SHORT TERM UPDATE

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Quarterly Newsletter November 2000

Headlines Belgian Economy



Special Topic in this issue Technological choices for electricity generation in Belgium

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

Real GDP growth is expected to be 3.8% this year - the highest growth rate since 1988 - and 3.2% next year. Exports and private consumption were very buoyant during the first half of 2000. However, both the private consumption cycle and the export cycle should have peaked by the middle of 2000 and should gradually move down towards their trend path in the second half of the current year. This should lead to a slowdown in GDP growth during the second half of 2000, although it will remain robust, at rates of about 3% yoy.

The overall economic environment should remain favourable next year. The growth of external demand should largely exceed the average seen during the last decade, despite a moderate slowdown in our main export markets. Belgian exporters should, as in 2000 and contrary to what has generally been observed in the last two decades, lose almost no market share, reflecting improved competitiveness due to the depreciation of the euro and subdued domestic costs. The 2001 Budget contains some personal tax cuts and supplementary social benefits which should support households' disposable income, while the loss of purchasing power due to rising energy prices is not expected to be repeated.

Households' disposable income should also benefit from substantial growth in employment. The rise in employment seen since 1995 should indeed continue during the forecast period. This is supported by sustained growth in economic activity and government measures aimed at promoting employment. The expected increase in the participation rate should sustain the labour supply and help to limit pressures in the labour market.

The combined effect of persistently high oil prices and a weak euro resulted in an upward revision of inflation prospects for this and next year, which is now expected to be 2.5% in 2000 and 1.9% in 2001. It appears that import price increases have at last begun to be passed on to domestic consumer prices. It should be noted, however, that these "second round" effects are not, so far, spreading to wages.

Taking into account the 2001 Budget and the macro-economic outlook presented above, and disregarding the one-off revenues from the auctioning of UMTS licenses, the general government budget balance is expected to move from broad equilibrium in 2000 to a small surplus in 2001.

The underlying risks to our macro-economic forecasts are mainly linked to the international financial conditions that will prevail in the year 2001. Additionally, wage increases in Belgium exceeding wage developments in its main trading partners could harm Belgium's competitive position.

STU 4-00 was finalised on November 6th 2000.

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.

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Technological choices for electricity generation in Belgium

The purpose of this special topic is to study the impact of three energy policy scenarios on the technological choices for producing electricity in Belgium. The scenarios have been simulated with PRIMES, a partial equilibrium energy model developed for the European Commission¹. The results are derived from a broader energy forecasting exercise presented in the FPB publication "Belgian energy outlook 2000-2020"².

The projections of electricity generation have to take into account three governmental initiatives, which sometimes have conflicting outcomes:

- First, there is the Belgian implementation of the EU directive on the internal markets for gas and electricity. The impact of the directive is ongoing, progressively introducing a higher degree of competition in the Belgian electricity and gas markets;
- Second, there are the Belgian federal government agreements of 13 June 1999, which stated that nuclear power plants would be decommissioned once they reach 40 years of age;
- And third, there is the Kyoto Protocol, which addresses concerns about global warming and commits the international community to reduce emissions of greenhouse gases below the 1990 level by 2008-2012.

Three scenarios

To study the impact of phasing out nuclear power in Belgium, three alternative scenarios are considered.

- A nuclear rebuilding scenario, which assumes that nuclear capacities are constrained at their current levels. This means one of two choices. First, extend the life span of existing plants up to 2030, assuming that it is cost-effective to do so. Or second, replace the existing power plants with new nuclear power plants. This scenario assumes that the Kyoto Protocol is never implemented³, and as a result there is no restriction on CO₂ emissions.
- A nuclear phase out scenario, which assumes that nuclear power plants are decommissioned after 40 years of service⁴. No new investments in nuclear capacities are allowed and no restrictions are enforced on CO₂ emissions.

• A Kyoto scenario with nuclear phase out. This scenario adds one constraint to the previous scenario: CO₂ emissions are reduced so that Belgium would meet in 2010 the emission level set out in the Kyoto Protocol⁵. And throughout the period 2010-2030, the Kyoto Protocol constraint is maintained; projected emission levels follow those assumed by the Kyoto Protocol.

Results of the analysis

In PRIMES, the technologies to produce electricity are planned to meet at the minimum discounted economic cost (present value of investment cost, operation & maintenance costs and fuel costs), the expected growth in electricity demand given the projected load shapes and constraints put on the choice of technologies. In PRIMES, the imposition of a global constraint on emissions is strictly equivalent to the inclusion of a shadow cost, which affects the fuel prices proportionally to their carbon content.

Table 1 shows the estimated electricity production levels and the technological choices for producing electricity In the nuclear rebuilding scenario, about 10 TW and 16 TW of additional generating capacity would be needed by 2020 and 2030, respectively, in order to meet projected growth in demand for electricity.

Relying on the cost assumptions of the PRIMES model, building new nuclear power plants would be a cost-effective solution for the Belgian energy system. As Table 1 shows, electricity production of nuclear power plants would slightly increase by 2030, indicating that decommissioned nuclear capacities would be replaced to a large extent by new ones.

In all three scenarios, the use of gas turbines to produce electricity would increase. The greater use of natural gas would come from utilities producing electricity only and from auto-producers co-generating electricity and steam. The development of gas turbines combined cycles (GTCC) is favoured in the context of the market liberalisation because these plants are more efficient and require less capital investment than other technologies.

Parallel to this work, the FPB is running the HERMES model, a macroeconomic model, which primarily focuses on the energy-economy interactions.

See Courcelle C. (2000), "Belgian energy outlook 2000-2020", Planning Paper 88, Federal Planning Bureau, Forthcoming, (will be available in French and in Dutch).

The Kyoto Protocol enters into force on the ninetieth day after the date on which not less than 55 Parties of the Convention have deposited their instruments of ratification, acceptance, approval or accession.

^{4.} The feasibility of this scenario is currently studied by Belgian and international experts within two separate commissions. In case of nuclear decommissioning, the first plants will be retired during the period 2015-2020. In 2020, about 30% of the nuclear capacity will be removed from the electricity production park. In 2030, almost all nuclear capacities will be retired.

More precisely, the CO₂ emissions reduction has been defined on the basis of a specific target for Belgium, based on the burden sharing agreement (Council of Environment Ministers' Burden Sharing Agreement, 18 June 2000).

Table 1 - Electricity generation technology choice for the three alternative scenarios

	1995	I	2020			2030	
		Nuclear rebuilding	Nuclear phase out	Nuclear phase out and Kyoto	Nuclear rebuilding	Nuclear phase out	Nuclear phase out and Kyoto
Electricity generation (TWh)	73.5	126.3	126.5	109.9	142.8	143.2	118.2
Installed capacity (TW)	14.2	25.9	25.9	23.7	30.1	30.7	26.0
Structure of electricity generation (%)							
- Nuclear	56.2	34.1	25.2	29.0	33.3	1.2	1.5
- Wind	0.0	4.7	4.7	10.6	5.2	5.2	9.9
- Hydro and Biomass	1.6	2.2	2.3	3.9	3.0	3.0	4.0
- Gas turbines (GTCC* and SGT**)	8.5	58.1	62.9	49.7	50.9	53.3	25.5
- Conventional and advanced thermal	33.7	0.9	4.9	0.8	0.5	3.9	0.0
- Super critical and ultra-super critical coal	0.0	0.0	0.0	0.0	7.1	33.4	0.0
- Fluidized bed combustion and IGCC***	0.0	0.0	0.0	1.7	0.0	0.0	2.7
- Fuel cells	0.0	0.0	0.0	4.4	0.0	0.0	56.3
co ₂ Emissions from electricity production (1990=100)	104.8	132.7	161.8	102.4	157.7	297.6	132.8
Thermal efficiency for electricity production (%)	39.0	53.0	53.0	55.0	54.0	52.0	67.0
% of utilities in total electricity generation	96.1	88.1	88.2	81.8	73.9	73.0	40.0

Source: PRIMES model; *GTCC= gas turbine combined cycle; **SGT= small gas turbine; ***IGCC=Integrated gasification combined cycle.

Due to technological progress, which would facilitate a reduction in the optimal scale of power plants operations, co-generation by auto-producers should become cost-effective. This favours the development of small gas turbines. The share of utilities in the generation of electricity is expected to decrease from 96.1 percent in 1995, to 88.1 percent and 73.9 percent in 2020 and 2030, respectively.

Increasing gas-fired generation would reduce considerably the share of conventional thermal generation. The replacement of the conventional thermal plants by gas turbines would result in a significant improvement in the average thermal efficiency of electricity production¹. By 2020, GTCC are expected to show thermal efficiencies of 62 percent when they operate close to base-load, compared to 43 percent in the best case for advanced thermal plants.

In the nuclear phase out scenario, without CO2 emissions restriction, it would be cost-effective to replace some of the electricity production by fossil fuel powered plants. Up to 2020, the share of electricity production accounted for by gas turbines would progress more rapidly than in the nuclear rebuilding case. The share of conventional thermal plants in electricity production would be 4 percent higher than in the nuclear rebuilding scenario. But, beyond 2020, new forms of coal plants (super critical and ultra-super critical coal plants) would be the preferred option to replace the nuclear technology. This would lead to a very significant increase in the level of CO2 emissions. In 2030, the CO2 emissions level would be nearly twice that of the nuclear rebuilding case. And the re-emergence of coal in power generation would lead to a slight decrease in thermal efficiency beyond 2020.

In conclusion, it is interesting to put the cost of the Kyoto Protocol into perspective. According to PRIMES, the cost of restricting $\rm CO_2$ emissions in Belgium (while nuclear energy is phased out) would amount to 0.75% and 1.1% of the GDP by 2020 and 2030, respectively. As PRIMES is only a partial equilibrium model, these estimates of resource costs, which result from the increase in the energy price, are limited. These estimates differ from a more comprehensive measure such as the change of welfare, which would, for example, include the macroeconomic adjustment resulting from the imposition of a $\rm CO_2$ constraint. Moreover, the above results do not take into account the possibility to recycle the carbon tax revenue.

If nuclear power is to be phased out and CO₂ constraints rule out alternatives that are relatively inexpensive techniques (mainly fossil fuel power), the price of electricity would increase and the demand for electricity would decrease. Fuel cells2, which exhibit high thermal efficiency potential (72 percent in 2020), would therefore emerge as a viable alternative for electricity generation. In the Kyoto scenario, this technology would be competitive because of the value imposed on a ton of CO2 emission. Additions to electricity production from wind and hydro energy would continue until development limits are reached. And under this scenario, all conventional power plants would be retired. The development of fuel cells in the long term would further accelerate the process for decentralisation of electricity production. But, even in this scenario, the quantity of CO₂ emitted by the electricity sector is expected to increase by about 33% in 2030 (with respect to 1990); this level of emission is still consistent with the total emission level set for the economy by the Kyoto Protocol.

The average thermal efficiency is defined as the ratio of the electricity produced to the energy consumed, the two terms expressed in the same unit

Cells capable of generating an electrical current by converting the chemical energy of a fuel directly into electrical energy. The only waste product of fuel cells is water.

Economic forecasts 2001

Real GDP growth is expected to be 3.8% this year - the highest growth rate since 1988 - and 3.2% next year. Compared to our July forecasts, the overall growth profile has almost not changed, although this year economic growth should be more export-led. Persistently high oil prices and a weak euro, initially both considered to be very temporary, have given rise to an upward revision of inflation forecasts for both this year and next year. The 2001 Budget included a number of measures which should lead to an increase in household purchasing power from next year on.

Business cycle situation still favourable, after a slight slowdown

Economic activity was buoyant in the first part of this year, resulting in a real yoy GDP growth rate of almost 5% on average during the first two quarters. Economic growth was boosted in particular by rising exports and strong private consumption.

Both the private consumption cycle and the export cycle should have peaked by the middle of 2000 and should gradually move down towards their trend path in the second half of the year. This should lead to a slowdown in GDP growth during the second half of 2000, although it will remain robust at rates of about 3% yoy. The slowdown in GDP growth mainly reflects less expansion in export markets and the loss of real disposable income due to the rise in oil prices.

Strong, broadly-based expansion over the forecast period

All in all, economic growth during this year and next year should be almost 3.5% on average, about 1.5%-point higher than the average figure for the 1990s. According to our forecasts, domestic demand and net exports should each account for half of this difference. From this point of view, economic growth during the forecast period can be characterised as broadly based.

From the second half of 1999 onwards, economic growth was triggered by improved export performance. This year exports should show a double-digit real growth rate for the first time in almost 25 years. Exports are being boosted by buoyant external demand and favourable developments in the international competitiveness of Belgian firms. Contrary to what has generally been observed in the last two decades, Belgian exporters should on the whole not lose market share this year. They are benefiting from the depreciation of the euro in effective terms and sustained wage moderation (wage development in line with Belgium's three

main trading partners), enforced by cuts in employers' social security contributions. The deceleration in the growth rate of exports projected for next year mainly reflects the slowdown of economic growth and import demand in our main export markets (particularly the EU and the US) which are forecast for 2001.

Private consumption should remain strong throughout the forecast period, underpinned by growth in households' real disposable income. For both years, disposable income should benefit from substantial growth in employment. In 2000, however, the purchasing power of households is being negatively affected by high energy prices. This year growth in private consumption is exceeding the expansion of disposable income, which means that households are reducing their savings rate. Next year, the loss of purchasing power due to rising energy prices is not expected to be repeated. Moreover, the 2001 Budget contains some personal tax cuts and supplementary social benefits, which should support disposable income (estimated effect in 2001 of 0.4%-point on disposable income growth). However, private consumption should increase by less than disposable income next year. In fact, for 2001 a rise in the household savings rate is expected, as the share of non-labour income in total disposable income will increase and households will probably perceive the oil price shock as less temporary and should accordingly offset part of the decline in the savings rate in 2000.

Business investment on the whole has not been very sensitive to the business cycle for the past five years and is projected to grow at rates of almost 5% per year during the forecast period. Business profitability, which is an important source of financing for business investment, is at a healthy level and should, during the forecast period, even exceed the level seen in 1998-99. By responding to high rates of capacity utilisation, business investment should enhance the productive potential of the economy.

Employment growth continues

The rise in employment seen since 1995 should continue during the forecast period, at a rate of about 55,000 persons (1.4%) per year. It is supported by sustained growth in economic activity and government measures aimed at promoting employment (cuts in social security contributions and special programmes). While skilled labour shortages are already appearing in a few segments of the labour market and may spread to some extent, the expected increase in the participation rate should sustain the labour supply and help to limit pressures in the labour market. Accordingly, wage increases

are expected to remain moderate during the forecast period.

Inflation, although revised upwards, remains moderate

The combined effect of persistently high oil prices and a weak euro resulted in an upward revision of inflation prospects for this year and next year. Headline (national CPI) inflation is now expected to be 2.5% in 2000 and 1.9% in 2001. Underlying inflation, which was about 1% during the first half of 2000, rose to 1.5% in the second quarter. It appears that import price increases (reflecting both higher oil prices and the depreciation of the euro) have at last begun to be passed on to domestic consumer prices. Underlying inflation is expected to rise somewhat during the coming months, resulting in an average rate of 1.9% in 2001. It should be noted, however, that these "second round" effects are not, so far, spreading to wages. During the forecast period, sustained wage moderation and substantial productivity gains should guarantee subdued unit labour cost developments.

If, however, the perception of persistently higher inflation or the increasingly tight labour market would lead to higher wage growth in Belgium as compared to its main trading partners, Belgium's competitive position could be significantly harmed.

General uncertainties linked to the forecasts for 2001

Our forecasts are relying on a non-inflationary environment scenario characterised by a fall in oil prices, stable long-term interest rates and a neutral monetary policy stance in both Europe and the United States. A gradual slowdown at a rate close to potential economic growth is expected in the United States (around 3.5%), while continuous growth is anticipated in the European economy, although at a lower rate than this year as exports should slow down in parallel with the dampening in world import demand. This cooling off is itself partly explained by the deceleration of the US economy as well as by the impact of higher short-term interest rates and oil prices.

The underlying risks to our forecasts are mainly linked to the financial conditions that will prevail in the year 2001.

Indeed, if the sharp oil price increase comes to an end as is currently expected (with oil prices averaging 30 USD in 2001), the impact on the behaviour of private agents (i.e. on producer pricing, consumption patterns and wage negotiations) should be limited, as should the reaction by monetary authorities.

On the other hand, if oil prices rise further and higher energy prices are perceived as durable, the negative impact on the world economy will be far more significant. The reduction in the economy's purchasing power, and particularly in household real disposable income, due to the growth in global inflation, will depress confidence among private agents and affect economic activity as consumers are then expected to increase their savings and firms will be tempted to reduce their investments. Moreover, permanently higher inflation rates might lead to trade unions raising their demands in wage negotiations for the 2001-2002 period, which could result in a more restrictive monetary policy stance. The European economy could then face two cumulative deflationary demand shocks (higher prices and higher interest rates), when demand outside Europe will also suffer from higher energy prices. In this context it must be stressed that any overreaction by the monetary authorities should be avoided.

The euro effective exchange rate could also remain weaker next year than is taken into account in our current forecasts. This could be the case if financial markets consider that no coherent co-ordination of economic policy is taking place in the euro area or if the profitability of US portfolio investments remains higher than in the euro area. Moreover, if the ECB raises interest rates aggressively in order to contain inflation risks, and if financial markets anticipate that this hike would be a threat for the real economy, the euro exchange rate could depress further.

Finally, as was mentioned earlier, the risk of major financial turbulence still exists, as international financial imbalances remain significant. For example a sharp correction on the US stock markets, if profits are lower than anticipated, and/or strong portfolio redistribution, if the US external deficit continues to rise, could lead to a rapid decline in the US dollar, a higher inflation rate and a rise in interest rates. While those risks appear to be less probable now than they were six months ago, it is nevertheless worth stressing that contagion effects could be important due to the interconnection of the financial and real international economy.

On the positive side, however, it can be said that the European economies may be underestimating their export growth potential for this year and next year resulting from higher competitiveness thanks to a weaker euro. Moreover, in several European economies (Germany, France etc.) the expected stimuli to private spending coming from the fiscal reform could also be underestimated and could in any case offset the dampening impact of higher oil prices. What is more, tax cuts could also temper wage claims in order to regain the loss in purchasing power.

Economic Forecasts by the Federal Planning Bureau

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

	1998 [1]	1999 [1]	2000	2001
Private consumption	3.8	2.0	2.8	2.8
Public consumption	1.4	2.4	0.7	1.7
Gross fixed capital formation	3.7	5.6	4.5	2.9
Final national demand	4.1	1.8	2.9	2.6
Exports of goods and services	4.2	5.0	10.3	8.0
Imports of goods and services	6.3	4.1	9.5	7.5
Net-exports (contribution to growth)	-1.2	0.8	1.0	0.8
Gross Domestic Product	2.7	2.5	3.8	3.2
p.m. Gross Domestic Product - in current prices (bn BEF)	9089	9406	9925	10486
Traditional consumer price index	1.0	1.1	2.5	1.9
Consumer prices: health index	1.3	0.9	1.9	1.9
Real disposable income households	2.9	1.7	2.2	3.5
Household savings ratio (as % of disposable income)	16.6	16.3	15.8	16.3
Domestic employment (change in '000, situation on June 30th)	44.4	51.8	54.2	55.1
Unemployment (Eurostat standardised rate, yearly average)	9.5	9.0	8.5	8.1
Current account balance (as % of GDP)	4.1	3.8	3.8	4.6
Short term interbank interest rate (3 m.)	3.6	2.9	4.4	5.6
Long term interest rate (10 y.)	4.8	4.8	5.6	5.8

^[1] The new national accounts up to 1999, published by the end of October, have not been incorporated in this forecast.

Economic forecasts for Belgium by different institutions

	GDP-0	growth	Infl	ation	Governmen	t balance	Date of update
	2000	2001	2000	2001	2000	2001	
Federal Planning Bureau	3.8	3.2	2.5	1.9			11/00
INR/ICN	3.8	3.1	2.1	1.4			7/00
National Bank of Belgium	3.8		2.2		-0.5		5/00
European Commission	3.5	3.3	1.3	1.4	-0.5	-0.2	4/00
OECD	3.6	3.2	1.9	1.7	0.0	0.5	5/00
IMF	3.9	3.0	2.2	1.4	-0.1	0.5	9/00
Artesia Bank	3.2	-	1.8		-0.5		3/00
BBL	3.9	2.9	2.1	1.8	-0.3	0.4	8/00
Fortis Bank	4.3	2.9	2.5	2.0	-0.6	-0.1	9/00
Dexia	3.9	3.2	2.5	1.8	-0.1	0.1	9/00
KBC Bank	4.0	3.2	2.6	1.6	0.2	0.6	10/00
Petercam	4.0	2.7	2.7	1.8	-0.1	0.4	10/00
Morgan Stanley Dean Witter	3.9	2.5	2.7	2.2	0.2	-0.1	10/00
IRES	4.0	2.8	2.4	1.5	0.0	0.2	10/00
DULBEA	4.0	3.0	2.3	2.0	0.0	0.5	10/00
Averages							
All institutions	3.8	3.0	2.3	1.7	-0.2	0.3	
International public institutions	3.7	3.2	1.8	1.5	-0.2	0.3	
Credit institutions	3.9	2.9	2.4	1.9	-0.2	0.2	
Consensus The Economist	4.0	3.2	2.5	2.0			10/00

Collaborating institutions for The Economist: ABN Amro, Deutsche Bank, EIU, Goldman Sachs, HSBC Securities, KBC Bank, J.P. Morgan, Morgan Stanley Dean Witter, Nordbanken, Primark Decision Economics, Royal Bank of Canada, Salomon Smith Barney, Scotiabank, Shinsei Bank, Warburg Dillon Read, Merrill Lynch

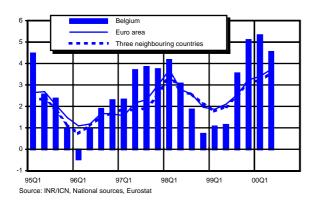
General economic activity

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

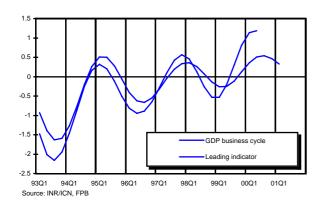
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	97	98	99	98Q2	98Q3	98Q4	99Q1	99Q2	99Q3	99Q4	00Q1	00Q2
Germany	1.5	1.8	1.4	1.7	1.6	0.9	0.6	1.0	1.6	2.4	2.3	3.6
France	1.9	3.2	2.9	3.5	3.3	2.9	2.6	2.6	3.1	3.4	3.5	3.4
Netherlands	3.8	4.1	3.9	3.6	3.7	3.8	3.2	3.4	3.9	4.9	4.9	4.1
Belgium	3.4	2.4	2.7	3.1	1.9	0.7	1.1	1.2	3.5	5.1	5.3	4.6

Source: INR/ICN, National sources, Eurostat

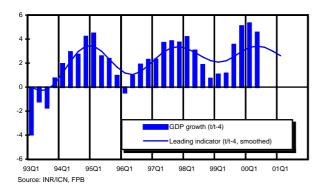
Graph 1 - GDP-growth (t/t-4), in %



Graph 2 - GDP business cycle and leading indicator



Graph 3 - GDP growth and leading indicator



For the fourth consecutive quarter, Belgian yoy GDP growth (4.6% in 2000Q2) has been stronger than in Belgium's three neighbouring countries and in the euro area as a whole. Nevertheless, while economic growth slowed down slightly in Belgium during this period, the opposite was observed in the average of our neighbouring countries and in the euro area due to the recovery seen in Germany. These changes have resulted in more synchronised activity expansion rates within the euro area.

Since the end of last year, expansion in the euro area has remained mainly export-driven, based on dynamic global demand and a competitive effective euro exchange rate. The second quarter of the current year is, however, characterised by a strong increase in stocks in the area on average and a rapid take-off in private consumer spending in Germany, whereas a slackening in this demand component was registered in France. Belgium distinguished itself by some cooling-off in exports after a very significant acceleration in the first quarter of 2000.

Industrial production in the euro area has been on an upward trend during the first seven months of the year, leading to a continuous rise in the rate of capacity utilisation. However, several survey indicators are pointing to an inflection in firms' anticipation (and consumer confidence) which suggests that the top of the cycle may have been reached and that industrial activity could stabilise at a high level in the third quarter of 2000. This dampening could be due to the impact of higher interest rates and oil prices as well as the first signs of deceleration in the US economy.

The FPB's leading indicator for Belgian economic activity overall also hints that the cyclical high point should be reached in the third quarter of 2000 and that a gradual reduction in the cyclical momentum should be observed until at least the first quarter of next year. It should be stressed that the spread between the GDP business cycle and the FPB's leading indicator is mainly accounted for an underestimation of the strength of the export cycle since mid-1999 by the leading indicator.

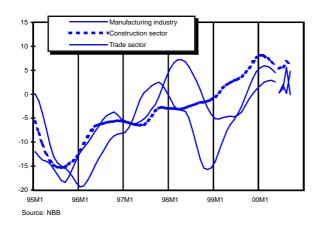
Table 2 - Monthly business surveys [1]

	98	99	99Q4	00Q1	00Q2	00Q3	00M4	00M5	00M6	00M7	00M8	00M9
Synthetic indicator	-6.1	-2.9	4.3	6.0	4.6	2.8	3.7	8.9	1.1	1.9	5.0	1.5
Manufacturing industry	-8.8	-4.1	4.7	6.2	4.4	2.2	3.9	9.0	0.3	1.1	5.6	-0.1
Construction sector	-2.5	2.9	5.9	8.9	4.9	6.1	4.0	5.4	5.4	5.7	6.7	5.9
Trade sector	3.0	-3.0	0.9	2.4	4.9	2.3	2.7	11.8	0.3	2.0	0.2	4.8

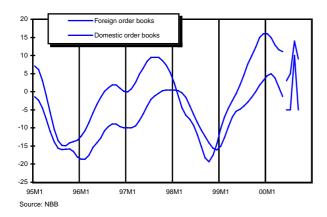
[1] Qualitative data

Source: NBB, FPB

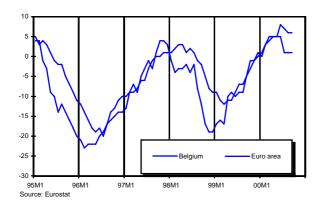
Graph 4 - Business cycle: sectoral evolution



Graph 5 - Manufacturing industry: order books



Graph 6 - Industrial confidence: international comparison



Smoothed yoy growth rates derived from the leading indicator suggest that expansion in Belgium should be about 3% on average during the second half of 2000. This quarterly pattern confirms our forecast of 3.8% GDP growth this year as well as the slowdown anticipated for next year.

The NBB's global synthetic indicator, which reached a high level in May (the highest of the last two decades), registered a sharp fall in June. Some recovery has since been observed in the July-August period but this has been totally compensated for by a fresh decline seen in September, itself exclusively due to the manufacturing industry. The subsequent inflection in the NBB's smoothed indicator confirms the cyclical deceleration of Belgian economic activity that is expected for the second half of 2000.

This "high-level soft landing" is widespread as it appears in the three sectoral components of this survey, although in a less extensive way in the trade sector. In the construction sector, the virtually uninterrupted improvement observed since the beginning of 1996 seems to hedge up. In the manufacturing industry the appreciation of stocks of finished goods has been on a rising trend in the last quarter under review and demand forecasts stabilised at a high level during the summer before declining in September. A considerable reduction in domestic orders has been recorded in this sector since the top that was reached in May. If the reduction was more limited for foreign order books, the downward trend in the smoothed series nevertheless reflects the general inflection point reached in our main trading partners (mainly Germany and France).

Indeed, in the euro area, the industrial confidence indicator fell slightly during the summer months before stabilising in September. Production expectations remain high whereas order books are being scaled back. In Belgium, the maximum level and the subsequent turning-point were reached two months earlier and the deterioration in industrial confidence continued up to October. In both Belgium and the euro area, industrial confidence may have been dampened by the sharp oil price increase seen during recent months and the induced deterioration in the terms of trade as well as by fears of a subsequent negative demand shock.

Private consumption

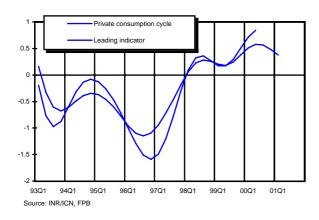
Table 3 - Private consumption indicators

	98	99	99Q4	00Q1	00Q2	00Q3	00M5	00M6	00M7	00M8	00M9	00M10
Turnover (VAT) - retail trade [1]	5.9	3.5	4.1	9.5	6.7		11.2	7.7	2.9			
New car registrations [1]	14.1	8.3	2.0	12.6	8.3	-4.7	28.2	-10.4	-4.9	0.4	-9.0	4.9
Consumer confidence indicator [2]	-5.6	-1.9	1.0	4.0	9.0	11.0	11.0	13.0	9.0	14.0	10.0	10.0

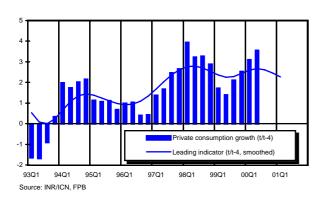
[1] Change (%) compared to same period previous year; [2] Qualitative data

Source: NIS/INS, Eurostat, Febiac, FPB

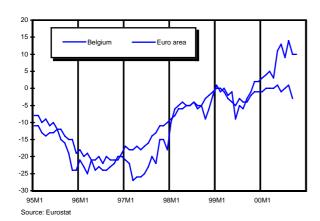
Graph 7 - Private consumption cycle and leading indicator



Graph 8 - Private consumption growth and leading indicator



Graph 9 - Consumer confidence: international comparison



Private consumption spending remained on a strong upward trend in the first half of the year, as reflected by yoy growth rates of more than 3%, which gave strong support to Belgian economic expansion during this period. According to the FPB's leading indicator, this upswing should, however, have reached its high point in the second quarter of 2000, and should head downwards in the next few quarters.

Vigorous private consumption spending in the two first quarters of the year 2000 (yoy) is also reflected in the pattern of new car registrations. Although this pattern has certainly again been significantly influenced by the biannual Motor Show, it should be stressed that, during this period, the increase in new car sales is also very significant when compared with the 1998 (the last year with a Motor Show). At the opposite, however, the third quarter of 2000 indicates a net decrease in comparison with last year. In October 2000, the increase in the number of new car registrations compared to October 1999 is probably due to the weak performance at the end of 1999 as consumers anticipated the 2000 Motor Show.

Initial results for turnover in the retail trade sector during the third quarter of 2000 also indicate a turning-point in private consumer spending. Belgian consumer confidence which, thanks to the strong improvement in the labour market, has risen almost uninterruptedly since 1999, has been more erratic during the July-October period. This hesitation is mainly due to increasing scepticism about the expected general economic situation due to rising concern about the impact of higher oil prices and interest rates on activity. Most forecasters are expecting a further turnaround in the consumer confidence trend during the last few months of the year due to the expected reduction in household purchasing power. In the euro area, the consumer confidence indicator, which has been at historic highs since the beginning of the year, also fell in September.

Smoothed yoy growth rates derived from the FPB's leading indicator suggest that private consumer spending should decelerate somewhat during the second half of this year, confirming the assumed average real growth rate of 2.8% in 2000.

Business investment

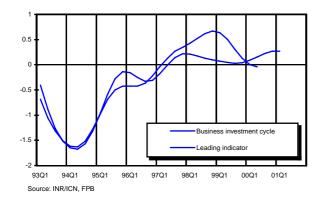
Table 4 - Business investment indicators

	98	99	0	99Q4	00Q1	00Q2	00Q3	00M3	00M4	00M5	00M6	00M7
Investment (VAT) [1]												
Industrial companies	3.0	4.6		6.2	4.1	4.4		5.1	-2.9	15.1	2.1	6.5
Non-industrial companies	6.2	8.7		1.0	15.4	5.0		19.8	-0.8	24.4	-5.9	0.1
Total companies	5.0	7.2	•	2.9	11.2	4.7		14.0	-1.6	20.9	-3.0	2.7
Investment survey [1]	9.4	2.3	8.4									
Capacity utilisation rate (s.a.) (%)	81.8	81.9	•	82.8	84.7	84.2	84.3					

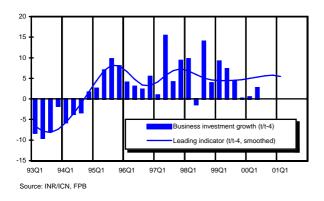
[1] Change (%) compared to same period previous year

Source: NIS/INS, NBB, FPB

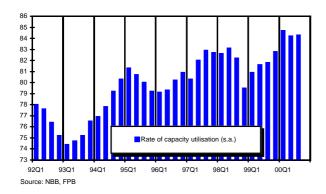
Graph 10 - Business investment cycle and leading indicator



Graph 11 - Business investment growth and leading indicator



Graph 12 - Capacity utilisation in manufacturing industry



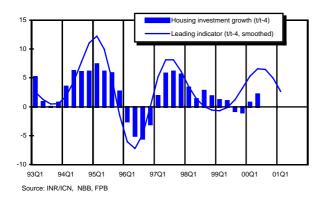
The business investment cycle seen between mid-1998 and mid-2000 has been less pronounced than the GDP business cycle. One explanation for this may be the fact that firms considered the economic slowdown in mid-1998 to be only temporary, but also that 1999 was inflated by one-off Y2K-related investment. This was mostly the case for non-industrial companies as it is reflected by the discrepancy in the nominal growth rates of VAT statistics between industrial and non-industrial companies during this period.

After some slackening at the end of 1999 due to the reduction in these specific types of investment, real growth in business investment has regained some momentum during the first half of 2000 and the spread between industrial and non-industrial has narrowed considerably in the April-July period. Analysis of the business cycle of this demand component also indicates that a minor and positive turning-point may have been reached in mid-2000. The FPB's leading indicator hints at a continuous but moderate upward trend in business investment, at least until the beginning of next year.

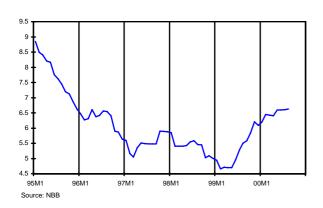
The momentum in business investment is also expected to head upwards as prospects for industrial investment remain favourable: a historically high level of capacity utilisation in the manufacturing industry, wage moderation and productivity gains which benefits corporate profitability, and demand prospects which are still sound. Moreover smoothed average growth rates derived from the FPB's leading indicator do not contradict our forecast of an annual increase in business investment close to 5% this year and slightly above 4% next year.

Housing investment

Graph 13 - Housing investment growth and leading indicator



Graph 14 - Mortgage rate (in%)



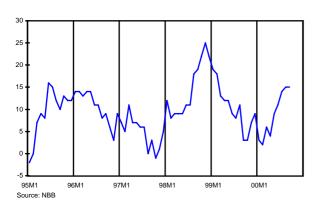
As expected, residential investment did improve during the first half of 2000 with quarterly increases of more than 1% in both the first and the second quarter of the year, although yoy growth rates remained disappointing during the period under review. Analysis of the leading indicator for this demand component reveals that, as in the rest of the economy, a slight inflection might be reached in the third quarter 2000. However, higher yoy growth rates could also be observed in the second half of the year as household investment levels will be compared to the very low levels recorded in the second half of 1999 ("statistical base effect").

Demand in the secondary market has increased strongly in 1999 leading to the acceleration in renovation work while new housing construction work remains dampened by the sharp increase in land prices in Flanders. Mortgage rates have almost stabilised in nominal terms since February 2000 at a level still favourable for the financing of residential investment. This is particularly true if considered in real terms, since inflation has been on a virtually uninterrupted upward trend since the middle of 1999. Even if construction prices have also increased sharply, as reflected by the yoy rise of the ABEX index of nearly 4% for the first half of 2000, the relative price of residential investment, with regard to consumer prices, has not significantly deteriorated.

Residential investment should benefit on the forecast period from the impact of the labour market improvement on household confidence and also from the strong increase in their purchasing power.

Stockbuilding

Graph 15 - Appreciation of stocks



The current Belgian inventory cycle, as reflected by the quarterly national accounts, is rather difficult to interpret.

In 1999, Stockbuilding contributed negatively to real economic growth (-0.7% after +0.6% in 1998). However, in the last quarter of 1999 and the first quarter of 2000 the contribution from stockbuilding became positive again as the economic upswing led to the rebuilding of stocks, whereas the opposite has been observed in the second quarter of this year. This latest development can be linked to the rise observed since May 2000 in the number of entrepreneurs who consider their stocks to be excessive, while demand expectations are beginning to reach a top. For the whole of the year 2000, we are therefore only expecting a virtually zero contribution towards economic growth to come from stockbuilding.

Foreign Trade

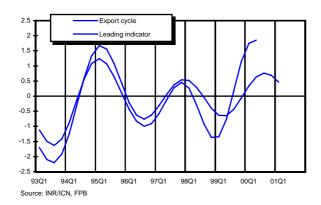
Table 5 - Belgium - Trade statistics (goods, intra/extrastat)

	98	99	99Q3	99Q4	00Q1	00Q2	00M2	00M3	00M4	00M5	00M6	00M7
Exports - value [1]	5.7	4.5	7.4	14.0	23.0	20.6	30.2	19.9	14.9	39.9	9.3	14.4
Imports - value [1]	6.2	4.5	4.9	15.5	23.9	20.5	30.4	20.8	14.6	37.2	10.9	17.3
Exports - volume [1]	5.8	5.0	6.7	8.7	13.0	9.7	19.1	10.1	5.3	26.3	-0.6	5.9
Imports - volume [1]	8.3	3.2	2.6	6.9	11.0	7.4	15.8	8.4	2.8	21.8	-1.3	5.9
Exports - price [1]	-0.1	-0.6	0.6	4.9	8.8	9.9	9.4	8.9	9.0	10.8	9.9	8.1
Imports - price [1]	-1.9	1.2	2.3	8.0	11.6	12.2	12.6	11.5	11.4	12.7	12.4	10.7

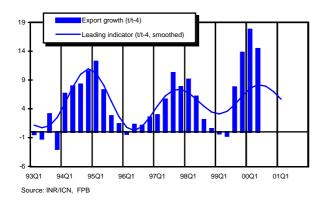
[1] Change (%) compared to same period previous year

Source: INR/ICN, FPB

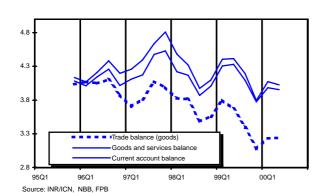
Graph 16 - Export cycle and leading indicator



Graph 17 - Export growth and leading indicator



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



The new quarterly national accounts (data up to the second quarter of 2000) show that in recent years the cyclical movement in exports has been more pronounced than was previously thought.

In the wake of the Asian crisis the volume of Belgian exports of goods and services fell dramatically in the second half of 1998 as compared to the first half of the year. During the first two quarters of 1999 exports resumed their upward path. As the recovery of exports was rather hesitant at first, the level of exports remained lower during the first half of 1999 than it was in the same period of the previous year. From the third quarter of 1999 onwards, a surprisingly strong recovery in exports was noted, leading to positive growth rates, both qoq and yoy. As a consequence, exports in the first half of 2000 were more than 16% higher than in the - still weak - first half of 1999.

For the second half of this year, significantly lower yoy growth rates are expected, both because of the statistical base effect (exports were much higher in the second half of 1999 than in the first) and because, according to the leading indicator, the export cycle appears to be losing strength in the second half of 2000. In fact, the exports leading indicator reaches its turning point in the third quarter of the year. Since the summer, industrial confidence in Belgium and in our main trading partner countries has begun to weaken. Indicators for foreign order books - which appear to have some leading characteristics - already began on their downward trend during the first few months of 2000.

In line with the increase in Belgium's export markets and its improved cost competitiveness (the latter resulting from the depreciation of the euro and a subdued rise in domestic costs), and despite the expected slackening of growth in the second half of the year, exports should, for the whole year, still grow at a double-digit growth rate. This export performance in volume terms should counteract losses due to the terms of trade. As a result, the current account surplus should stabilise this year close to the level seen in 1999 (3.8% of GDP).

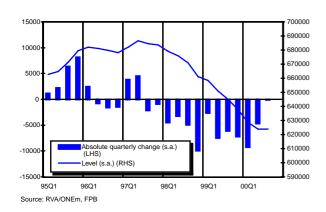
Labour market

Table 6 - Labour market indicators

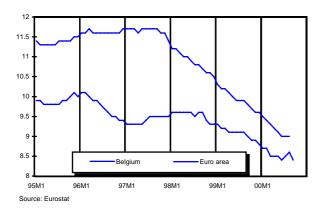
	98	99	99Q4	00Q1	00Q2	00Q3	00M5	00M6	00M7	00M8	00M9	00M10
Unemployment (excl. older) [1]	541.0	507.6	498.5	478.6	445.9	503.4	442.0	439.1	488.2	520.6	501.5	485.0
Unemployment (incl. older) [1]	671.5	647.8	641.2	623.9	594.5	654.3	590.6	588.6	638.2	671.3	653.3	638.1
Unemployment rate-FMTA/MfET[2]	12.4	11.6	11.4	11.0	10.2	11.5	10.1	10.1	11.2	11.9	11.5	11.1
Unemployment rate-Eurostat [3]	9.5	9.1	8.9	8.6	8.5	8.5	8.5	8.4	8.5	8.6	8.4	

^[1] Level in thousands; [2] In % of labour force of June 1998, not seasonally adjusted

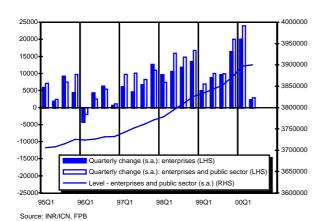
Graph 19 - Evolution of unemployment (incl. older)



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



Graph 21 - Evolution of domestic employment



On a seasonally adjusted basis, unemployment (broad definition; including "older unemployed" people) has declined only marginally on average during the third quarter of 2000 (graph 19), which is clearly less than what was previously expected. Unemployment actually increased (in seasonally adjusted terms) during the summer holidays, and since then it has resumed its downward trend, albeit at a lower pace than during the first half of the year.

These unemployment figures indicate that either growth in jobs has been less vigorous than expected during the last couple of months and/or the labour force has been growing faster than expected (inverse discouraged worker effect due to the previous decline in unemployment and the favourable economic outlook). Figures on growth in jobs are not yet available for the third quarter. Tentative figures on domestic employment from the quarterly national accounts (graph 21) seem to indicate a significant slowdown in job growth (in seasonally adjusted terms) already in the second quarter and tend to favour the first hypothesis.

Partial indicators in favour of the second hypothesis include, firstly, the increase in the number of school-leavers looking for a job during the second quarter and, secondly, the increase in the number of people officially registering as job seekers but who are not eligible for unemployment benefits (further increase of 2000 persons during the third quarter; partly due to the increase in the number of registrations as active job seekers by people who have submitted a request to the Belgian authorities to have their status "regularized"). Moreover, it can be readily accepted that a significant number of entrants or re-entrants into the labour market who are not eligible for unemployment benefits transfer from unemployment to employment without being recorded as active job seekers via the official registers. On the one hand, this tends to bias the trend in official register-based unemployment and labour force figures downwards. On the other hand, however, it also reduces the probability that registered unemployed people will exit from unemployment, and may account in part for the recent slowdown in the decline of registered unemployment.

^[3] Seasonally adjusted, in % of labour force (Eurostat standard); recent figures of unemployment rate are based on administrative data and can be revised Source: RVA/ONEm, FMTA/MIET, Eurostat, FPB

Prices

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

	98	99	99Q4	00Q1	00Q2	00Q3	00M5	00M6	00M7	00M8	00M9	00M10
Consumer prices: all items	0.95	1.12	1.59	2.00	2.32	3.01	2.16	2.75	2.79	2.88	3.36	2.97
Food prices	1.83	0.20	-0.19	-0.89	0.17	2.23	-0.29	0.79	1.97	2.46	2.28	1.59
Non food prices	-0.45	1.24	2.35	3.62	3.63	4.02	3.58	4.32	3.68	3.47	4.92	4.65
Services	2.34	1.57	1.83	1.89	2.14	2.31	2.03	2.09	2.31	2.55	2.08	1.69
Rent	1.15	1.43	1.36	1.30	1.38	1.53	1.37	1.42	1.46	1.49	1.62	1.54
Health index	1.27	0.94	1.09	1.27	1.56	2.32	1.42	1.81	2.04	2.33	2.58	2.31
Brent oil price in USD (level)	12.8	17.8	24.0	26.8	26.7	30.4	27.7	29.8	28.4	30.1	32.8	30.9

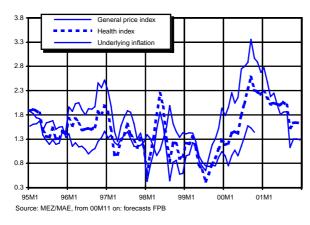
Source: MEZ/MAE

Table 8 - Monthly inflation forecasts

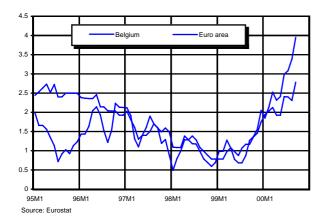
											_	
	00M1	00M2	00M3	00M4	00M5	00M6	00M7	00M8	00M9	00M10	00M11	00M12
Consumer prices: all items	104.80	105.20	105.60	105.80	106.10	106.50	106.71	106.68	107.41	107.15	107.28	107.41
Consumer prices: health index	104.29	104.56	104.79	105.08	105.21	105.43	105.69	105.74	106.20	106.04	106.20	106.34
Moving average health index	103.95	104.18	104.42	104.68	104.91	105.13	105.35	105.52	105.77	105.92	106.05	106.20
	01M1	01M2	01M3	01M4	01M5	01M6	01M7	01M8	01M9	01M10	01M11	01M12
Consumer prices: all items	107.70	107.80	107.90	108.18	108.25	108.42	108.69	108.67	108.62	108.55	108.68	108.79
Consumer prices: health index	106.67	106.80	106.91	107.23	107.34	107.54	107.87	107.86	107.83	107.77	107.94	108.08
Moving average health index	106.31	106 50	106 68	106 90	107.07	107 26	107 50	107 65	107 78	107.83	107.85	107 91

Source: Observations (up to 00M10): MEZ/MAE; forecasts: FPB

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



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



During the last four months, headline inflation, as measured by the yoy change in the national CPI, again turned out to be higher than expected. Much of this unexpected rise in inflation was due to the change in world oil prices expressed in BEF, but underlying inflation also contributed to this.

In the third quarter, underlying inflation was clearly higher than during the first half of the year (1.5% as compared to 0.9% in the first quarter and 1.1% in the second). It appears that import price increases (resulting from both the rise in oil prices and the depreciation of the euro) have at last begun to be passed on to domestic consumer prices. All in all, underlying inflation has so far remained rather low. During the first three quarters, it was never higher than half of the headline rate of inflation. Underlying inflation is projected to peak at 2% in the second half of 2001.

For the last quarter of 2000, headline inflation is expected to remain close to 3%. All in all, average CPI inflation should be 2.5% in 2000 and 1.9% in 2001. The "health price index" (which excludes most energy products, among other things) should rise by 1.9% both this year and next year. According to our monthly forecasts for the "health index", the pivotal index for the public sector (currently 107.30) should next be reached in July 2001.

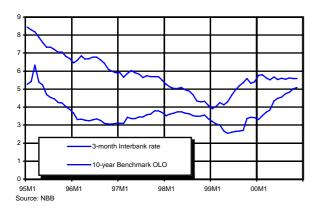
Interest rates

Table 9 - Interest rates

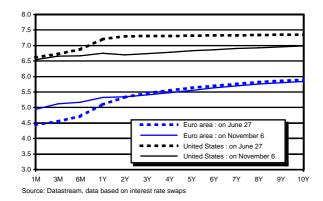
	98	99	99Q4	00Q1	00Q2	00Q3	00M5	00M6	00M7	00M8	00M9	00M10
Short-term money market rates (3 months)												
Belgium	3.58	2.94	3.40	3.52	4.22	4.71	4.33	4.48	4.56	4.75	4.83	5.02
Euro area (Euribor)		2.96	3.43	3.54	4.26	4.74	4.35	4.50	4.58	4.78	4.85	5.04
United States	5.47	5.33	6.06	6.03	6.57	6.63	6.71	6.73	6.67	6.61	6.60	6.67
Japan	0.75	0.13	0.18	0.11	0.09	0.27	0.06	0.06	0.16	0.27	0.38	0.50
Long-term government bond rates	(10 years)											
Belgium	4.76	4.76	5.43	5.73	5.58	5.59	5.68	5.53	5.60	5.56	5.62	5.58
Germany	4.57	4.50	5.18	5.46	5.25	5.24	5.36	5.16	5.26	5.20	5.26	5.22
Euro area	4.71	4.63	5.31	5.60	5.42	5.43	5.53	5.36	5.44	5.39	5.45	5.40
United States	5.26	5.63	6.13	6.50	6.17	5.89	6.43	6.09	6.04	5.84	5.78	5.73
Japan	1.46	1.76	1.75	1.77	1.71	1.86	1.71	1.68	1.77	1.83	1.97	1.81

Source: NBB, ECB

Graph 24 - Interest rate levels in Belgium, in%



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



During the past two years, the monetary stance in the US has become tighter as a result of effective dollar appreciation and several interest rate hikes (the federal funds rate is now 6.5%, i.e. 175 bp above the level at the beginning of 1999). The US economy now appears to have found a new equilibrium path, which is slowing gradually, but is close to potential economic growth, with continual high productivity gains and decreasing inflationary pressure. In this context, financial markets are expecting the Fed to leave policy rates unchanged. The fall in the US yield curve for assets with a maturity longer than 1 year that was first seen by the middle of the year, has been extended to all maturities during the past four months. As a result the US economy is now facing an almost flat yield curve at a level between 6.5 and 7%.

In the euro area, too, inflation and growth are likely to have peaked recently, although the slowdown in economic growth is taking place much sooner and at a lower level than in the US, and should therefore be more moderate. The yield curve for the euro area is, on the whole, still at a lower level than the US yield curve, although the spread for all maturities has continued to diminish significantly over the last four months.

With the objective of maintaining price stability over the medium term - which in the current context means avoiding more permanent inflationary tendencies stemming mainly from developments in oil prices and the depreciation of the euro - the ECB has raised its benchmark rate (minimum bid rate on main refinancing operations) twice during the last two months, bringing it from 4.25% to 4.75%. On the basis of this rationale, the ECB could probably carry out another interest rate hike before the end of the year. However, hiking interest rates aggressively any further in order to contain inflation risks could dampen domestic demand, thereby leading to a weaker euro, which could, in turn, threaten price stability.

Exchange rates

Table 10 - Bilateral exchange rates

	98	99	99Q4	00Q1	00Q2	00Q3	00M5	00M6	00M7	00M8	00M9	00M10
BEF per USD	36.31	37.87	38.90	40.88	43.20	44.60	44.50	42.46	42.92	44.60	46.27	47.21
USD per EUR		1.067	1.038	0.987	0.934	0.905	0.907	0.950	0.940	0.905	0.872	0.854
UKP per EUR		0.659	0.636	0.614	0.609	0.612	0.601	0.630	0.623	0.607	0.607	0.589
JPY per EUR		121.38	108.38	105.60	99.61	97.47	98.13	100.78	101.63	97.74	93.03	92.64

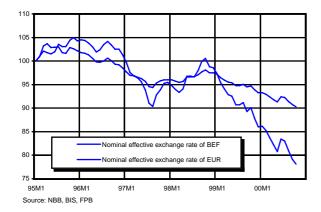
Table 11 - Nominal effective exchange rates (Jan. 95 =100)

	98	99	0	99Q4	00Q1	00Q2	00Q3	00M6	00M7	00M8	00M9	00M10
Effective exchange rate BEF	96.7	95.1		94.0	92.9	91.8	91.5	92.4	92.2	91.4	90.8	90.3
Growth rate [1]	0.7	-1.7		-0.9	-1.2	-1.1	-0.4	1.2	-0.2	-0.9	-0.7	-0.5
ld. with constant rate till year end			-3.7									
Effective exchange rate EUR	96.8	91.5		88.0	85.1	82.1	81.0	83.4	83.0	80.9	79.2	78.1
Growth rate [1]	2.1	-5.5		-2.7	-3.3	-3.5	-1.3	3.3	-0.5	-2.6	-2.1	-1.3

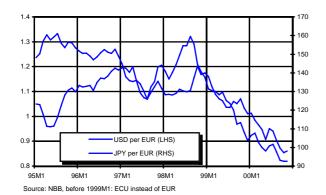
[1] Change (%) compared to previous period

Source: NBB, BIS, FPB

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



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



Between January 1999 and October 2000, the nominal effective exchange rate of the euro has depreciated by 20%. The euro has lost 26% against the US dollar and almost 30% against the Japanese yen. The decoupling of sterling from the dollar this year means that the depreciation against sterling has been smaller, at around 16%. From a longer-term point of view, the nominal effective exchange rate of the euro (before 1999 calculated as weighted average of the euro area countries' effective exchange rates against currencies outside the euro area) fell in October 2000 below its previous absolute low in March 1985.

Since a further depreciation of the euro may have adverse implications for the world economy, monetary authorities in the US, Japan, the UK and Canada joined the ECB on 22 September in a co-ordinated foreign exchange intervention. This joint intervention surprised the financial markets by the timing of the action (on the eve of the G7 meeting in Prague) and by the involvement of the US. Initially the intervention appeared to have succeeded in blocking the depreciation of the euro: during the three weeks following the intervention the euro traded in narrow ranges of USD 0.86-0.88 and JPY 93-95. However, by mid-October the euro had fallen through its pre-intervention levels and reached on October 26th absolute lows against the USD (0.82) and the JPY (89).

Due to two surprises - weaker than expected GDP growth in the third quarter in the US and interventions by the ECB on November 3th and 6th - the euro appreciated recently to 0.87 USD. Whether this appreciation will turn out to be merely temporary or will indicate the start of a more lasting trend, will depend much on the future relative cyclical position of the two economic areas.

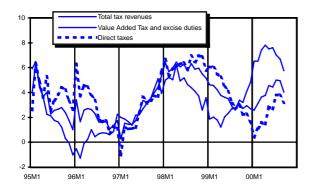
Tax indicators

Table 12 - Tax revenues (1)

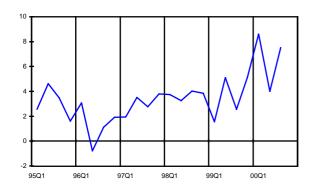
	98	99	99Q4	00Q1	00Q2	00Q3	00M4	00M5	00M6	00M7	00M8	00M9
Total [2], of which:	6.2	3.9	5.0	8.1	8.4	3.7	6.8	14.4	6.5	6.8	5.5	-3.4
Direct taxes, of which:	6.8	2.7	2.8	5.6	8.0	5.3	5.1	20.1	5.3	8.9	5.9	-3.0
Withholding earned income tax	4.9	6.3	15.8	12.7	0.0	13.3	-42.6	67.5	-4.3	4.7	3.9	48.1
Prepayments	20.2	-3.7	-4.0	21.2	1.5	12.6	0.0			16.2		
Value Added Tax and excise duties	4.6	6.1	9.5	12.7	9.1	2.0	10.0	6.1	10.7	2.6	3.9	-1.4

^[1] Change (%) compared to same period previous year;[2] Total received by federal government, excl. of death-duties Source: MvF/MdF.FPB

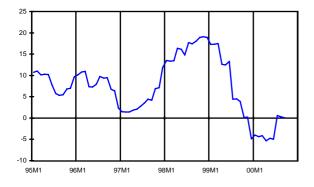
Graph 28 - Real tax revenues (3)



Graph 29 - Real withholding earned income tax (4)



Graph 30 - Real prepayments (3)



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

During the first nine months of 2000, total tax revenues in nominal terms were 6.9% higher than in the corresponding period in 1999. This growth rate is markedly higher than the annual growth rate in 1999 (3.9%), reflecting to a considerable extent the acceleration in economic activity from mid-1999 onwards.

Indirect taxation revenues are, however, showing a significant deceleration from mid-2000 onwards, following high growth rates in the first and second quarters of 2000. This deceleration is partly due to technical factors and to the high levels seen during the corresponding months in 1999, but it also partly reflects the evolution of the leading indicators for the GDP business cycle and GDP growth. Indeed, the effect of economic activity generally influences value added tax and excise duties faster than direct tax revenues.

On a year-on-year basis, growth in real revenues from withholding tax on earned income has experienced a rising trend since the last quarter of 1999. Despite an erratic monthly and quarterly profile, revenues are on the rise as expected, and the change is accounted for by employment growth in recent months.

In July 2000 (second due date for advance payments) prepayments were significantly higher than in July 1999, mainly from companies. However, July 1999 was negatively influenced by the dioxin crisis and possible deterioration in profit outlooks. On a year-on-year basis, total advance payments in real terms are now recovering, after a decline from the beginning of 1999 onwards which led to a low by the end of 1999.

During the first nine months of 2000, tax on dividend payments has shown a positive evolution which tends to confirm quite high business profitability and dividend pay-outs. Taxes on interest earnings have also been rising since the Autumn of 1999, following the increase in - particularly short-term - interest rates.

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

Macroeconomic and budgetary effects of a dollar appreciation and of an oil price increase

A higher oil price and a dollar appreciation threaten inflation, but, respectively, they have opposite effects on economic growth. Economic growth is negatively affected by higher energy prices (by reducing households' purchasing power and firms' profitability), but is positively affected by a dollar appreciation (by making Belgian exports more attractive in overseas markets, outside the Euro area). The FPB has tried to quantify all these effects.

Starting from the "Economic Outlook 2000-2005", published in April of this year, the FPB has built a new scenario, which takes account of the new level of oil prices and the new dollar-Euro exchange rate parity.

The new scenario makes the following projections.

- The dollar/Euro exchange rate is increased by 10% in 2000 (average rate of 0.92 USD per Euro). And this rate is maintained over the period 2001-2005.
- The oil price is increased by 23.5% in 2000, which means a barrel of oil is an average of 28.9 USD. For the period 2000-2005, oil quotations on the settlement market are taken into account: the oil price is expected to reach 28.2 dollars per barrel in 2001 (+31.2% compared to the baseline scenario) and 24.9 dollars in 2002 (+12.7% compared to the baseline scenario). From 2003 to 2005, the real oil price is assumed to be constant (its annual growth rate reaches, on average, 2.6%, as in the baseline scenario).

Real interest rates are expected to remain unchanged. Consequently, nominal interest rates are raised in proportion to the increase in the rate of inflation.

Effects of dollar appreciation

On the one hand, the dollar appreciation has largely positive effects for Belgian exports (because of competitiveness gains and increased demand from European partners). So, this leads to an overall positive impact on GDP (economic growth is increased by 0.4% in 2000 and 0.3% in 2001) and employment (17,000 new jobs in the medium term, compared to the baseline). But on the other hand, inflation is increased further (+0.5% in the short term and +0.1 to 0.2% in the medium term).

The improvement in growth has positive repercussions on the public finances: from 2001 onwards, the net lending of public administrations is increased by 0.15% of GDP.

Effects of oil price increase

The increase in energy prices decreases both domestic and foreign demand. The increase of production costs and the resulting reduction in economic activity in the Euro area induce a slowdown in the growth of Belgian exports. Domestic demand is also negatively affected, mainly via private consumption (explained, itself, by a decrease in households' purchasing power). So, economic growth is reduced by 0.4% in 2000 and by 0.2% in 2001. The slight energy price fall in 2002 enables a small recovery after 2001.

Inflation is increased by up to 0.5% in 2000 and 0.4% in 2001. And employment is reduced. The external balance is also negatively affected, owing much to the increase in energy prices (and this despite a slight decline in energy consumption by volume).

The impact on public finances is negative: the general government net lending is lowered by the equivalent of 0.3% of GDP in 2000 and by 0.5% of GDP in 2001. This deterioration is explained by a significant increase of current expenditures, as well as by a slight decrease in public receipts (at least in the short term).

Global effects

The net outcome from the two opposing effects on economic growth is more or less neutral. However, the growth composition has changed (the domestic component of growth is reduced, whereas the external component has now become more important). There is also a slight increase of employment (high energy prices induce a substitution in favour of the labour factor). And the net lending of general government is reduced by about 0.3% of GDP in 2000 and 2001 and by 0.2% in the medium term.

"Macro-economische en budgettaire effecten van de dollarappreciatie en de duurdere ruwe olie", Francis Bossier, Filip Vanhorebeek, Working Paper 07-00, September 2000.

The NIME model

In 1999, the FPB launched a research program to develop a macroeconometric world model. Since the early 1990s, the FPB made extensive use of the HERMES-Link world model for its recurrent tasks, such as the short and medium term economic forecasts, and for its international research programmes. The aim of the FPB's new research programme is to build a new, easier to maintain, world model, capable of fulfilling the main tasks that were traditionally performed by HERMES-Link, but that would better reflect the new European economic and monetary framework. So far, the FPB's efforts have led to the construction of a first version of the New International Model for Europe (NIME), of which the different parts will be presented in several technical working papers.

The current version of NIME divides the world into six separate blocks: a EU block consisting of the countries that joined EMU in January 1999 minus Belgium, a non-EMU European country block (NE) consisting of the EU countries that did not join EMU, the United States, Japan and the rest of the world. The model describing the Belgian economy would consist of either the short term or the medium term macroeconometric model currently in use at the FPB. These blocks are linked to each other through trade and financial flows.

The overall modelling strategy is threefold. First, in the short run, economic activity is primarily determined by demand, and output adjusts to meet demand, while prices adjust only sluggishly. Second, in the absence of any new shock, the model converges to a steady state where unemployment and production are at their 'natural rate', expectations are realised fully, and where stock and flow variables are in equilibrium. Third, in each block of the NIME model, except for the 'rest of the world' block, a household sector, an enterprise sector, a government sector, and a monetary sector are defined. The long run behavioural relationships of the household sector and the enterprise sector are derived from an explicit optimisation problem. However, in the short run, rigidities prevent immediate adjustment towards these long run plans. Error correction mechanisms and partial adjustment schemes are used to capture these sluggish adjustment processes. The monetary sector sets interest rates according to a Taylor rule, while fiscal policies are to a large extent determined outside the model. The 'rest of the world' consists of a few equations describing overall economic activity.

Working paper 08-00 describes the household sector of the NIME model. In this paper, special attention is paid to the specification of the transmission mechanism of changes in the interest rate on the demand of the household sector. More precisely, the paper identifies, in addition to the income effect, three channels through which the interest rate affects demand: a liquidity effect, an intertemporal substitution effect, and an effect due to the user cost of residential buildings.

The structure of Working Paper 08-00 is as follows. First, the expenditures of the household sector are derived on the basis of an intertemporal optimisation problem, whereby the intertemporal utility function is defined over a set of contemporaneous and future consumption goods, monetary services, and services provided by residential buildings. The resulting set of demand equations explains private consumption of goods, the demand for real money balances and residential buildings, as a function of the nominal interest rate, the real interest rate, the user cost of residential buildings, and the available means. Next, in the empirical section, an error correction mechanism and a partial adjustment scheme are used to capture sluggish adjustment of demand. In addition, the equations are estimated under the assumption of rational expectations, and annual data are used. Finally, the paper shows estimates of the long and short run responses of private consumption, money demand, and investment, to changes in income, the nominal and real interest rates, and the user cost of residential buildings for the EU, NE, JP and US blocks.

"The NIME model - Specification and Estimation of the Demand Equations of the Household Sector", Eric Meyermans and Patrick Van Brusselen, Working Paper 08-00, October 2000

Risk capital

'Financing of Innovation' was one of the four benchmarking pilot projects set up by the European Commission in 1997. The outcomes of the exercise were published one year later but did not get the necessary disclosure in Belgium. Since that time, the European

Commission undertook several initiatives under the framework of the « Risk Capital Action Plan » and of the « Financial Services Action Plan ». Several changes have been brought about to develop financing of innovation. Therefore a closer examination of the Belgian case

was necessary because the position of Belgium in respect of financing of innovation remained somewhat disregarded by international organisations. So, the pilot project therefore was developed from a Belgian perspective and compared with other member-countries of the EU.

The following determinants in the field of financing of innovationwere analysed:

- Business angels (BAs) and business angels networks (BANs)
- Venture capital (VC): number of VC-Companies (VCCs), their investments in early-stages and in high-technology, the government-related VC-Companies, the internal rate of return
- Stock exchanges and corporate governance
- Institutional investors and their prudent man rules
- · Related front- and bottom-end taxes
- Stock-options
- Governmental investment guarantees

The result of the analysis is that the Belgian situation compared to the other member-states, shows a number of positive aspects:

The most striking result is without doubt that Belgium occupies first place in Europe in 1998 and 1999 for investment in seed-money (see table). Belgium disposes of enough business-angels (BAS) and BA-networks. There are sufficient VCCs. A large number of VCCs are willing to invest in early-stages. Those investments were certainly reinforced by the fact that the Belgian Federal

Government and by all means the Regional Governments control 38% of the VCCs. Belgium has enough VCCs specialised in high-tech- and ICT-investment. Its VC-investments in high-technologies were double that the European average in 1999. Most of the Belgian VCCs invest small amounts and are therefore adjusted to SME financing. In respect of the total invested VC, as a percentage of GDP, Belgium is fourth in Europe. Belgium has relatively more cross-border VC-investment.

Belgian pension funds increased their investments in shares (from 28% in 1990 to 53% of their assets in 1999). Belgium is one of the few countries without a capital gain tax. In Belgium there are tax deductions for individual investments in life-insurance and in pension funds.

Belgium created the so called Privak/Pricaf- enterprises offering a favourable tax regime for individuals wanting to invest in the venture capital fund of the Privak/Pricaf. In Belgium there are special tax-reliefs for R&D-investments. Stock-options with tax reliefs are possible. The Regional Governments created guarantee-systems for investment in risk-capital.

Obviously, some negative developments were also covered by the working paper. For example, there are few MBO-investments, Belgian standards for corporate governance are not mandatory, Belgian pension funds invest only very small amounts in non-listed companies and do not invest in venture capital companies, and stock-options are taxed when granted.

Table - Investment stages: investment as a share of GDP (* 10000) (averages over 1998 and 1999)

	Seed		Early stages (1) (Seed + Start-up)		Buy-out (2)		Rest	(3)	Total (1) + (2) + (3)	
	Ratio	Rank	Ratio	Rank	Ratio	Rank	Ratio	Rank	Ratio	Rank
United Kingdom	2.5	6	16.6	8	528.5	1	170.4	2	715.5	1
Germany	8.0	3	37.6	6	26.4	10	66.8	6	130.8	7
France	2.1	8	29.4	7	71.4	4	72.9	4	173.7	6
Italy	1.7	9	13.6	10	68.0	5	43.7	9	125.3	8
Netherlands	1.6	10	71.1	2	103.2	3	210.4	1	384.7	2
Sweden	3.8	4	61.0	3	207.8	2	70.7	5	339.5	3
Spain	3.2	5	13.0	11	27.5	9	60.1	8	100.6	10
Belgium	13.5	1	76.8	1	15.5	11	111.8	3	204.1	4
Finland	9.3	2	55.0	4	66.0	6	64.6	7	185.6	5
Portugal			10.6	13	33.4	7	39.3	10	83.3	11
Denmark	1.6	11	13.7	9	9.9	12	25.4	13	49.0	12
Ireland	2.4	7	38.1	5	31.7	8	35.2	11	105.0	9
Austria			6.9	14	7.3	13	22.1	14	36.3	14
Greece			10.7	10	1.9	14	27.5	12	40.1	13

"Financing of innovation", Herman Van Sebroeck, Working Paper 09-00, November 2000.

Research in progress

The Modtrim II model

The 'Short term forecasts and business cycle analysis' team is building a quarterly model for the Belgian economy to replace its current annual model. The decision to construct a new model, which would among other things make use of the quarterly national accounts, was motivated by several reasons. Business cycle dynamics are better described with high frequency data, and recent short-term information can be integrated more easily into model-based forecasting exercises. A quarterly model also implies that carry-over effects are taken into account in a much more precise way than with annual data. Although the main purpose of the model is to generate short-term forecasts (six to eight quarters), it was decided to rely on long-run behavioural relationships to ensure theoretical consistency. The short-run dynamics will be estimated using traditional econometrics and time series techniques. Attempts will be made to introduce forward-looking expectations into some key behavioural equations.

The NIME Model: Specification and Estimation of the Supply by the Private Sector

This working paper will describe the supply side of the NIME model. The specification of the supply side starts from the following assumptions. First, for each country block there exists a representative agent capturing the behaviour of the entire enterprise sector. This agent maximises its profits by hiring production factors, and selling goods and services to the final users. Second, the available production factors are labour, capital, and imports. Third, a utility maximising household sector supplies labour and bargains over the real wage rate with the enterprise sector. Fourth, the natural rate of unemployment and the steady state productivity growth of the production factors are exogenous. Fifth, in the empirical section we make the additional assumption that adjustment towards the equilibrium occurs sluggishly because of backward looking behaviour and 'rule of thumb' behaviour. The paper ends with the presentation of empirical results for factor demand, factor prices and output prices for the four main country blocks of the NIME model.

Simulations with the HERMES II model for Belgium

This working paper will present a number of simulation exercises in order to illustrate the properties of the HERMES II model presented in Working Paper 5-00. This analysis is important because the new system of national accounts (ESA95) has led to statistical revisions of GDP and its components and to a shift in the relative importance of some branches of activity. Budgetary policy measures affecting public revenue

(such as an increase in public investment, social transfers to households or public consumption) or public expenditure (such as a reduction of VAT, employers' or employees' social security contributions) are examined, as well as external shocks to world trade, oil prices and exchange rates. The simulations are performed over a five-year period. The most important effects - macroeconomic, by branch and budgetary - of each simulation will be discussed.

Transition to a knowledge-based society

The Lisbon Council stressed the profound transformation of the European economies following the technological changes in communication and information. A comprehensive and prospective analysis of the impact of these changes in ICT will be carried out in the next few months. In the first stage, the importance of the ICT-sector, the diffusion of ICT changes in the Belgian economy and its determinants (e.g. regulatory mechanisms) will be analysed. Moreover, some estimates of the "digital divide" will be presented.

Benchmarking framework conditions

The study "Benchmarking the framework conditions: A systematic test for Belgium" is updated. The report compares Belgium's competitiveness (and its underlying factors) with the neighbouring countries France, Germany and the Netherlands and the economic blocks of Japan, the United States and the European Union. A country's competitiveness is broadly interpreted: not only economic growth and its determinants are included, social welfare issues like income distribution and the standard of living are also examined. The purpose of the study is to bring ten areas related to welfare creation together and present, in one document, a wide range of information rather than to provide an in-depth analysis of each of the areas addressed.

Public finances sustainability

The long-term sustainability of public pensions is a topical matter. We investigate the impact of ageing populations on public pension expenditure in particular, and on social security and public finances in general. This update of former long-term projections includes updated demographic projections, new medium-term macroeconomic developments and new budgetary prospects. A new methodology for computing the retirement rates is used. In addition, projections produced within the framework of an international exercise (European Commission, OECD) will be presented to allow for international comparability.

Recent history of major economic policy measures

October 2000

For the first time, the Federal Government presents a medium-term Budget. Most of the announced measures are spread over the period 2001-2006 and have little impact in 2001. The main policy measures are the following:

- 1. The organisation of a National Pensions Reserve Fund. It is financed in 2001 by the benefits of the UMTS-sale.
- The further elaboration of the Active Welfare State, which aims at an increase in the activity rate. Social partners are invited to reach an agreement around 5 axes, for each of which the Federal Government has promised additional budgetary support:
- · extension to all sectors of the economy of a maximal conventional 38-hour working week,
- · encouragement of four-day working week at the level of the firm via cuts in social security contributions,
- encouragement of individual forms for distributing working time over the entire career (one year time credit
 per worker; generalised right to partial career break),
- incentives for life-long learning (extension of existing schemes to part-time workers; elaboration of a certification system for diplomas and vocational training),
- disencouragement of early withdrawal from the labour market (age-linked reductions of social contributions; age-linked right to outplacement in case of lay-off; possible working time reduction at the end of the career).
- 3. The fiscal reform: a personal income tax reform would enter progressively in force from the fiscal year 2002 onwards. Its budget cost would reach 1.3% of GDP from 2006 onwards. It consists of:
- a reduction in the tax rate (tax credit for lower incomes, change in the tax scales and suppression of marginal tax rates above 50%, ...),
- a more neutral taxation with regard to the marriage (for married couples, tax free allowances and tax reductions granted on social allocations will be set in line with the parameters applicable to non-married taxpayers),
- other minor measures (increased tax reductions for dependant children, promotion of green investments).
- 4. A new consensus reconciles more fiscal autonomy for the regions with more financial support for the Communities:
- the regions have more autonomy in the 'regional' taxes matter and have the possibility to reduce or increase (maximum 3.25% in 2001-2003, 6.75% in 2004) personal income taxes,
- an additional endowment is given to refinance the Communities (8 billion in 2001 up to 45 billion BEF in 2011).
- 5. More financial support for healthcare: in addition of the norm of 2.5%, healthcare receives 22 billion extra in 2001 for new priorities (financial stimulation of generic medicines and the financial support for low incomes and chronical ill), and specific employment programs and higher social benefits to fight against poverty.
- 6. Modernising public services (e-government, an information society) and an integrated mobility policy.
- 7. International Cooperation with more financial means.

October 2000

The ECB raises its benchmark refinancing rate twice by 25 basis points to 4.75%, the sixth and seventh hike since November 1999 (totalling 225 basis points).

March 2000

The multi-annual plan in the sector of health care foresees the replacement of precarious jobs by regular contracts, a general wage increase and the possibility for older employees to reduce their working time.

February 2000

On 4 February 2000, the Belgian government adopts a Law related to the creation of a Federal Agency for Food Chain Security. In order to protect customer's health, the new Agency has to implement control measures for the quality of goods throughout the whole food chain.

January 2000

Established by the Laws of 29th April 1999 related to the organisation of the gas and the electricity markets, the Commission for Electricity and Gas Regulation (CREG) began its activities on January 10th 2000.

January 2000

The Law concerning the regularisation of certain categories of foreigners staying on the Belgian territory (MB January 10, 2000) was adopted on 22 December 1999.

December 1999

The Federal Government adopts the new Belgian stability program for the period 2000-2003. The Government budget (general administration) will be balanced in 2002, which implies an increase in the primary surplus up to around 6.4% of GDP in 2002, while budgetary margins will be mainly used to reduce the deficit faster.

October 1999

The Federal Government presents its 2000 Budget.

- An additional cut in social security contributions of BEF 50 billion is scheduled for 2000. The main new measures include: the further enhancement of the 'Maribel' reductions of employers' social contributions (as from the second quarter of 2000 and for a total amount of BEF 24 billion); reductions of employers' social contributions linked to a new plan targeted at the recruitment of young people who have just graduated (BEF 4 billion); additional reductions of employees' social security contributions for low wage earners and related measures to tackle unemployment or "unemployment traps" (BEF 4 billion).
- The additional crisis contribution on personal taxes is gradually (up to 2003) phased out.
- Fiscal rebates for children (both regimes with and without day-nursery) are increased.
- The VAT rate is reduced from 21% to 6% on housing renovation (5-15 year-old buildings) and on repair works.
- The maximum real growth rate for health insurance outlays is raised from 1.5% to 2.5%.
- Low pensions (included those of the self-employed) are raised from July 2000 onwards.
- Additional resources are placed at the disposal of the modernisation and higher efficiency of public services
 and sustainable development (e.g. investment in public transport, free public transport for civil servants and
 elderly people, investment in the judicial system, reorganisation of the police force and a larger budget for
 development aid and debt restructuring).

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

ECB European Commission
ECB European Central Bank

EU European Union

FÉBIAC Fédération Belge des Industries de l'Automobile et du Cycle "réunies"

FMTA/MfET Federaal Ministerie van Tewerkstelling en Arbeid / Ministère fédéral de l'Emploi et du Travail

FPB Federal Planning Bureau

IMF International Monetary Fund

INR/ICN Instituut voor de Nationale Rekeningen / Institut des Comptes Nationaux

IRES Université Catholique de Louvain - Institut de Recherches Economiques et Sociales

MEZ/MAE Ministerie van Economische Zaken / Ministère des Affaires Economiques

MvF/MdF Ministerie van Financiën / Ministère des Finances

NBB National Bank of Belgium

NIS/INS Nationaal Instituut voor de Statistiek / Institut National de Statistique

OECD Organisation for Economic Cooperation and Development

RSZ/ONSS Rijksdienst voor Sociale Zekerheid / Office national de la Sécurité Sociale

RVA/ONEm Rijksdienst voor Arbeidsvoorziening / Office National de l'Emploi

Other Abbreviations

BEF Belgian franc

BoP Balance of Payments

CPI Consumer Price Index

ECU European Currency Unit

EMU Economic and Monetary Union

EUR Euro

JPY Japanese yen

LHS Left-hand scale

OLO Obligations linéaires / Lineaire obligaties

qoq Quarter-on-quarter, present quarter compared to previous quarter of s.a. series

RHS Right-hand scale s.a. Seasonally adjusted

t/t-4 Present quarter compared to the corresponding quarter of the previous year
t/t-12 Present month compared to the corresponding month of the previous year

UKP United Kingdom pound
USD United States dollar
VAT Value Added Tax

yoy Year-on-year, i.e. t/t-4 (for quarters) or t/t-12 (for months)