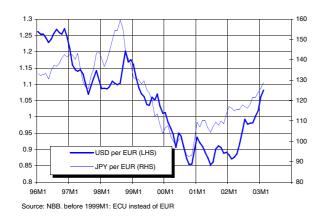
	01	02	02Q1	02Q2	02Q3	02Q4	02M8	02M9	02M10	02M11	02M12	03M1
BEF per USD	45.05	42.67	46.01	43.85	41.00	40.29	41.25	41.12	41.10	40.26	39.53	37.99
USD per EUR	0.895	0.945	0.877	0.920	0.984	1.001	0.978	0.981	0.982	1.002	1.020	1.062
UKP per EUR	0.622	0.629	0.615	0.629	0.635	0.637	0.636	0.630	0.630	0.637	0.643	0.657
JPY per EUR	108.73	118.12	116.09	116.52	117.36	122.50	116.38	118.58	121.57	121.71	124.22	126.12

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

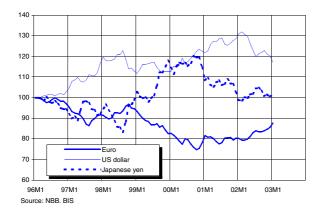
	01	02	02Q1	02Q2	02Q3	02Q4	02M8	02M9	02M10	02M11	02M12	03M1
Euro	79.7	82.1	79.5	81.1	83.4	84.5	83.1	83.3	83.7	84.5	85.4	87.4
Growth rate [1]	1.8	3.0	-0.5	2.1	2.8	1.4	-0.7	0.2	0.5	0.9	1.1	2.3
US dollar	121.2	119.9	125.9	121.3	116.1	116.5	116.4	116.9	117.9	116.1	115.4	112.4
Growth rate [1]	6.8	-1.1	2.8	-3.7	-4.3	0.3	1.3	0.4	0.9	-1.5	-0.6	-2.6
Japanese yen	147.9	140.2	137.3	139.8	144.0	139.7	144.8	142.7	139.3	140.6	139.1	140.1
Growth rate [1]	-8.2	-5.2	-5.8	1.8	3.0	-3.0	0.1	-1.4	-2.4	0.9	-1.1	0.8

[1] Change (%) compared to previous period

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



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



The euro appreciated by about 9% against the dollar from August 2002 to January 2003 and reached its highest level since mid-1999. This appreciation was largely due to the weaker than expected rebound in US economic activity, as well as to investors' rising fears regarding the widening current account deficit and the deterioration in the US fiscal position. Moreover, stock market instability and geopolitical uncertainty have both exacerbated the decline of the US dollar in recent weeks. During the month of January the euro gained more than 4% against the dollar. According to the futures, however, the financial markets are not expecting a further fall in the US dollar in the coming quarters, as economic activity and productivity gains are expected to remain stronger in the US than in the euro area.

The deterioration of the short-term outlook of the Japanese economy at the turn of the year pulled down the exchange rate of the yen against the euro. Moreover, in January, the Japanese monetary authorities intervened on the foreign exchange markets by purchasing the US dollars in order to prevent a further appreciation of the yen against the dollar that could dampen the export competitiveness of the Japanese economy.

From September 2002 to January 2003 the euro appreciated against most major currencies and the nominal effective exchange rate went up by almost 5% during this period, while during the same period, the nominal effective exchange rate of the US dollar and the Japanese yen declined by 4% and 1.5% respectively.

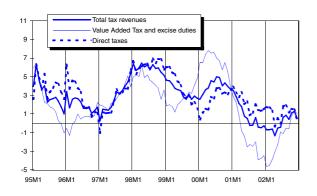
## **Tax indicators**

Table 11 - Tax revenues (1)

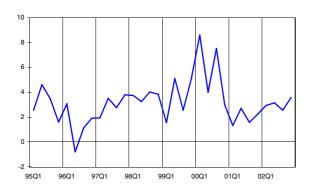
	01	02	02Q1	02Q2	02Q3	02Q4	02M7	02M8	02M9	02M10	02M11	02M12
Total [2]. of which:	2.2	2.2	-0.2	2.4	5.9	0.5	7.9	7.6	0.5	2.2	3.2	-2.1
Direct taxes. of which:	4.1	1.8	1.6	0.5	8.0	-1.4	11.7	11.0	-1.7	0.8	0.3	-4.0
Withholding earned income tax (I	PAYE) 4.8	5.3	8.7	5.0	3.4	4.1	3.9	4.0	2.0	0.0	-0.7	11.5
Prepayments	-0.3	-6.4		-9.3	-1.7	-9.5	0.5			-2.7		-14.0
Value Added Tax and excise duties	s -1.0	2.7	-3.7	6.5	3.9	3.0	2.0	6.4	3.7	4.1	6.8	0.0

<sup>[1]</sup> Change (%) compared to same period previous year;[2] Total received by federal government, excl. of death-duties Source: FPS Finance. FPB

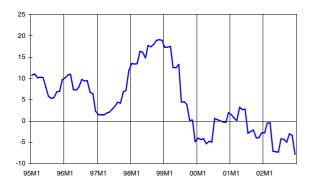
Graph 29 - Real tax revenues (3)



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



Graph 31 - Real prepayments (3)



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

The nominal growth rate of total taxation revenues in 2002 (+2.2%) was about the same as in 2001 and was markedly lower than in 2000 (+6.3%) and in 1999 (3.9%). In real terms, growth rates as low as those seen in 2001 and 2002 had not been observed since the beginning of the 1980s. This mainly reflects the deceleration in economic activity that occurred from mid-2000 onwards.

In 2002, direct tax revenues have decelerated to a 1.8% nominal growth rate (4.1% in 2001), due to the fall in advance payments (-6.4%), while PAYE revenue was 5.3% higher than 2001 in nominal terms. Indirect taxation revenues have recovered: their rate of increase reached 2.7% in 2002.

After experiencing a negative growth rate in 2001, indirect taxation revenues (VAT and excise duties) still fell during the first quarter of 2002. Positive nominal growth rates were, however, seen on a quarterly basis, from 02/Q2 onwards as compared to the corresponding quarters of 2001. The real growth rate, based on for the 12 month moving average, reveals a change of trend at the beginning of 2002 and appears to become positive in the final months of 2002. The gradual improvement of VAT revenues should be confirmed in next months, though no spectacular progress is expected.

The fall in prepayments in 2002 (nominal -6.4%) is accentuated as compared to the year before (-0.3% annual growth rate in 2001). In December 2002 (December is the last quarterly due date for advance payments), the decrease reached about -14% as compared to December 2001. Both prepayments by businesses and self-employed people were affected, as was the case in 2001. Taxes on dividends and on interest earnings fell in 2002, due to low profitability and/or a fall in interest rates.

PAYE revenues (mainly on wages) have continued to grow at a sustained pace in 2002 (5.3% nominal growth rate) due to increases in wage rates more than compensating for the effect of a decrease in total employment and some additional reductions in tax rates.

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

## Spatial economy of Belgian cities: Determinants, issues and outlooks

The FPB is carrying out a study on the spatial dynamics of economic activities and households in Belgian cities. The objective of this study is to assess the present economic importance of cities in Belgium, to analyse the determinants of the spatial organisation of economic activities and households in urban areas and to define a certain number of economic policy instruments capable of influencing the spatial configuration of cities. Two specific topics will also be dealt with in this study. The first is the impact of information and communication technologies (ICT) on the geographical concentration of economic activities in cities. The second is the definition of strategies for the public authorities with a view to viable urban development. The following working papers (WP 9,13,14, and 16) that were presented at a Conference on 16 December, see http://www.plan.be, should be seen as a first step.

## The New Economic Geography: A Survey of the Literature

This paper presents an overview of the literature dedicated to the new economic geography, which analyses the main mechanisms behind the spatial concentration of economic activity. The main contribution of the new economic geography is that it deals with some of the classic questions of regional and urban sciences related to location in a coherent theoretical framework and explains the endogenous mechanisms driving the geographical concentration of economic activity and leading to core-periphery patterns. This should provide some guidelines for an empirical analysis of the determinants of the spatial distribution of economic activity in urban areas in Belgium.

In a pioneering text, Krugman has shown that these forms of concentration are linked to the existence of agglomeration economies, i.e. the spatial concentration itself creates a positive economic environment. According to the new economic geography, the self-reinforcing process deriving from the spatial concentration of economic activity arises from the interplay of various factors: scale economies, transportation costs and backward-forward linkages between firms; this which determines the location of economic activity. In the presence of increasing returns to scale, each producer is inclined to concentrate its production in a single location. In order to minimise transportation costs, the producer will have a tendency to locate where the local demand is highest. Demand, however, concentrates precisely where other firms have already located. If a specific economic activity develops particularly in a given region, for historical reasons, this region will attract firms from the other regions, thus reinforcing the advantage deriving from the size of its own market. This circular process of cumulative causality leads in the end to the concentration of the industry in a single area.

The effects caused by the concentration of economic activity can be reinforced by the existence of externalities such as technology and knowledge spillovers through the improvement of information flows (informal contacts facilitated by proximity), access to a diversified range of intermediate goods and services complementary to industrial activity, and benefits due to the availability of specialised and highly skilled labour. The economic literature also makes a distinction between location economies associated with firms belonging to a same sector and urbanisation economies associated with firms from all sectors being located in the same place. The account of the interactions between technological, sectoral and geographical proximity comes from research done on endogenous growth, which considers these externalities as the engine of growth.

There are, however, congestion effects which exist alongside these agglomeration economies. According to these effects, concentration brings an increase in the prices of the immobile local factors and of goods that can lead to an inverse process of dispersion of economic activity. These dispersion forces, which make it possible to explain the existence of multiple concentration places, are linked to transportation costs, land use costs, labour market competition and competition in the goods and services market, and also to negative externalities (congestion in transport, pollution).

"The New Economic Geography: A Survey of the Literature", D. Simonis, Working Paper 16-02, January 2003.

## Geographical agglomeration of manufacturing industry in Belgium

There is plenty of evidence for large-scale concentration of economic activities all around the world, like Route 128 and Silicon Valley in the United States or the Blue Banana in Europe. Is this also the case on a smaller scale in Belgium? This question has relevance in terms of economic policy because agglomeration of economic activity gives rise to some gains in terms of efficiency, but these are often compensated by congestion costs (traffic jams, high prices, etc.). In this working paper, we carry out a descriptive analysis of the geographical concentration of the manufacturing sector in Belgium. This paper is closely related to a first working paper on this subject which analyses the geographical agglomeration patterns of all economic activities (see Decrop, WP 09-02), but takes a more technical approach and gives a more

detailed picture of industrial agglomeration. To assess the degree of concentration, individual plant data on wage and salary earners is used, with a relatively fine geographical (districts and townships) and industrial (NACEBEL 4-digit sub-industries) breakdown. The short period of investigation (1997-2000) is informative from a descriptive point of view, but one must remain very cautious when it comes to addressing policy issues.

We know from the literature that most countries have their manufacturing activities concentrated in a few areas, including cities. This is also the case in Belgium. When comparing manufacturing with overall employment patterns it seems that the manufacturing sector as a whole is much more concentrated. Using manufacturing employment as a benchmark, we compute the geographical concentration for each sub-industry. The major findings of this paper are as follows. About one third of all sub-industries can be considered as highly concentrated. We find that the activities showing high levels of concentration are not specifically high-tech industries, but also traditional indus-tries. The evolution of concentration patterns in sub-industries from 1997 to 2000 is rather stable, which can be seen as the inertia of geographical patterns of concentration in most sectors. Some sectors do show large variations in their concentration index for the period under investigation, including high-tech industries, but these are rather small sectors with a small number of plants.

We further analyse a number of specific problems which arise when studying concentration patterns at specific geographical and industrial disaggregated levels. First we try to assess whether broad industries (NACEBEL 2-digit) are concentrated because of the concentration within or across their sub-industries (NACEBEL 4-digit). For most industries, concentration within sub-industries is prevalent, which is an argument in favour of the presence of localization economies. Four industries do, however, highlight significant concentration across sub-industries: textiles, clothing, printing and publishing and precision instruments. The results for these industries are consistent with the importance of diversity in clusters of activity, as suggested by some authors.

When we consider regional outcomes, it can be shown that Flanders has a more dispersed pattern than Wallonia, where manufacturing activity is concentrated in a few hot spots. Part of the explanation for this lies in the 'history' of the two regions and their different pathways to industrialization. This is reflected in the divergent mix of industries between the two regions, as well as the different degrees of concentration of the same industries.

All in all, this paper provides some descriptive features with respect to agglomeration in manufacturing indus-

try. Although the study gives some hints about potential explanatory factors, its intention is not to build an explanatory framework or to suggest policy measures (for example, the question of the source of agglomeration, natural advantages vs dynamic externalities, is not investigated here).

"Geographical Agglomeration: the case of Belgian Manufacturing Industry", L. Bertinelli, J. Decrop, December 2002, Working Paper 14-02.

#### Geographical agglomeration of population in Belgium

This study covers the locational patterns of Belgian households in 2001, as well as the country's population dynamics. The study has been carried out on a national scale, with the unit of analysis being the municipality. It is a descriptive analysis and as such it aims to provide information for the subsequent econometrical model that will pinpoint the main determinants driving the residential location of households.

People tend to live in clusters, with a city being one possible form of habitation. During the last four decades, this 'city' has been prone to many substantial changes. The pedestrian city has transformed into a vast 'city region' where Belgian inhabitants live both in high-density central cities and in the low-density urban fringe. The phenomenon where the distribution of the population of cities has spread spatially and the city borders have become indistinct is referred to as urban sprawl and has led to a new definition, the 'city region'. This city region can be subdivided into zones with decreasing degree of 'urbanity': the central city, the agglomeration, the banlieue and the commuting zone (VanderHaegen et al, 1996).

Urban sprawl and migrations go hand in hand. Every year, approximately 10% of the Belgian population moves. Migrations seem to be highly subject to the position in the lifecycle of the household. Children and adolescents have a residential preference for the banlieue. In their twenties and mid-thirties, on the other hand, they choose to dwell in central cities where education and job opportunities are proportionally more available. When the number of household members increases, migration to the periphery takes place. After the age of 65, the more spacious family dwelling is traded in for an easy to maintain apartment located in the central city. Indepent of age, singles live in central cities, whereas large families prefer the rural periphery.

Income also has a part to play. Lower incomes tend to cluster in the central cities, whereas the more affluent reside in the vast banlieue and commuting zone while shuttling to and from work. Of all Belgian municipalities, approximately 20% can be classified as 'working

municipalities', while the other 80% predominantly have a residential function. Another important conclusion is that a person's occupation largely determines that person's residential location. The course of education pursued and the diploma that is obtained determine the residential choice as well. Higher education students experience the greatest agglomeration forces, tending to cluster around college or university campuses. After graduation, the agglomeration forces tend to be stronger the higher the degree that was obtained.

The place of residence is also largely determined by the nationality of the head of the family. Foreigners have a highly clustered locational pattern. Three types of foreigners can be distinguished, each with their own residential preferences: first, the 'high income highly educated' foreigners, who are mainly to be found in the

Brussels metropolitan region; second, the 'low income poorly educated' foreigners, most often non-EU migrants, who tend to populate (particular districts of) central cities; finally, citizens from adjacent countries who reside in municipalities adjoining the border.

These general findings are subsequently applied to the five Belgian "metropolises", being Brussels, Antwerp, Ghent, Liège and Charleroi. Each of these cities possesses its own residential map, with particular demographic, income, foreigner-related and employment characteristics.

"Stedelijke woondynamiek van de Belgische bevolking en haar gezinnen", D. Devogelaer, Working Paper 13-02, November 2002.

## The macroeconomic impact of ICT: economic trend growth, business cycle and NAIRU

This paper is concerned with the possible macroeconomic impact of information and communication technologies (ICT). Three important measures of macroeconomic activity are discussed: economic trend growth, cyclical economic growth and the NAIRU. The theoretical channels linking technical progress and economic activity are outlined and applied to ICT. The discussion is largely theoretical but is illustrated using the available results for Belgium.

Firstly, the long-run impact of ICT on macroeconomic growth has been the subject of many studies. According to this literature, ICT may positively affect economic growth by increasing labour productivity gains. Labour productivity growth may accelerate thanks to rapid technical progress in ICT-producing sectors, and thanks to the rapid accumulation of ICT capital in the rest of the economy that results from the ensuing price falls in ICT capital goods. More controversially, the diffusion of ICT may also stimulate total factor productivity growth. Through these channels, ICT can constitute a major stimulus for long-run productivity growth, as has been the case in the United States. The available evidence for Belgium suggests that, although labour productivity growth did not accelerate in the late 1990s, the adoption of these technologies by Belgian firms has resulted in the growth contribution from ICT capital almost doubling between the first and second halves of the 1990s.

Secondly, ICT may affect the cyclical economic growth around its trend. The impact that the adoption of ICT may have on the business cycle follows at least two channels. In the first channel, ICT help to improve firms' inventory control. Just-in-time inventory control systems have led to a stabilisation of inventory investment,

which is a small but very volatile component of aggregate demand. The second channel runs through gross investment by the business sector, another volatile component of aggregate demand. This channel has opposing effects, however: on the one hand ICT increases gross investment because ICT capital goods are characterised by large depreciation rates. On the other hand this fast depreciation may reduce the volatility of gross investment, since it allows investment plans to be adjusted more quickly after an economic shock. The direction of the overall effect is an empirical question.

Thirdly, the possible impact of the increasing use of ICT on the NAIRU is considered. The NAIRU is the unemployment rate consistent with stable inflation, and forms an important part of business cycle theory. The diffusion of ICT may affect the NAIRU through three channels. Firstly, the NAIRU may fall temporarily if productivity growth accelerates but real wage claims adjust only gradually. Secondly, it may rise as a result of the asymmetric effects of increasing ICT use on unemployment among skilled and unskilled workers. Finally, the NAIRU may vary as a result of changes in job matching technology. Although in the United States the combination of accelerated productivity growth and inert aspiration wages may have been of overriding importance, in Belgium the pernicious impact of ICT on poorly-skilled workers may dominate the overall effect of ICT on the NAIRU. This is once again a challenging empirical question.

"De macro-economische impact van ICT: economische trendgroei, conjunctuurcyclus en NAIRU" (only in Dutch), W. Van Zandweghe, February 2003, Working Paper 2-03.

## **Other Recent Publications**

Economic Forecasts 2003, September 2002 (available in Dutch and in French).

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

#### Planning Paper 91, March 2002

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

#### Planning Paper 90, April 2002

"Comptes nationaux environnementaux - Outil d'une politique de développement durable./ De groene nationale rekeningen - Instrument voor een beleid van duurzame ontwikkeling", J. de Villers, S. Van Den Berghe.

#### Working Paper 11-02, November 2002

"Monetary policy in the euro area. Simulations with the NIME model", Eric Meyermans.

#### Working Paper 12-02, November 2002

"Constructing productive ICT capital stock series for Belgium", T. Pamukçu, W. Van Zandweghe.

#### Working Paper 15-02, December 2002

"Opleiding en kwalificaties, arbeidsmarkt en ICT: de rol van onderwijs en training", G. Dekkers.

## Research in progress

#### The MODTRIM II model

The 'Short term forecasts and business cycle analysis' team started the building of a quarterly model for the Belgian economy in 2000. Despite its newness, this model has already been re-estimated a couple of times due to several revisions of (quarterly) national accounts. The model was used during the last five forecasting rounds. A publication is being prepared concerning the current version of the model and its simulation properties.

contact: il@plan.be

#### Impact of ICT in Belgium.

As a follow-up of its study on ICT diffusion in the Belgian economy, the FPB studies the effects of ICT on the Belgian economy. This project has six components: macro-economic impact, micro-economic impact, digital divide and dualisation, ICT and the localisation of economic activities, e-government, and Internet and indirect taxation.

contact: ck@plan.be, gd@plan.be

### Labour market analyses

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

contact: cj@plan.be, mln@plan.be

## The NEMESIS model

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

## Recent history of major economic policy measures

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.

November 2002

The European Energy Council approved the draft of a new directive concerning the common rules for the internal gas and electricity markets, on 25 November 2002. According to the new text, all non-domestic customers will be eligible from July 2004 on, and domestic customers no later than July 2007.

September 2002

The federal Council of Ministers has appointed Elia System Operator as Transmission System Operator in Belgium for a period of 20 years.

August 2002

A WTO arbitration decision in the EU-US dispute concerning the US Foreign Sales Corporation (FSC) tax law has authorised the EU to impose sanctions amounting to US \$4,043 million by increasing customs duties on certain selected products up to 100%.

Further to an impact assessment study, the Federal Minister for the Environment has not granted the environmental permit for a second offshore wind farm project launched by C-Power, although the State Secretary for Energy and Sustainable Development granted the land concession for this project on 26 February 2002.

July 2002

The Directive 2002/58/EC on privacy and electronic communication harmonises the stipulations in the member states which are required to ensure an equivalent level of protection of the right to privacy with respect to the processing of personal data in the electronic communication sector.

A construction permit was granted to Electrabel to build the first onshore wind farm in Wallonia (Bütgenbach). Four wind turbines with a total capacity of 8 MW will produce some 16 GWh from 2003 onwards.

June 2002

The Belgian government has adopted the law on the phasing-out of nuclear power generation. Parliament still has to approve the text. The debates in Parliament are due to take place in the autumn of 2002.

The Federal Minister for the Environment has issued the construction and operating permits for the first offshore wind farm in the North Sea. The so-called Synergy project, launched by Electrabel and Jan De Nul, consists of 50 wind turbines of 2 MW each, located some 15 km from the coast (near Knokke). Power generation amounting to some 300 GWh per year is expected to start in 2004. The Secretary of State for Energy and Sustainable Development granted the land concession for this project on 27 March 2002.

May 2002

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

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

April 2002

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

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

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

#### Abbreviations for names of institutions used in this publication

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

ECB European Commission
ECB European Central Bank

European Union

FÉBIAC 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

INSTICN 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)