

# 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 October update of the FPB medium-term outlook for Belgium, GDP growth reaches an average of 2.3% for the 2006-2011 period. This development will be driven by both domestic demand and exports, although the contribution of net exports to economic growth is expected to be limited. The growth of private consumption (1.9% on average) should be in line with the growth of household disposable income in real terms (2% on average). Gross fixed capital formation should grow by 2.7% (on average). The structural loss of export market shares should remain significant, with exports increasing by 5.5% a year on average, compared with a 6.8% growth in our potential export markets.*

*After climbing to 2.4% in 2006 because of high energy prices, inflation (as measured by the private consumption deflator) should fall below 2% in the medium term, mainly because of limited wage growth, the increase in interest rates and moderate rises in prices of imports (notably owing to the decrease in oil prices). Total employment is expected to increase by about 38,500 jobs a year during the 2006-2011 period, despite new job losses in manufacturing. The factors behind this performance are: a relatively favourable macroeconomic context, limited wage increases, a further small reduction in working time and various measures taken to promote employment. Nevertheless, the fall in the unemployment rate is expected to be limited due to the substantial rise in the labour force. However, at the end of the projection period - when baby-boomers will leave the labour force on a massive scale - the growth of the labour force should lose momentum, allowing the decrease in the unemployment rate to accelerate.*

*All in all, economic growth should be stronger for the next six years compared to the previous six years, leading to the same average GDP growth rate during the period 2000-2011 as during the period 1990-1999. At the same time, the pace of employment growth should have nearly doubled (yearly 35,000 on average during the same period 2000-2011, against slightly less than 20,000 yearly during the former decade), reflecting a considerable decline in productivity gains.*

*This medium term outlook does not take into account the measures taken within the framework of the 2007 budget.*

*STU 4-06 was finalised on 11 December 2006.*

### Editorial Board

Henri Bogaert  
Michel Englert  
Bart Hertveldt  
Igor Lebrun  
Jan van der Linden  
Filip Vanhorebeek  
Joost Verlinden

### DTP & Web Publishing

Adinda De Saeger  
Geert Bryon  
Dominique van der Wal

### Printed by

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

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

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



# Table of Contents

---

<b>Special Topic.....</b>	<b>3</b>
• Promoting an innovative economy: the Belgian National Reform Programme	
<b>Economic Forecasts.....</b>	<b>5</b>
• Economic outlook for 2006-2011, dated October 2006	
<b>Summary of Economic Forecast.....</b>	<b>7</b>
• Economic forecasts for Belgium by different institutions	
• Economic forecasts for the euro area by different institutions	
<b>Structural economic performance .....</b>	<b>8</b>
• Introduction	
• Policy objectives: productivity and employment	
• Policy objectives: openness and FDI	
• Policy objectives: environment	
• Micro-economic: R&D and innovation	
• Micro-economic: communications	
• Micro-economic: internal market and competition	
• Micro-economic: network industries	
• Micro-economic: taxation and business climate	
• Labour market: participation	
• Labour market: social cohesion	
• Labour market: education	
<b>Recent publications.....</b>	<b>20</b>
• The Lisbon Strategy: structural policy in Europe and Belgium	
• Simulating the impact of the pension bonus on the financial implications of working longer	
• Impact of vocational training for the unemployed on employment duration	
• Qualitative employment data for Belgium, a SAM-approach for the period 1999-2005	
• Other Recent Publications	
• Recent history of major economic policy measures	

---

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

## Promoting an innovative economy: the Belgian National Reform Programme

The object of this article is to present the Belgian action plan on investing in knowledge and innovation and the main measures already taken as explained in the 2006 Belgian progress report to the National Reform Programme ([www.be2010.eu](http://www.be2010.eu)). The FPB participates in the preparation of these reports.

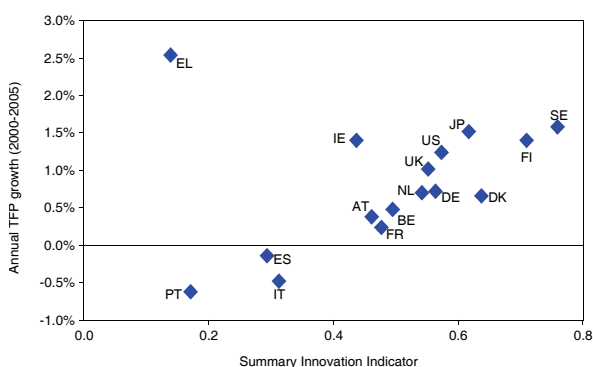
### Innovation and economic performance

The long-term growth performance of Belgium depends on many factors, one of them being its ability to innovate. For this reason, the federal and regional governments have put innovation policies high on the political agenda.

Graph 1 shows the relationship between the Summary Innovation Index (SII) as developed by the European Commission and an economic performance indicator (the annual growth rate over the 2000-2005 period of total factor productivity). The SII is a composite indicator taking into account innovation drivers, knowledge creation, entrepreneurship, applications and intellectual property. The use of a composite indicator is open to criticism, but it has the advantage of bringing together many different aspects of innovation. The total factor productivity (TFP) indicator is an indication of the technical progress of the economy (brought about by *inter alia* innovation) and influences productivity and economic growth positively.

Countries with high innovation scores also have a strong economic performance. This is shown here by the performance measured by TFP-growth.

**Graph 1 - Innovation performance and economic performance**



Source: TrendChart (EC) and Ameco (EC)

In a European context, Belgium is considered to be a slightly above-average performer. It is particularly strong in innovation drivers (such as tertiary education or broadband penetration) and knowledge creation (e.g. the amount of business-funded research done in univer-

sities or the public funding of innovation). On the weaker side, innovation applications should be mentioned (the share of high-tech exports or the share of employment in medium- or high-tech manufacturing).

The amount of R&D expenditure in the public and private sector in Belgium falls short of the 3%-objective. Recently, the share of R&D expenditure by the business sector has been falling. The provisional figure for total R&D expenditure for 2004 is 1.93% of GDP. In order to attain 3% in 2010, R&D expenditure has to increase by 1.07% of GDP, which implies considerably higher growth rates than those observed in the past 10 years.

Innovation policies are broader than research policies, which implies that many political bodies and actors are involved in the design of an innovation policy.

The renewed Lisbon Agenda (2005) puts a lot of emphasis on innovation policies in its overall aim to improve the growth performance and jobs creation in the European Union. "Integrated Guidelines" were drawn up in the area of innovation and in other areas and became the central instrument for coordinating economic policy in the EU. Within the context of the renewed Lisbon Agenda, each Member State has to submit a National Reform Programme (NRP) every three years, in which the Member State draws up the political priorities to achieve the Lisbon goals. In the framework of these programmes, the Member States of the EU will ensure the transposition of the European objectives to the national level. Indeed, the major part of economic policy is determined at the national, and not the European, level.

The first programme of this kind, drawn up in October 2005, covered the period 2005 – 2008. In the course of the second and third years of the cycle (2006 and 2007), progress reports are intended to pinpoint the priorities that have already been achieved and the way in which these priorities have possibly changed. In 2008, new Integrated Guidelines will be fixed and new priorities will be included in the NRPs. The Belgian progress report was approved in October 2006. It gives a description of the measures taken from October 2005 to October 2006 and announced in the Belgian NRP 2005-2008.

### Innovation policy in the Belgian progress report to the NRP 2005-2008

As stated in the National Reform Program for 2005-2008, R&D and innovation are one of the six priorities of the Belgian authorities. The efforts being made by every authority aim to:

- promote R&D by increasing private and public invest-

ment in R&D, by strengthening networking and internationalisation of research and by supporting knowledge transfer and enhancement of research activities;

- boost human resources in R&D;
- promote the dissemination and use of ICT.

#### Measures to promote private and public R&D

All of the public authorities have raised their R&D budget in 2006. According to an initial estimate, government budget allocations for R&D are expected to rise by around 8% in 2006. This means that government funding on R&D should rise slightly from the 0.58% of GDP observed in 2005.

The policy of clustering innovative players has been strengthened by the development of competitiveness and competence poles bringing together businesses, training centres and public and private research centres in a bid to achieve excellence in key sectors at international level. The Walloon government selected four poles (life sciences, air and space transport, agro-industry and transport and logistics) and 20 or so research projects. Brussels is focusing on three key sectors of innovation: ICT, health and the environment. Flanders is continuing to invest in the competence poles (the automotive sector, logistics, mechatronics and geo-information) and strategic research. The strategic research centres are geared towards excellence at international level in four sectors: micro-electronics and nanotechnology, biotechnology, the environment and energy, and broadband technologies.

To ensure that investment in research bears fruit, the conversion of research results into industrial activity is being promoted by partnerships between universities, research centres and businesses, and by the transfer of knowledge and technologies between these actors. The different Belgian governments have improved their patents and intellectual property legislation in order to make access to patents easier, especially for SMEs, and to strengthen the protection of intellectual property. The regions have also set up incubation centres (for biotechnology by the Flemish, Walloon and Brussels regions and for NICT by the Brussels region). Moreover, the Walloon region has set up a Technology Promotion Agency in a bid to enhance the transfer of research findings to the business world. The industrial research fund, which allows universities to pursue their own applied research policy aimed at economic ends and to work in partnership with businesses, was also enlarged. In 2006, Brussels launched the 'Spin-off in Brussels' program which offers academic researchers funding for two or three years so that they can start up their own spin-off company. Also in 2006, the Walloon Region stepped up its financial support for spin-offs and spin-outs and launched a postdoctoral programme called FIRST to pro-

vide partial funding for a two-year R&D project.

#### Measures to boost human resources in R&D

To strengthen job creation for researchers, a 50% reduction in withholding tax for them has been in force since October 2005. This applies to private companies that employ researchers as part of scientific research projects conducted in partnership with universities, higher education establishments in the EEA or approved scientific institutions. From July 2006, this reduction applies to all personnel (except administrative and sales staff) of small, 'new' companies (i.e. under 10 years old) that spend at least 15% of their budget on R&D. Finally, since January 2006 companies have had their withholding tax reduced (currently by 25%) for researchers with a doctorate in sciences or applied sciences, medicine, veterinary medicine or civil engineering. In March 2006, this measure was extended to include researchers from the biomedical sector, agricultural engineers and researchers in chemistry, biology and physics.

In 2006, Flanders launched the Methusalem programme, under which universities receive long-term funding each year to enable high-level researchers to continue their research projects. The region has also launched the Odysseus programme to attract top foreign researchers, by offering them substantial funding for a period of five years so that they can assemble a research team.

Finally, work is under way to encourage more school students to study science and technology subjects at university, for example by organising competitions on scientific themes.

#### Measures to promote the dissemination and use of ICT

The Belgian 'e-government' policy consists of three main elements: promoting IT at government level, promoting IT within society and exporting Belgium's ICT expertise. The measures adopted include developing a national action plan to bridge the digital divide, supplying the 'Internet for all' package at the lowest possible price, making adults and children more knowledgeable about PCs and the Internet, developing a technical infrastructure and introducing transparent standards for exchanges between public administrations, taking part in a European e-Government Resource Network, bringing in the electronic ID card and encouraging the development of e-Procurement, e-Health and e-Justice.

Finally, higher education establishments in both Wallonia and Flanders will enjoy ultra-high-speed Internet access (one gigabit per second) in 2007 thanks to collaboration with the Federal Public Service BELNET.

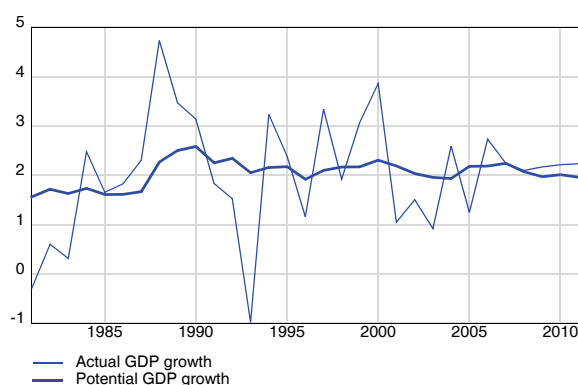
Economic outlook for 2006-2011, dated October 2006

In October the FPB prepared an update of its medium-term economic outlook from May 2006, covering the 2006-2011 period. This new outlook will serve as the macroeconomic basis for the calculations in the new Belgian Stability Program (prepared for the 2006-2010 period). This projection does not take into account the measures decided within the framework of the 2007 budget.

Revised short-term and medium-term potential market development forecasts.

Based on an updated short-term forecast (see Economic forecasts 2006-2007, dated September 2006) and revised growth in potential export markets and in international prices up to 2011, the new medium-term forecast shows average GDP growth reaching 2.3% during the period 2006-2011 (2.2% for the period 2007-2011). As in the economic forecast for May 2006, this development can be largely accounted for by domestic demand, as well as by the performance of exports.

Graph 1 - Actual and potential GDP growth



After moderate growth in 2005, private consumption should be more dynamic for the 2006-2011 period, mainly as a result of a favourable development in disposable household income (with a particular stimulus coming from reductions in personal income tax and the rise in employment). Gross fixed capital formation should continue to register sustained growth, attaining an average of 2.7% during the 2006-2011 period, mainly reflecting the increase in business investment.

Growth in exports should be 5.5% on average and the contribution of net exports to GDP growth is expected to be 0.2%-points. The external surplus, which fell strongly between 2002 and 2005, should increase again after 2007 and attain 3.1% of GDP in 2011 (partly as a result of the recovery in the terms of trade). The level of the external

surplus in the medium term also reflects a relatively high level of domestic savings, compared to the European average.

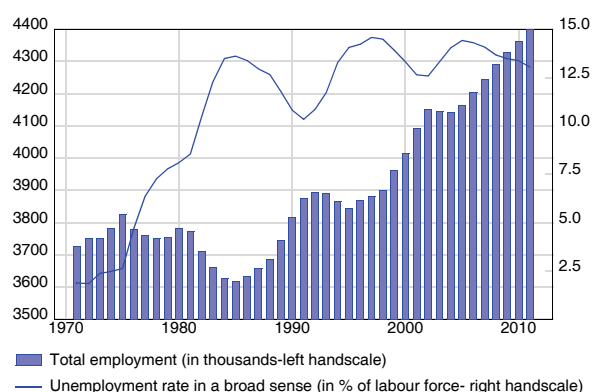
Inflation will not exceed 2% on average

Limited wage increases (lower than productivity gains), the increase in interest rates and a moderate increase in imported costs (notably a slight decrease in oil prices) are the main factors accounting for an inflation rate that is expected to remain below 2% in the medium term.

Employment growth not sufficient to cause a significant fall in the unemployment rate

In the context of a favourable macroeconomic evolution (average growth of GDP of 2.3% per year), domestic employment will probably increase substantially (0.9% per year; 231,000 extra jobs between 2005 and 2011, i.e. slightly more than during the preceding period 2000-2005). This increase is expected to be accompanied by ongoing structural shifts in the sectorial composition of employment. In manufacturing - which will benefit from an extension in targeted wage subsidies - the rate of job destruction is expected to diminish slightly, but a further loss of 33,000 jobs will still be incurred. Market services, on the other hand, should gain 258,000 jobs, bringing its share of total business sector employment to 74.7% in 2011 (54.0% in 1980 and 72.2% in 2005). Shifts of employment towards sectors with relatively low productivity gains explain the weakening of trend labour productivity growth in Belgium.

Graph 2 - Employment and unemployment



With the population of working age still growing considerably (by 0.3% per year on average, but strongly falling back towards the end of the period), the employment rate is expected to rise from 61.9% in 2005 to 64.2% in 2011, a significant increase, but still a far cry from the

original Lisbon objective (70%), which seems an unrealistic target for Belgium.

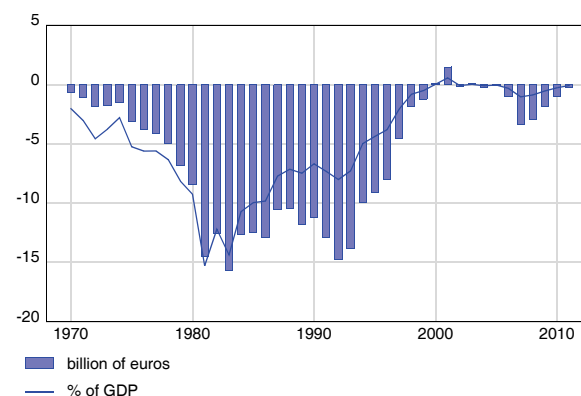
In view of the substantial rise in the labour force, net job creation will only be sufficient to force unemployment down gradually in absolute terms. The decrease in the unemployment rate (broad administrative measure) is limited (from 14.3% in 2005 to 12.7% in 2011) but is expected to intensify towards the end of the projection.

#### Public finances not balanced in the medium term

In the context of this projection, which does not take into account the measures decided within the framework of the 2007 budget, a net financing requirement for the general government should appear and the equilibrium will not be restored completely at the end of the projection period.

The objectives set out in the Stability Programme for the medium term (a financing capacity of 0.7% of GDP in 2009 and 1.5% of GDP in 2013) will not be reached without additional measures. Nevertheless, the total public debt to GDP ratio will continue to decline from 91.6 % in 2005 to 72.9 % in 2011.

**Graph 3 - Net lending (+) or net borrowing (-) of the general government**



#### Kyoto objectives not fulfilled in 2011

Due to high energy prices (which stimulate the penetration of energy-efficient technologies) and the reorganization of the industrial sector, final energy consumption should grow moderately by 0.7 % per year on average, whereas the energy-intensity of GDP should decrease yearly by 1.4 % on average. Total greenhouse gas emissions (CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFC, PFC, SF<sub>6</sub>) should be stabilized due to moderate energy consumption and to structural changes in energy consumption from solid and liquid fuels to gaseous fuels, electricity and renewables. However, in 2011 total emissions are still expected to be 8.9% higher than the objective (i.e. the same result as in 2005). Further efforts should be made to reach the target defined by the Kyoto Protocol.

**Table 1 - Key figures for the updated medium-term economic outlook in October 2006**  
(period averages - changes in volume unless otherwise stated)

	1990-1999	2000- 2005	2006-2011
Potential export market	6.2	5.8	6.8
Private consumption	1.9	1.5	1.9
Public consumption	1.6	2.1	2.1
Gross fixed capital formation	2.2	2.4	2.7
Stock building (contribution to GDP growth)	-0.1	0.1	0.0
Final domestic demand	1.8	1.9	2.1
Exports	4.5	3.6	5.5
Imports	4.2	3.6	5.4
Net exports (contribution to GDP growth)	0.3	0.1	0.2
GDP	2.1	1.9	2.3
Private consumption prices	1.8	2.3	2.0
Real disposable household income	2.0	0.7	2.0
Domestic employment (annual changes in thousands)	19.6	31.7	38.5
Unemployment, FPB definition*			
- thousands	642.2	710.3	652.7
- % of labour force	13.3	14.3	12.7
Current account balance (% of GDP)*	5.2	1.9	3.1
General government financing capacity (% of GDP)*	-0.5	-0.0	-0.1

\* end of period



## Economic forecasts for Belgium by different institutions

	GDP-growth		Inflation		Government Balance		Date of Update
	2006	2007	2006	2007	2006	2007	
Federal Planning Bureau	2.7	2.2	1.9	1.9			09/06
INR/ICN	2.7	2.2	1.9	1.9	.	.	09/06
National Bank of Belgium	3.0	2.1	1.7	1.8	-0.1	-0.4	12/06
European Commission	2.7	2.3	2.4	1.8	-0.2	-0.5	11/06
OECD	2.9	2.3	2.4	1.7	0.0	-0.2	11/06
IMF	2.7	2.1	2.4	1.9	0.0	-0.7	09/06
ING	2.9	2.2	2.3	1.7	-0.1	-0.2	11/06
Fortis Bank	2.9	2.2	1.9	1.8	0.0	-0.7	11/06
Dexia	2.9	1.8	1.8	1.8	-0.1	-0.1	11/06
KBC Bank	2.7	1.7	1.8	2.1	0.0	-0.8	11/06
Morgan Stanley							
Petercam	2.7	1.75	1.9	1.6	-0.3	-1.5	11/06
IRES	2.8	2.3	1.8	1.5	-0.2	-0.8	10/06
DULBEA							
Consensus Belgian Prime News	2.7	2.0	2.3	2.0	-0.1	-0.6	09/06
Consensus Economics	2.5	2.1	2.2	1.9	.	.	10/06
Consensus The Economist	2.8	2.0	2.2	1.9	.	.	12/06
Consensus Wirtschaftsinstitute	2.7	2.3	2.4	2.0	0.0	0.3	10/06
<b>Averages</b>							
All institutions	2.8	2.1	2.1	1.8	-0.1	-0.5	
International public institutions	2.8	2.2	2.4	1.8	-0.1	-0.5	
Credit institutions	2.8	1.9	2.0	1.9	-0.1	-0.7	

## Economic forecasts for the euro area by different institutions

	GDP-growth		Inflation		Government Balance		Date of update
	2006	2007	2006	2007	2006	2007	
European Commission	2.6	2.1	2.2	2.1	-2.4	-1.5	11/06
OECD	2.6	2.2	2.2	1.9	-2.1	-1.5	11/06
IMF	2.4	2.0	2.3	3.4	-2.0	-1.9	09/06
ING	2.7	2.1	2.3	2.0	-2.3	-2.6	11/06
Fortis Bank	2.7	2.3	2.2	2.3	-2.4	-1.9	11/06
Dexia	2.6	1.9	2.1	2.2			11/06
KBC Bank	2.6	1.7	2.2	2.0	-2.1	-1.7	11/06
Goldman Sachs	2.7	2.1	2.2	2.1	-2.2	-1.8	11/06
Morgan Stanley	2.6	1.9	2.2	2.1	-2.0	-1.5	11/06
Consensus AIECE	2.5	2.0	2.2	2.3			10/06
Consensus Economics	2.6	1.9	2.3	2.2	.	.	10/06
Consensus Wirtschaftsforschungsinstitute	2.6	2.1	2.2	2.1	-2.2	-1.6	10/06
Consensus The Economist	2.6	1.9	2.2	2.1	.	.	12/06
<b>Averages</b>							
All institutions	2.6	2.0	2.2	2.2	-2.2	-1.8	
International public institutions	2.5	2.1	2.2	2.5	-2.2	-1.6	
Credit institutions	2.6	2.0	2.2	2.1	-2.2	-1.9	

Collaborating institutions for The Economist:

ABN Amro, Deutsche Bank, EIU, Goldman Sachs, HSBC Securities, KBC Bank, JPMorgan Chase, Morgan Stanley, Decision Economics, BNP Paribas, Citigroup, Scotiabank, UBS.

Wirtschaftsforschungsinstitute:

Deutsches Institut für Wirtschaftsforschung (Berlin), Information- und Forschungsinstitut (München), Hamburgisches Welt-Wirtschafts Archiv (Hamburg), Institut für Weltwirtschaft (Kiel), Rheinisch-Westfälische Institut für Wirtschaftsforschung (Essen), Institut für Wirtschaftsforschung (Halle)

## Introduction

The FPB annual benchmarking of structural economic performance follows the mid-term review of the Lisbon Strategy and the new sets of Broad Economic Policy Guidelines (BEPG) and Employment Guidelines (EG).

### Economic and political triggers

In March 2005 the mid-term review of the Lisbon Strategy led to a new approach to structural reform in the EU. This strategy was launched in 2000 with the objective of boosting the competitiveness of the EU. One of the key ways of achieving this was to reform product, labour and capital markets. Good performance in these areas is expected to have a positive impact on competitiveness and on the allocation of labour and capital. In turn this should move the economy towards a higher growth path.

Under the renewed approach of the Lisbon Strategy, each Member State has to set clear policy objectives. These are drawn up in three-year National Reform Programmes (NRP), the first set of which was submitted in October 2005. The NRP have to be based on a set of Integrated Guidelines (IG), covering both new BEPG and EG. Contrary to the former approach, the IG are stable for a period of three years, during which the Member States make annual progress reports on their implementation. The first set of progress reports have recently been submitted to the EU, and will be peer reviewed in January 2007. Compared to the former approach, the renewed approach demands more commitment to reform.

### Overview of the issue

This issue gives an international benchmarking of structural reform in Belgium. Like the NRP, it follows the new IG as closely as possible, but is limited to the micro-economic and labour market guidelines. No macroeconomic guidelines are covered. The overview starts with the ultimate policy objectives: productivity, employment openness and environment. The indicators are thus divided into three categories:

- policy objectives;
- micro-economic indicators;
- labour market indicators.

About half of the indicators are drawn from the Structural Indicators database of Eurostat. This database covers many issues related to economic structure and has been built to follow up the progress of implementation of the IG and to detect best practices. Comparisons with the EU average generally refer to the EU25, in a limited number of cases the reference is still to the EU15. Where sufficient data was available, reference is also made to

the US and Japan.

### Summary of Belgium's performance

The Belgian economy is characterised by a relatively high level of labour productivity, but a relatively low employment rate. A factor behind the high level of productivity may be the high standard of education compared to other EU Member States, although participation in science and technology programmes and life-long learning could be further improved. In other areas that may determine productivity, such as ICT, innovation, technology and market regulation, Belgian performance is close to the EU average. Factors behind the relatively low employment rate could be the continuing high tax wedge on labour and the relatively low level of entrepreneurship.<sup>1</sup> Part-time work and the average retirement age have come close to the EU average, but given the performance of countries such as the Netherlands and Germany might be further improved. Youth unemployment is still relatively high.

At both the Belgian level and the average EU level, performance is improving in most areas, but targets have not yet been met and it is still possible to learn from best practices. For Belgium, the improvements have been relatively strong in education, market regulation, creation of the internal market, energy intensity and air pollution. Improvements have also been made in innovation and in employment for specific target groups. Minor improvements have been made in the performance of network industries. In a few areas performance is worsening: these are poverty risk, fiscal pressure on capital, venture capital investments and foreign direct investment. The following table indicates to what extent the targets set by the EU for specific indicators have been met.

**Table 1 - Performance with respect to EU targets\***

Indicator	Target	Belgium	EU average	Best practice
Total employment rate	70%	61%	64%	DK NL
Employment rate for older workers	50%	32%	43%	SE DK
Emission of greenhouse gases	-7.5%**	+0.7%	-0.9%	SE UK
R&D expenditures as % of GDP	3%	1.9%	1.9%	SE FI
Transposition deficit	1.5%	2.0%	1.9%	DK CY
Participation in life-long learning	12.5%	8.3%	10.2%	SE UK

Source: Eurostat (Structural Indicators)

(\*) Data for the most recent year available (2003/2004/2005). For further definitions and explanations, see the respective indicators on the following pages.

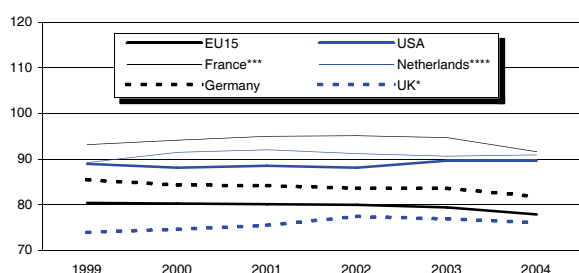
(\*\*) -8% for the EU15 as a whole.

1. Note that what is 'better' and 'worse' from the perspective of market performance may be the opposite from other perspectives. Here, all interpretation has been made from the perspective of market performance.



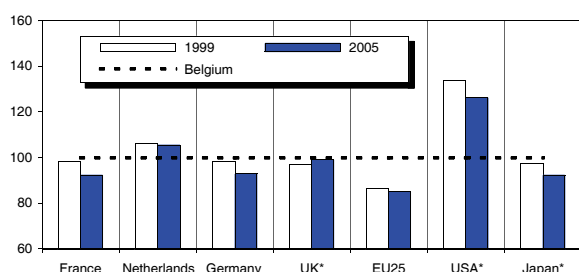
## Policy objectives: productivity and employment

**Graph 1 - GDP per hour worked (Belgium\*=100)\*\***



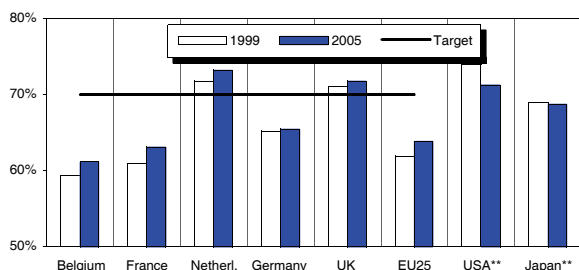
Source: FPB, based on Eurostat (Structural Indicators)  
 (\*) Measured in PPS (\*\*) Estimates (\*\*\*) Forecast for 2004 (\*\*\*\*) Estimates for 1999-2000

**Graph 2 - GDP per capita, in PPS (Belgium=100)**



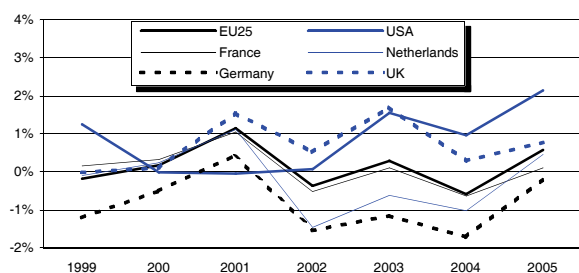
Source: FPB, based on Eurostat (Structural Indicators)  
 (\*) Forecasts for 2005

**Graph 3 - Total employment rate\***



Source: Eurostat (Structural Indicators)  
 (\*) The number of persons aged 15 to 64 in employment, divided by the total population of the same age group. (\*\*) 2004 instead of 2005

**Graph 4 - Real GDP growth differential with Belgium**



Source: FPB, based on AMECO-database

GDP per hour worked in Belgium is high. Between 1999 and 2004, Luxembourg was the only EU country that exceeded the Belgian figures. Furthermore, a slight upward trend for the Belgian figures can be observed: the Belgian GDP per hour worked for 2004 is 28.5% higher than the EU15 average. The UK, which has the lowest GDP per hour worked among the countries shown in Graph 1, reduced its gap against the EU15 average considerably over the years 1999-2004. Between 1999 and 2004 Germany was able to maintain GDP per hour worked at some 5-6% above the average EU15 level. The French and Dutch figures are high but below the Belgian figures.

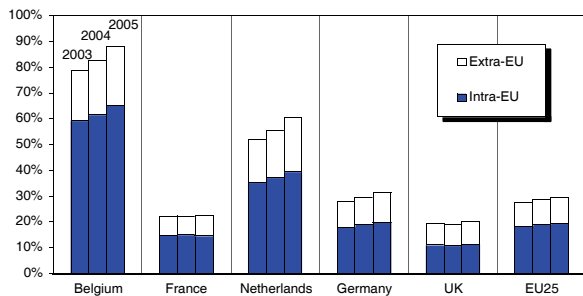
Belgium improved its GDP per capita compared to the EU25 average by 2.2%-points between 1999 and 2005. Because of this improvement, Belgium performed slightly better than the Netherlands and significantly better than France and Germany. In the latter countries, GDP per capita increased less than the EU25 average. Between 1999 and 2005, the EU25 caught up somewhat against the US and Japan.

In spite of the clear progress in the employment rate over the last two decades, the situation of the Belgian labour market remains unsatisfactory. After rising sharply during the second half of the nineties, the Belgian employment rate has remained stable at around 60%. In 2005 it achieved 61.1%, the highest level in many years, but still almost 3%-points below the European average and some 9%-points below the EU target line. Between 1999 and 2005, a clear increase in the employment rate was registered in Belgium, France, UK, the Netherlands and in the EU25 as a whole. In the US the employment rate went down, while in Japan it stabilised over the same period.

In recent years, economic growth in Belgium has been, on average, close to the EU25 average, but has exceeded the growth rates of its three neighbouring countries. The Anglo-Saxon countries clearly performed better. Potential GDP, which excludes business-cycle influences, gives a measure of the supply capacity of an economy. As it is an unobserved variable, different methods may lead to different results. According to European Commission's calculations, Belgian potential GDP grew on average by 2.1% per year during the first half of this decade, which is close to the EU15 average. Over the same period, German potential growth was around 1.2%, whereas that of countries such as the UK or Sweden reached about 2.7%.

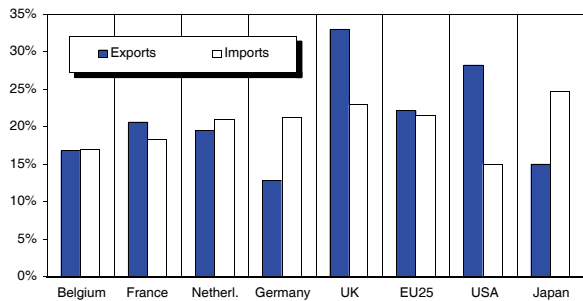
Policy objectives: openness and FDI

**Graph 5 - Degree of openness, in % of GDP\***



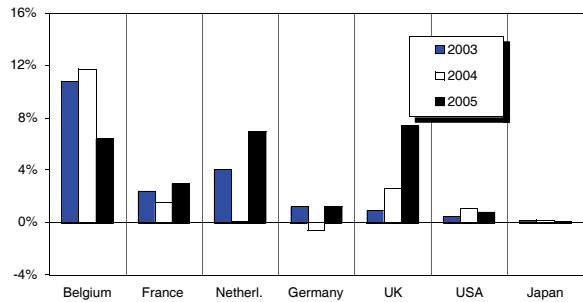
Source: Eurostat (Comext)  
 (\*) Average value of exports and imports of goods, valued in current prices

**Graph 6 - Share of commercial services in trade, 2004\***



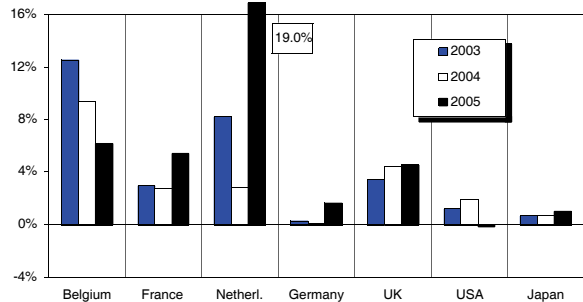
Source: WTO  
 (\*) Trade is derived from balance of payments statistics and does not correspond to the merchandise trade statistics given elsewhere. It is likely that for most economies trade in commercial services is understated.

**Graph 7 - Inward FDI, in % of GDP\***



Source: UNCTAD and Eurostat

**Graph 8 - Outward FDI, in % of GDP\***



Source: UNCTAD and Eurostat

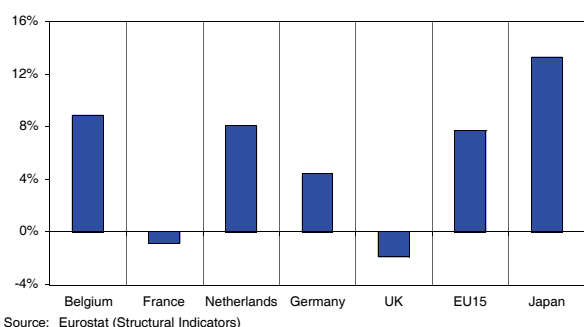
Opening up markets to foreign products is one of the key elements in fostering competition in the internal market of the EU and in driving prices down. The degree of openness of a country is a frequently-used measure in this context. It is calculated as the average share of imports and exports of goods in a country's GDP. Traditionally, Belgium has the highest degree of openness among the EU countries on Graph 5 (88% in 2005) followed by the Netherlands (61%). Due to their size, countries such as Germany (31%), France (23%) or the UK (20%) tend to have significantly lower degrees of openness. Moreover, it is noteworthy that during the period 2003-2005 the degree of openness increased for all countries on Graph 5 and that this is due to both intra-EU and extra-EU trade.

In recent years, trade in services has become much more of an issue. The increased tradability of certain business services such as accounting, consulting or legal services is to a large extent due to developments in information and communication technologies (ICT) that make cross-border delivery easier. Indeed, total world trade in commercial services increased substantially between 2003 and 2004. Nonetheless, since merchandise has grown at the same pace, the share of total trade accounted for by commercial services has remained constant at just below 20%. Changes in this share are also small for the individual countries shown on Graph 6 and it lies roughly between 15% and 25% for all of them. This is still much lower than the share of services in GDP for those countries.

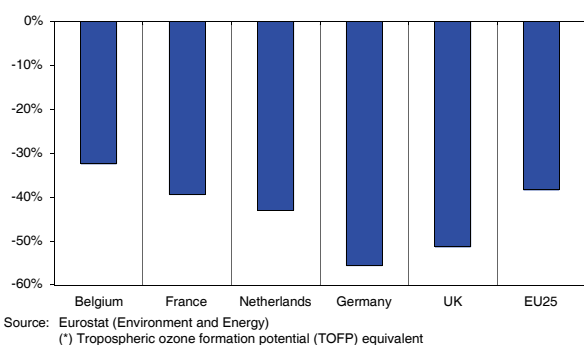
Foreign investment is another means of promoting competition on national markets. Global foreign direct investment (FDI) statistics show that the downturn in FDI flows at the beginning of the current decade has been overcome and that FDI flows are soaring again. According to recent UNCTAD figures, FDI inflows rose by about 30% in both 2004 and 2005. Levels are hence drawing closer again to the record of 2000. For individual countries, the picture may be different and FDI flows may be very volatile, as was the case for the Netherlands and Germany over the period 2003-2005. Those countries witnessed a strong fall in their FDI inflows between 2003 and 2004 and a substantial rise between 2004 and 2005. Belgium remains among the countries with the highest inflows and outflows of FDI both in absolute terms and as a share of GDP. As shown on Graph 7, only the UK and the Netherlands had higher FDI inflows as a percentage of GDP than Belgium in 2005.

Policy objectives: environment

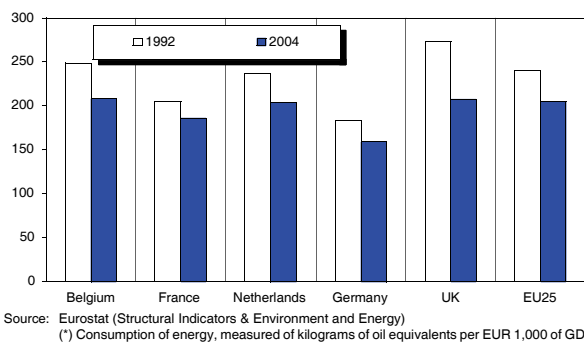
**Graph 9 - Greenhouse gas emission deviations from 2010 target (2004)**



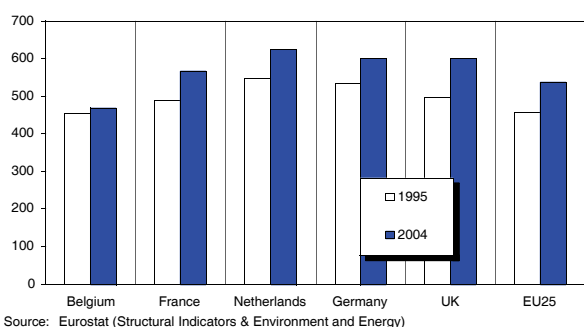
**Graph 10 - Emission of tropospheric ozone precursors, % change 1990-2003\***



**Graph 11 - Energy intensity\***



**Graph 12 - Municipal waste collected, in kg/person**



As regards air pollution, Belgium has performed worse than its neighbouring countries and the EU25. Although decreases in acidifying substances, tropospheric ozone precursors and fine particles were achieved, these were less pronounced in Belgium. Between 1990 and 2003 Belgium achieved a decrease of 38% in acidifying emissions and of 32% in photochemical emissions, while the corresponding decreases in the EU25 were of 48% and 38%. As concerns fine particles, Belgium achieved a decrease of 27% between 1990 and 2002, while the corresponding decrease in the EU15 was equal to 39%. To meet its Kyoto protocol obligations, Belgium needs to obtain over the 2008-2012 period an average decrease in its greenhouse gas emissions of 7.5 % of the 1990 level. Belgium still has a somewhat longer way to go to fulfil its commitments than the EU15 as a whole. The lacklustre performance of Belgium in the field of air pollution can partly be explained by the high energy intensity of its economy. However, the decrease in this energy intensity of 16% between 1992 and 2004 was higher than the corresponding decrease for the EU25.

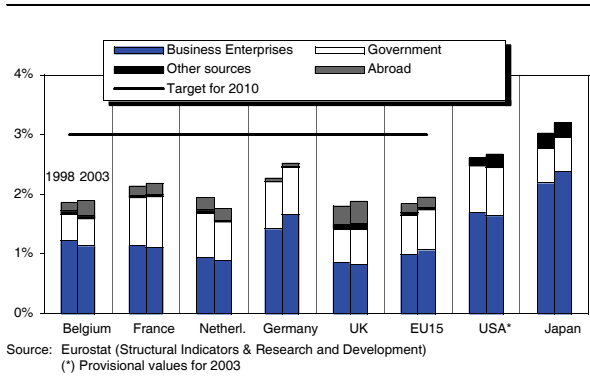
Due to the low rate of connection of the population to waste water treatment plants and a relatively high surplus of nitrogen per hectare, water pollution was also higher in Belgium than in its neighbouring countries. There were problems not only with the quantity of freshwater abstracted in order to sustain the Belgian economy, but also with the quality of coastal and inland bathing waters. In 2003 only 15% of Belgium's coastal bathing waters met the Bathing Waters Directive's guide levels, the lowest percentage among the EU15, and only 84% of inland bathing waters complied with mandatory standards, being the third lowest percentage.

As concerns waste generation, Belgium outperformed its neighbours. While municipal waste collected per person in the EU25 increased by 18% between 1995 and 2004, in Belgium it increased by a mere 3%. As a consequence, municipal waste collected per person in Belgium in 2004 was only 87% of the EU25 average, whereas in 1995 it was still approximately equal to the EU25 average.

Regarding biodiversity, in 2005 10% of Belgian territory was designated as an area for protection. This was higher than in its neighbouring countries, although still below the percentage for the EU25 as a whole.

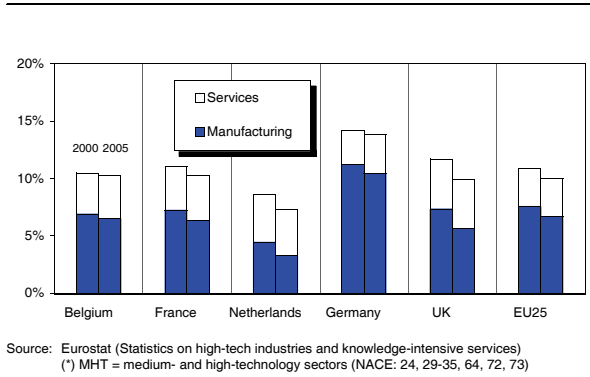
Micro-economic: R&D and innovation

**Graph 13 - R&D expenditure by source of funds, as % of GDP**



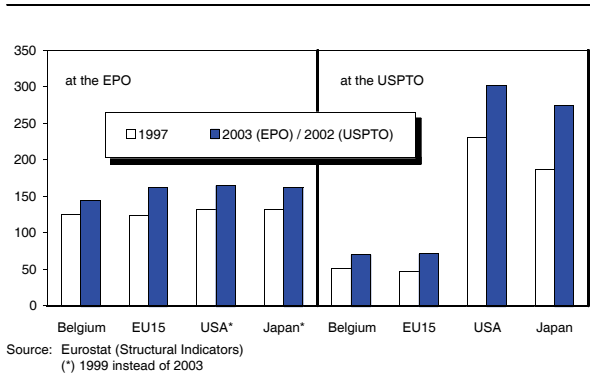
Innovation is a major source of productivity growth in the long term and consequently plays an important role in economic growth. It depends directly on the level of R&D activity. That is why reinforcing R&D and innovation systems is vital if Europe wants to become the most competitive and dynamic knowledge-based economy in the world. After a few years of figures above the European average, R&D investment in Belgium was situated below the European average in 2003 (1.89% of GDP in Belgium, against 1.95% in the EU15) as the result of declining R&D intensity in Belgium since 2001.

**Graph 14 - Share of MHT sectors in total employment\***



Belgian firms financed R&D at a level of 1.14% of GDP in 2003, which was above the European average. However, this percentage is lower than the level achieved in Belgium in 1998. Large firms are responsible for the majority of R&D activity and have played an important role in the recent fall of Belgian R&D expenditure. R&D intensity financed by the public authorities reached 0.44% of GDP, which was significantly below the European average for 2003.

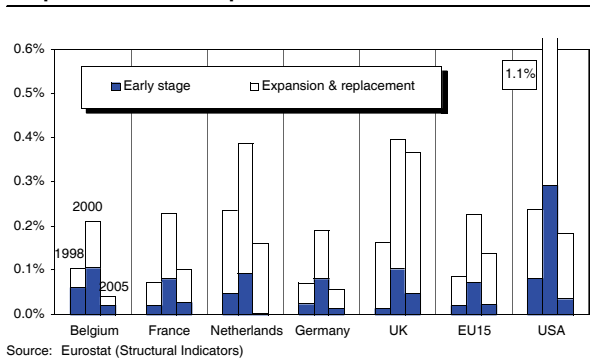
**Graph 15 - Patent applications per million inhabitants**



R&D activities and innovation are concentrated in the medium- and high-technology sectors (MHT). In Belgium, the most R&D-intensive industries are electronic-equipment manufacture and chemicals. In 2005, the MHT sectors represented 10.2% of total employment in Belgium, which was equivalent to the European average and below the level achieved in 2000 (10.5%).

The number of patent applications is an indicator of the valorisation of R&D activities. In 2003, the number of patent applications from Belgium filed with the European and US patent offices was slightly below the European average. The proportion of high-tech patents was 16.2% of all patents for the EPO and 12.5% for the USPTO, which is lower than the equivalent proportions for the EU15, US and Japan.

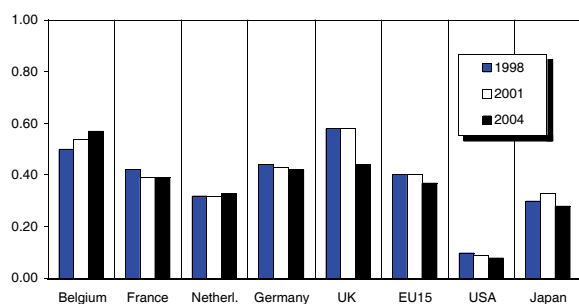
**Graph 16 - Venture capital investment as % of GDP**



Easy access to venture capital promotes the dissemination of innovation. In 2005, investment in Belgium in venture capital amounted to 0.04% of GDP, which was much lower than the European average (0.14%) and the levels achieved by its neighbours. Early stage investment was very close to the European average; investment in expansion and replacement was strongly below the average. The growth observed in 2004 in this stage of investment in Belgium was followed by a fall in 2005.

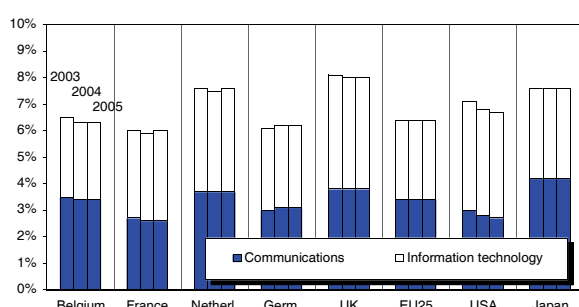
## Micro-economic: communications

Graph 17 - Local call charge per 10 min. (EUR, VAT incl.)



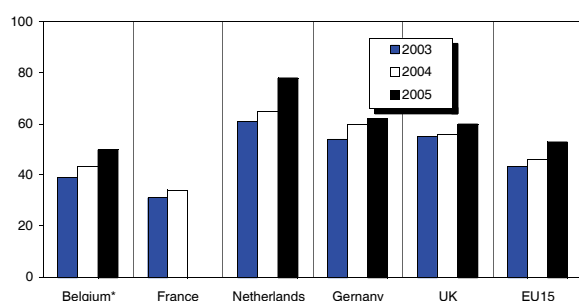
Source: Eurostat (Structural Indicators)

Graph 18 - Expenditures on ICT as % of GDP



Source: Eurostat (Structural Indicators)

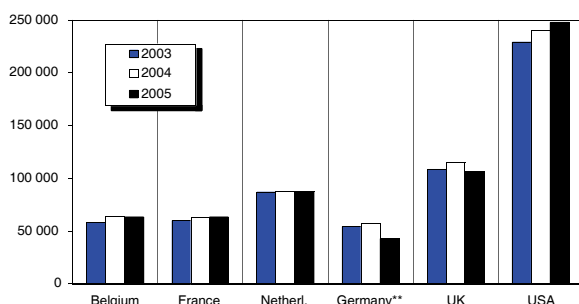
Graph 19 - Internet connections per 100 households



Source: Eurostat (Structural Indicators)

(\*) 2003 and 2004: estimated and referring to the situation of 1 January (Sources: NIS/INS and BIPT/IBPT)

Graph 20 - Number of domestic letters per worker\*



Source: FPB/BIP, own calculations based on data from De Post/La Poste and UPU

(\*) Because of different data definitions, country-by-country comparisons may not be reliable. (\*\*) Break in data series for employment

In the Belgian electronic communications market, dominant positions are held by the fixed and mobile incumbents (Belgacom, Proximus), and by the largest mobile entrant (Mobistar). All three are subject to price control. By the end of 2005, the number of fully unbundled local lines amounted to only 0.2% of the incumbent's copper lines. The number of active mobile subscriptions reached the equivalent of 84% of the population by the end of 2005. As concerns further market reform, in November 2006 a start was made in reducing mobile termination charges; by April 2007 the market for telephone subscriptions should have been opened up fully.

Prices in Belgium show a rising trend for recent years. The fixed incumbent's nominal prices increased by about 5% in 2003 and by another 2% in 2004, while prices remained stable or even fell in neighbouring countries. Belgian local calls were the most expensive out of all the EU25 Member States in 2004. With regard to national and international call charges, however, Belgium ranked 8th and 11th from top, respectively.

ICT expenditure covers both equipment and services, and amounts to about 6.5% of GDP in Belgium. The same is the case for the EU25 average. Expenditure has fallen slightly in recent years. Among the neighbouring countries, the Netherlands and the UK perform better and achieve the Japanese level of about 7.5%. US expenditure has fallen, but is still above the EU25 average.

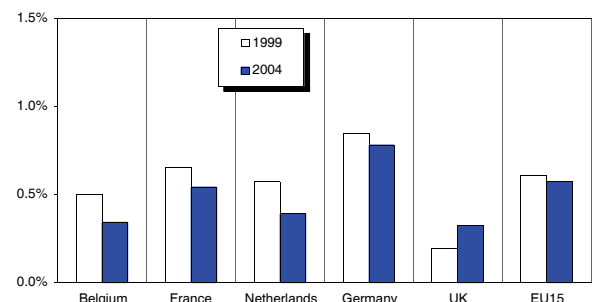
After some years of slowing growth, the growth rate of Internet access in Belgium accelerated during 2005. This is also the case in most other North-West European countries and for the EU15 average as well. This new growth may be accounted for by the penetration of computer equipment among households. During 2005, this penetration accelerated at EU15 level<sup>1</sup>. As concerns the quality of connection, broadband access moved forward to 88% of all connections, and to 97% of business connections during 2005.

After a remarkable 9.3% improvement during 2004, postal productivity in terms of items processed per employee stagnated in 2005. The gradual opening of new sorting centres during 2006 and 2007 may lead to a further increase in productivity. Nevertheless, Belgium and the other EU countries are far behind the productivity achieved in the US, although the comparability between countries is seriously restricted owing to geographical and statistical differences.

1. No data for this indicator was available for Belgium at Eurostat.

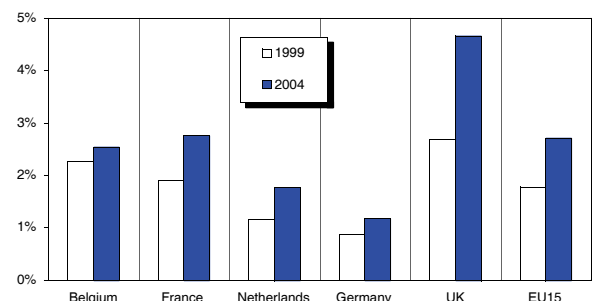
Micro-economic: internal market and competition

**Graph 21 - State aid, as % of GDP\***



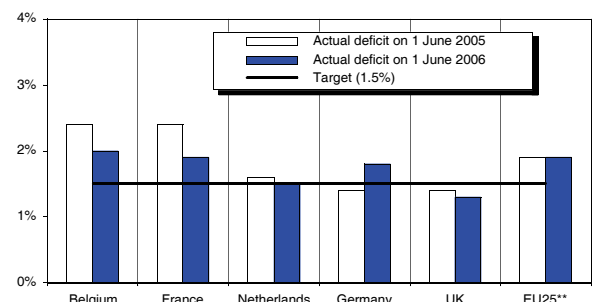
Source: Eurostat (Structural Indicators)  
 (\*) Total state aid, excluding support for railways, but including support for agriculture and fisheries

**Graph 22 - Openly advertised public procurement, as % of GDP\***



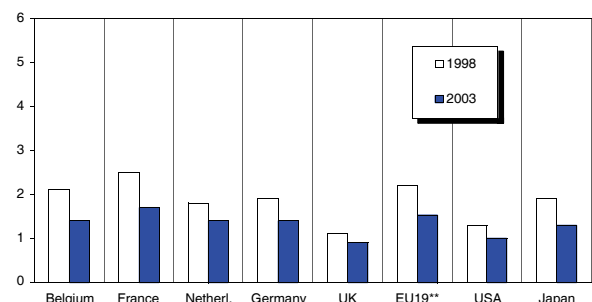
Source: Eurostat (Structural Indicators)  
 (\*) Advertised in the Official Journal of the European Communities

**Graph 23 - Transposition deficit of internal market directives\***



Source: European Commission, DG Internal Market  
 (\*) Percentage of internal market directives that have not yet been transposed into national law, after the transposition deadline. (\*\*) Unweighted average

**Graph 24 - Index of product market regulation, scale 0-6\***



Source: OECD  
 (\*) The stronger the regulation, the higher the index  
 (\*\*) Unweighted average of EU15 and Poland, Czech Republic, Slovak Republic and Hungary (1998: no index for Luxembourg and the Slovak Republic)

State aid in the EU15 fell from 0.61% of GDP in 1999 to 0.57% in 2004. Belgium's level initially remained around the 0.5% mark during this period, but during 2003 and 2004 a fall to 0.34% was observed. In 2004, the least aid was granted in Greece, which gave 0.29% of GDP. It was followed by Luxembourg, the UK and Belgium.

In 2001 the Stockholm European Council asked Member States not only to reduce state aid but also to redirect aid towards horizontal objectives. For every year since 1997, Belgium has achieved or has been close to the 100% horizontal objective. The only other countries achieving this objective are Luxembourg, Sweden, Estonia and Latvia. As laid down in the State Aid Action Plan 2005-2009, Belgian aid was granted to SMEs, R&D activities and regional development. Other countries have other objectives for aid allocation, such as saving energy and protecting the environment.

Two new public procurement directives were required to be implemented in January 2006. According to these directives, electronic procurement in the public sector should be made possible and the current legal framework for procurement should be simplified and made more flexible. Also, new evaluation indicators were required to be set up. In the EU15, openly-advertised public procurement, as a percentage of GDP, increased by more than 50% between 1999 and 2004. In the EU15, the UK had the best performance in 2004. The evolution in Belgium slightly lagged behind that of the EU15.

Belgium is ranked only 18<sup>th</sup> in the transposition of internal market directives. Last year, Belgium's performance nevertheless improved from a deficit of 2.4% in 2005 to a deficit of 2.0%. Many other Member States' performance worsened, which brought the improvement in the EU25 average to a halt. The new Member States are still performing better than the EU15. Eight out of the ten new Member States reached the 1.5% target in 2006, whereas only six Member States of the EU15 did so. Denmark managed to bring its deficit down to 0.5%.

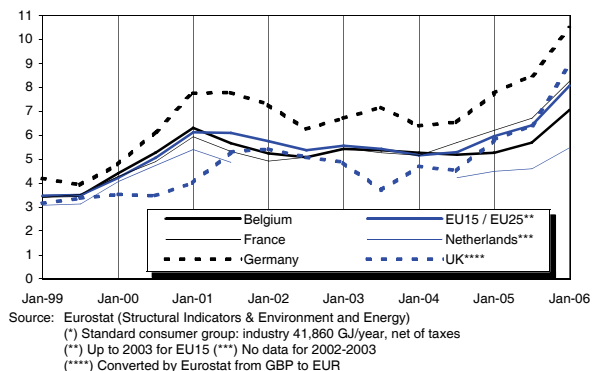
Furthermore, Belgium has played a part in the impressive progress on overall product-market reform. This includes reforms on state control, barriers to entrepreneurship and barriers to trade and investment<sup>1</sup>. This progress has been made by all OECD members, with Belgium remaining very close to the average of the EU15 plus the largest four new Member States. The UK, the US and Australia kept their leading positions.

1. Source: Conway, P., V. Janod & G. Nicoletti, 2005, Product Market Regulation in OECD Countries: 1998 to 2003. *Economics Department Working Papers* No.419. OECD, Paris.

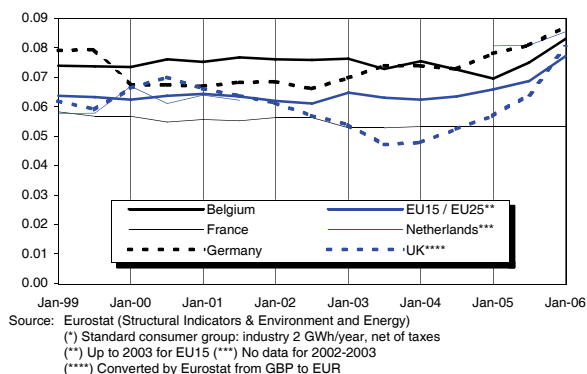


Micro-economic: network industries

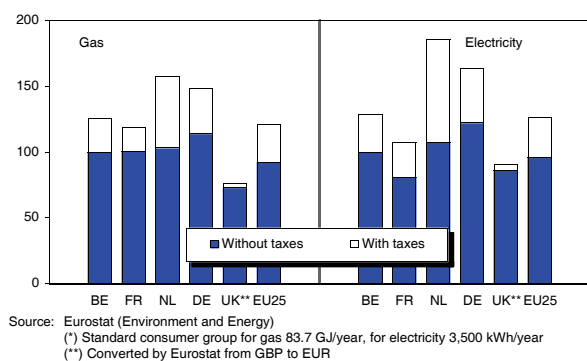
**Graph 25 - Gas prices for industry, in EUR/GJ\***



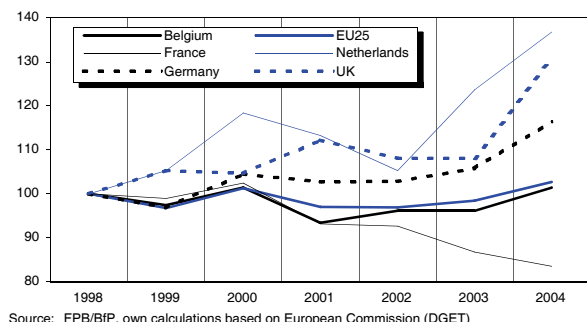
**Graph 26 - Electricity prices for industry, in EUR/kWh\***



**Graph 27 - Energy prices for households (1 January 2006; Belgium=100)\***



**Graph 28 - Freight transport by rail (tkm, 1998=100)**



The evolution of gas prices is mainly driven by the development of oil prices. Until mid-2004, gas prices for the standard industrial consumer using 41,860 GJ per year (as defined by Eurostat) were higher in Belgium than in its neighbouring countries except Germany, and were moving close to the EU15 average. The recent price increase started with a lag of at least half a year with respect to other countries, which made Belgian prices fall below the EU25 average during 2005. When taxes are included, there is hardly any change in ranking over the last few years.

From 2000 to 2003 electricity prices for the industrial consumer using 2 GWh per year were above those of the neighbouring countries and the EU15 average. Just as for gas, the recent price increase started later than in other countries. A remarkable price decrease of 7.9% was even observed during 2004. When taxes are included, Belgium's position is basically unchanged, but a divergence from the EU15 average is observed for 2005 because of tax increases.

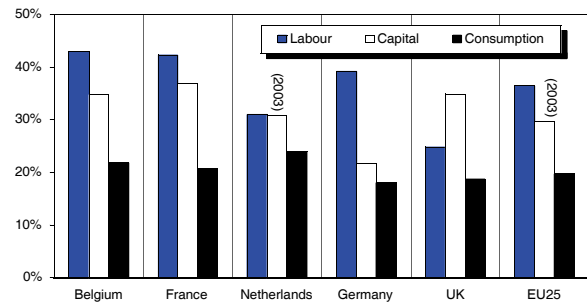
For households, based on standard consumer categories using 83.7 GJ of gas and 3,500 kWh of electricity per year, the recent trends are quite different to those for industry. Gas prices, both including and excluding taxes, stayed very close to the EU15 and EU25 averages. Contrary to the prices for industry, however, the recent rises did not lag. Electricity prices did not diverge from the EU25 average during 2005. Rather, they converged to reach exactly the EU25 average by January 2006. When taxes are included, remarkable differences appear. Taxes in the Netherlands are very high, raising prices above those of Germany. Taxes in the UK are very low, strengthening its position as the cheapest of the analysed countries. From the Eurostat data, it was observed that taxes on electricity in Belgium increased significantly during 2004, but decreased somewhat during 2005.

Freight traffic by rail has increased in Germany, the UK and the Netherlands, while it fell or remained stable in Belgium and France. According to the Rail Liberalisation Index 2004, the former three countries are ranked in the top four most liberalised countries of the EU25, whereas Belgium and France are ranked 14<sup>th</sup> and 18<sup>th</sup>, respectively<sup>1</sup>. In a growing transport market, the stability of Belgium's level of rail traffic has translated into a falling market share. Compared to other land transport modes, rail accounted for only 11.7% in Belgium in 2004, whereas it had accounted for 21% in 1990.

1. Kirchner, C., 2004, *Rail Liberalisation Index 2004*, IBM.

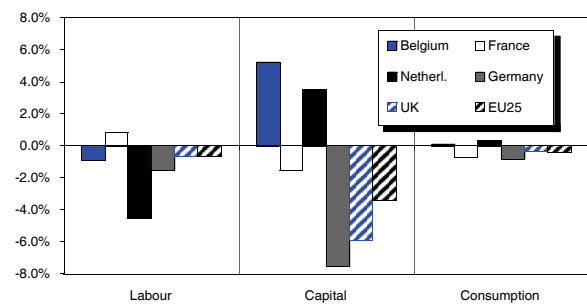
Micro-economic: taxation and business climate

**Graph 29 - Implicit tax rates (2004)\***



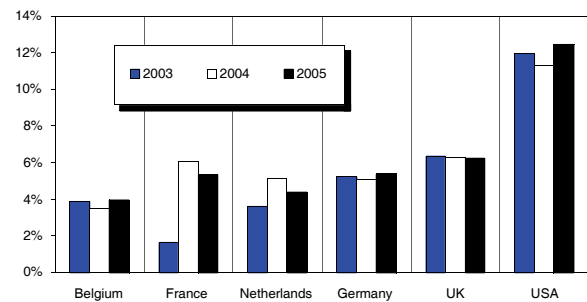
Source: European Commission, The structures of the taxation system in the EU  
 (\*) Ratio of total tax revenues of the category (labour, capital, consumption) to a proxy of the potential tax base defined using the production and income accounts of national accounts.

**Graph 30 - Changes in implicit tax rates, %-points (2000-2004)**



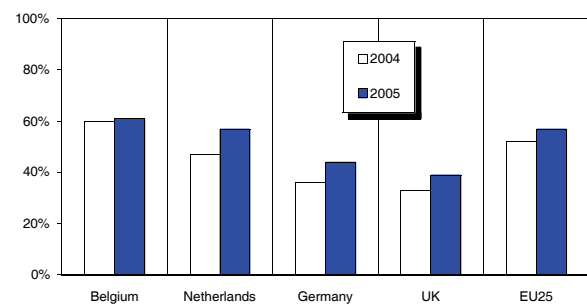
Source: European Commission, The structures of the taxation system in the EU

**Graph 31 - Total entrepreneurial activity index, in %\***



Source: London Business School (Global Entrepreneurship Monitor)  
 (\*) Percentage of the population survey that is either actively involved in starting a new venture or is the owner or manager of a business that is less than 42 months old

**Graph 32 - E-government usage by enterprises\* \*\***



Source: Eurostat (Structural Indicators)  
 (\*) Percentage of enterprises which use the Internet for interaction with public authorities (i.e. having used the Internet for one or more of the following activities: obtaining information, downloading forms, filling in web-forms, full electronic case handling)  
 (\*\*) France: data unavailable

Specific shifts in taxation have been observed for Belgium. The implicit tax rate on labour has been reduced (by about 1%-point) while the taxation on capital has increased (+ 5.2%-points) between 2000 and 2004. The implicit tax rate on consumption has been more or less stable.

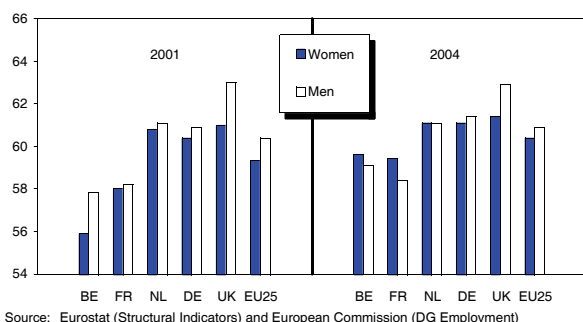
Fiscal reforms, based on targeted reductions of employers' social security contributions and on a reform of direct taxation have led to a drop of the implicit tax rate on labour from 44.2% in 1998 to 43.0% in 2003, with this rate unchanged in 2004. The implicit tax rate on labour in Belgium remains, however, the highest among the countries reviewed here. At the same time, the Belgian implicit tax rate on capital increased substantially while no major changes in legislation took place. Since 2005, a system of notional interest rates has been introduced with the aim of removing the fiscal discrimination against financing with own funds, rather than with borrowed capital. This measure should be budgetary neutral. During the period 2000-2004, the implicit taxation on labour has decreased even more in the Netherlands and Germany, while it increased somewhat in France. Taxation on consumption has been remarkably stable in most countries. In all tax domains, fiscal pressure was stronger in Belgium in 2004 than in the (base-weighted) EU25.

The quality of the business climate is closely related to the level of dynamism in entrepreneurship. From that prospective, the Total Entrepreneurial Activity (TEA) Index indicates a lagging position for Belgium over recent years. The proportion of individuals actively involved in new or young businesses appears to be low with respect to other countries, and especially the US. A slight improvement in the ranking for Belgium is observed for 2004.

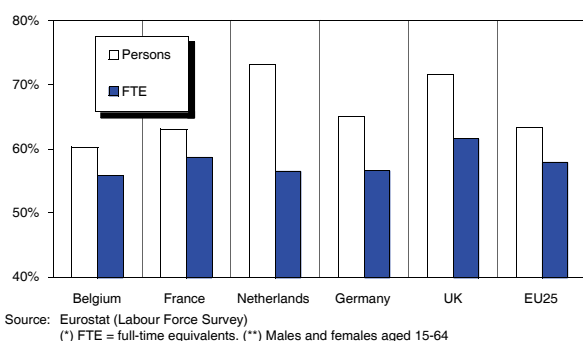
Developments in e-government reflect the efforts made by public authorities to help firms to evolve in a competitive framework and to stimulate private initiatives. It is therefore important to analyse how firms respond to these developments. Belgium performs well when compared to its neighbouring countries: just over 60% of Belgian enterprises used the Internet for interactions with the government in 2005, exceeding the EU25 average. Nevertheless, electronic interactions appear to be far more developed in Scandinavian countries, as the comparable proportion was above 90% in both Sweden and Finland last year. Compared to 2004, all countries have increased their use of e-government. Belgium's use increased less, however, than the use in the other countries under review here.

## Labour market: participation

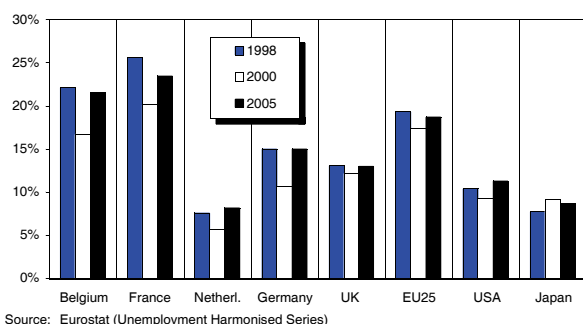
**Graph 33 - Average exit age from the labour force**



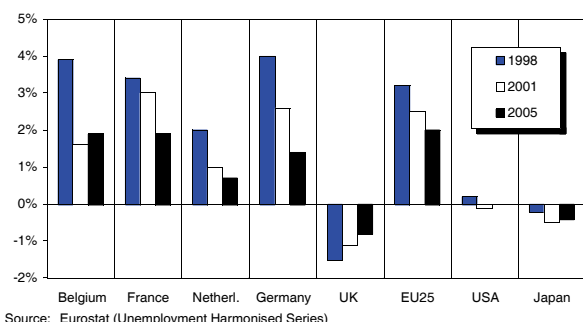
**Graph 34 - Employment rate of persons versus FTE (2004)\* \*\***



**Graph 35 - Youth unemployment rate (-25 years)**



**Graph 36 - Unemployment rate, gender gap females-males**



The Belgian female employment rate has been rising since the beginning of the nineties and is catching up with the European average. In 2005, it amounted 53.8%, still 2.5%-points under the European average<sup>1</sup>.

The Belgian employment rate of older workers is one of the lowest in Europe (31.8% in 2005 against 42.5% in the EU25). It has been rising since the mid-nineties and catching up strongly with the EU25 average, but not yet sufficiently (European target: 50% by 2010). Because of a strong increase, especially for women, the average exit age from the Belgian labour market, at 59.4 years in 2004, is no more the lowest in the EU. The federal 'Generation Pact' intends to raise the legal age of conventional early retirement to 60 in 2008. It also contains measures aimed at keeping older workers in work.

Employment rates in full-time equivalents are less dispersed among the European Member States than employment rates per person, showing the diversity of scope of reduced-time work (part-time, temporary work, etc.). Part-time work is widespread in the Netherlands, where the employment rate decreases from 73.1% when calculated per person to 56.5% when calculated in full-time equivalent units. Part-time work is also widespread in the UK and in Germany. The scope of reduced-time work in Belgium is close to the European average. In 2004, the full-time equivalent employment rate amounted to 55.8%, which is 2.1%-points under the European average (EU25), as against 3.3% in 2003.

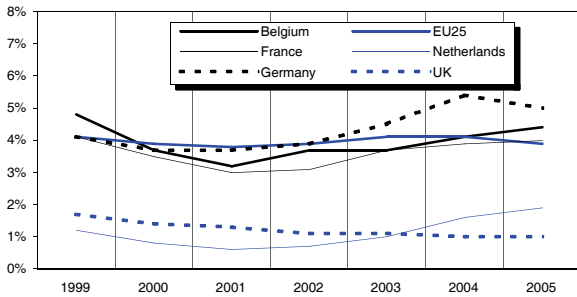
Since the beginning of the decade, youth unemployment has increased in Europe as well as in the US. This increase can be explained by weak economic growth. In Belgium this factor counters efforts to improve young people's inclusion in the labour market through job search assistance and more recently through the measures of the Generation Pact. Youth unemployment is high (21.5% in 2005) in Belgium, which is 2.8%-points above the EU25 average.

As far as the gap between the male and female unemployment rates is concerned, a downward trend can be noted across Europe. The gender-linked difference in Belgian unemployment rates has decreased clearly since the end of the nineties, and remains under the European average in spite of an increase in 2005. Finally, the wage gap between men and women in Belgium is amongst the lowest in the European Union.

1. For the overall employment rate, see section "Productivity and employment" above.

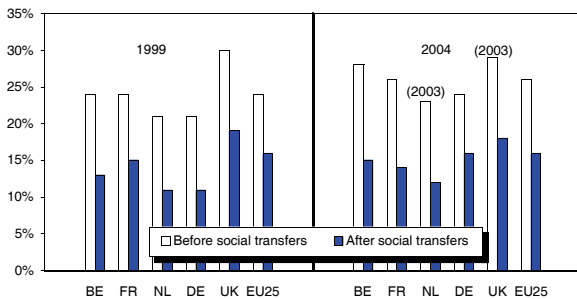
Labour market: social cohesion

Graph 37 - Long-term unemployment rate\*



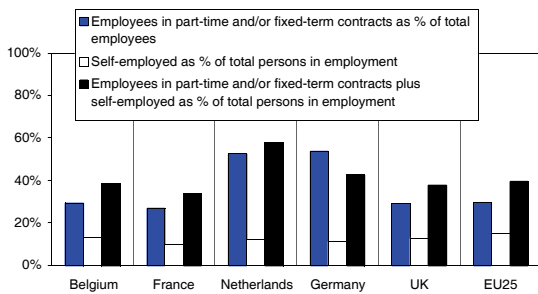
Source: Eurostat (Structural Indicators)  
 (\*) 12 months and more, as % of the labour force

Graph 38 - At risk of poverty rate\*



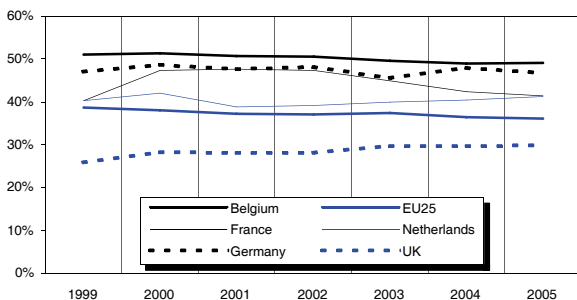
Source: Eurostat (Structural Indicators)  
 (\*) Share of persons with an equivalised disposable income below the risk-of-poverty threshold, which is set at 60% of the national median equivalised disposable income (after social transfers).

Graph 39 - Diversity of contractual and working time arrangements (2005)



Source: Eurostat (Labour Force Survey)

Graph 40 - Taxation of low-wage earners\*



Source: OECD  
 (\*) Income tax on gross wage earnings plus the employee's and the employer's social security contributions, expressed as a percentage of the total labour costs of the earner, defined as gross earnings plus the employer's social security contributions plus payroll taxes (where applicable). This structural indicator is available only for single persons without children earning 67% of the APW.

The long-term unemployment rate is an indicator of the effectiveness of active and preventive measures stimulating the inclusion of disadvantaged people in the labour market. The position of Belgium improved until 2001, and then worsened. In 2005 the Belgian rate exceeded that of the Union for the first time since 1999. The German rate has clearly got worse.

Between 1999 and 2004 there was a rise in the poverty risk rates. This also indicates a weaker inclusion of those most excluded from the labour market.

The deterioration in poverty risk rates is strongest in Belgium and Germany, whereas the rate in UK has stagnated. Social transfers correct the primary distribution of incomes, thus reducing the risk of poverty. The size of these transfers varies from country to country: it is relatively low in the UK, which still has the highest risk of poverty.

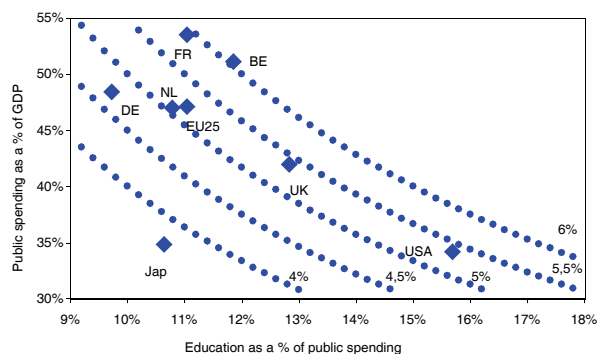
The diversity indicator shows how flexible employment legislation is with respect to the diversity of contractual and working-time arrangements. The Netherlands has the highest indicator as a result of the intensive application of part-time labour, which is on an almost completely voluntary basis (only 3.8% of the Dutch workers report involuntary part-time work). France has the lowest indicator, and, surprisingly, Germany seems to have better results than UK. The flexible working possibilities that result from the Belgian legislation and its increasingly intensive use bring Belgium close to the European average.

Innovative and adaptable forms of work organisation should be reconciled with security and health at work. The indicator of the number of serious accidents has diminished within Europe, except in the UK, where a higher number of accidents at work has been registered. In Belgium, the occurrence of such accidents is the lowest in Europe and is dropping rapidly.

In Belgium, as in Germany, the tax burden on low-paid workers remains high, even though it has continuously decreased since the end of the nineties due to tax reform and targeted measures aimed at cutting in personal social security contributions. The significant cuts in employers' social security contributions that have already been agreed are not sufficiently targeted at the low-paid. Belgian studies (Ires, FPB) show that reductions in employer's social security contributions that are targeted at the low-paid are more efficient, in terms of growth and employment.

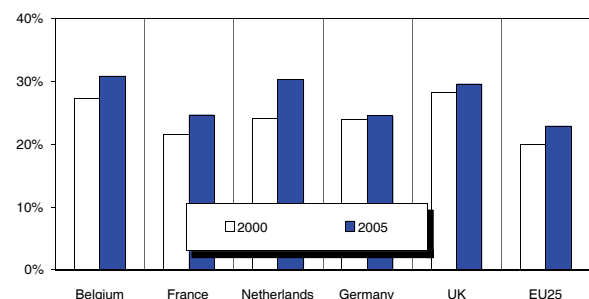
## Labour market: education

**Graph 41 - Public spending on education (2003)\***



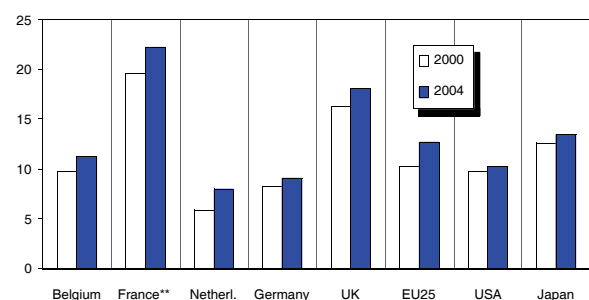
Source: Eurostat (Education)  
 (\*) On both public and private institutions

**Graph 42 - People with higher education\***



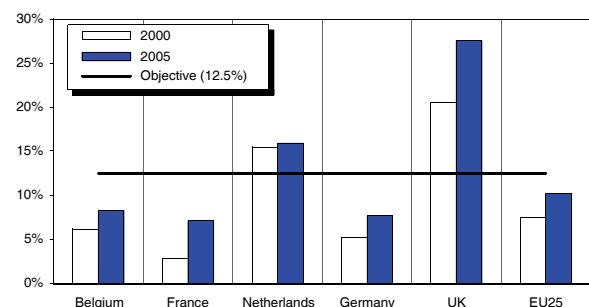
Source: Eurostat (Labour Force Survey)  
 (\*) Percentage of people aged 25-64 who completed higher education (ISCED 5-6) in the second quarter

**Graph 43 - Graduates in science & technology, in %\***



Source: Eurostat (Structural Indicators)  
 (\*) Number of persons per 1,000 of population aged 20-29 who graduated in science and technology at post-secondary level (ISCED 5 and above) during the given year  
 (\*\*) 2003 instead of 2004

**Graph 44 - Participation in life-long learning\* \*\***



Source: Eurostat, NewCronos (domain Labour Force)  
 (\*) % of people aged 25-64, in annual averages of quarterly data  
 (\*\*) Break in series for 2003, except Belgium (break in 2004) and Germany (no break)

Human capital is a crucial factor in a knowledge-based economy, where ideas and knowledge are central elements in the innovation and growth process. Moreover, the availability of a skilled labour force is essential for competitiveness. For the optimal utilisation of human capital, it is necessary to provide training opportunities throughout careers and to anticipate shortfalls in the supply of specific skills.

Within the EU25, the proportion of public expenditure on education is relatively high, even in countries with a small share of public spending in terms of overall GDP. In Belgium, a relatively high proportion of public spending is allocated to education. In 2003, about 6.1% of GDP (shown along the curved dotted lines in Graph 36) or 11.9% of total public expenditure was devoted to education, which is, in both cases, above the European average.

With regard to the supply of advanced skills, the percentage of people aged between 25 and 64 with tertiary education is considerably higher in Belgium (30.8% in 2005) than the EU25 average (22.8%) and is still increasing. However, due to large variations in educational systems, differences between countries must be interpreted carefully. Because of their important role in the national innovation system, the supply of new graduates with training in science and engineering is of great interest. Although this share has increased during recent years, it is still significantly lower than in France and the UK, but higher than in Germany and the Netherlands.

In a context of continuously developing technology and business practices, it is essential for social and competitive reasons that people can acquire new knowledge and skills at any time in their working lives. As such, the notion of life-long learning covers all learning activities undertaken in a wide range of environments in order to improve knowledge and skills. These may be related to personal, social or employment objectives. Participation in life-long learning has improved significantly in Belgium during the last few years, although the participation rate (8.3% in 2005) is still below the EU25 average (10.2%) and the Lisbon objective (12.5% by 2010).

## The Lisbon Strategy: structural policy in Europe and Belgium

The Lisbon Strategy has been launched by the European Council to promote long-term economic growth under the conditions of sufficient social and environmental protection. It builds on three pillars: the macroeconomic, the microeconomic and the labour market pillar. In this planning paper the microeconomic pillar and its implementation in Belgium is reviewed. The paper consists of four chapters, each covering a specific theme that concerns the microeconomic pillar.

The first chapter presents the general framework and implementation in Belgium. The basic issue is the prevailing growth differential between the EU and the US, which has on average been 0.7%-point to the advantage of the US during the first half of the present decade and even 1.2%-points during the second half of the past decade. An essential factor behind the growth differential is the differential of productivity growth. By applying Solow and endogenous growth models, the chapter illustrates the importance of knowledge and capital accumulation as factors for productivity growth.

The Lisbon Strategy was introduced in 2000 to provide a solution to that issue. A brief history and an overview of the priorities are given. As of the 2005 renewal of the strategy, the Member States state clear priorities in tri-annual National Reform Programmes (NRP) and report annually on their implementation. The chapter summarises the implementation of the renewed strategy in Belgium, and the evaluation that the European Commission (EC) has made of the first Belgian NRP. The EC was positive about the priorities and coherence in the NRP, but noted that information on the budgetary impact was lacking. Furthermore, it demanded more coordination between the federal and regional levels and more parliamentary involvement.

The second chapter discusses knowledge, as embodied in innovation, as a factor for productivity growth. Modern innovation theory considers the innovation system as a complex framework of poles of competence that are built up of interacting actors who drive innovation. The functioning of that innovation system depends crucially on the quality of intellectual property rights protection, regulation, standardisation, competition and financing. Moreover, investment in innovation may not be at its most efficient level because of market failures, such as externalities, uncertainty and non-divisibility. These market failures justify government intervention.

European R&D expenditures, as a percentage of GDP, are indeed below the US and Japanese, while the Chinese are strongly catching up. In Belgium, R&D is at about the same level as the EU average. For most other indicators of innovation, Belgium underperforms the EU average. The chapter thus ends with a summary of the present intervention at both the EU and the Belgian levels. At the EU level, the recent evolution of innovation strategy is given. At the Belgian level, the roles of the federal and regional governments are explained and the innovation measures from the NRP are summed up.

The third chapter discusses capital accumulation, as embodied in investments, as a factor for productivity growth. The focus of the chapter is on entrepreneurship, and based on the ideas of Schumpeter. An important determinant of economic growth is the phenomenon of creative destruction whereby entrepreneurs replace old parts of the economic structure with new and innovative ones. Hence, there is an important role for entrepreneurs, and in particular SMEs. It has, for example, been shown that in both the US and the EU the smallest and youngest businesses are the driving force behind employment creation.

SMEs, however, may face hurdles that deter potential entrepreneurs from starting up a business. These hurdles lie in the fields of, for example, social and fiscal regulation, availability of qualified employees, and access to capital. There is a role for government in removing the hurdles. The chapter thus ends with an overview of the present policies for stimulating entrepreneurship, at both the EU and Belgian levels. At the EU level, the recent evolution of the strategy for entrepreneurship is given. At the Belgian level, the measures adopted in the NRP are summarised.

The fourth chapter deals with the specific case of network industry reform. Network industries are important for the Lisbon Strategy because they convey persons, goods and information, which is essential for a modern and competitive economy. However, their production may not be at its most efficient level because of market failures, such as externalities and natural monopolies. In the past, intervention consisted of the creation of reserved monopolies at the national level. This did, however, not guarantee efficiency too and was not consistent with the internal market. Therefore, Member States and the EU started to reform the network industries' market structures.



Conditions for effective reform are: independence among the segments of the production chain; regulation of network entry; monitoring of dominant market positions; and safeguarding of public and universal services. Furthermore, privatisation and a stepwise reform may be useful to create a level playing field. Based on these conditions the chapter reviews the reform of the Belgian telecommunications, electricity, gas, postal and railway industries. It summarises the developments since 1990

and discusses to what extent the present state of reform fulfils the conditions for effective reform.

*“Economisch structuurbeleid: de Lissabonagenda”, “Politique économique structurelle: l’agenda de Lisbonne”, B. Biatour, J. Fiers, C. Kegels, B. Michel, J. van der Linden, J. Verlinden, Planning Paper 101, September 2006.*

## Simulating the impact of the pension bonus on the financial implications of working longer

In 2005, the federal government presented the ‘Generation Pact’, containing a number of measures designed to strengthen the financial sustainability of the Belgian system of social security in the light of demographic ageing. One of these measures, the introduction of a pension bonus, is designed to encourage older workers to postpone retirement. This working paper discusses the effect of this bonus on the financial consequences of retirement simulated for four fictitious older workers, representing various types of workers.

A pension bonus is introduced in the first-pillar old-age pension system for private sector employees and that of the self-employed, granting them an additional pension benefit of EUR 2 per working day that they continue to work after reaching the age of 62. The minimum benefit itself is not increased by the bonus.

The option-value approach to the retirement decision assumes that rational individuals look beyond what benefit they will get immediately after retirement, but instead consider their full stream of potential discounted future earnings and pension benefits. The individual considers the gains and losses pertaining to every year that he or she could retire. The Micro Economic Pension model MEP simulates these gains and losses by applying pension rules and fiscal regulations to a fictitious individual representing a male or female white- or blue-collar employee. It allows for the simulation of specific changes of these rules on pension wealth, which is the sum of total discounted future pension benefits. The results indicate whether or not these changes will encourage older workers to postpone retirement.

The introduction of the bonus changes the results from the retirement age of 63 onwards. A first and obvious result is that the replacement rate of older workers gradually increases as a result of the bonus. Without the introduction of the bonus, there is a positive balance of gains (extra earnings) and losses (a loss in pension wealth) associated with postponing retirement by one year. The introduction of the bonus reinforces this positive bal-

ance. Finally, the implicit tax on working longer, which is the ratio of the loss in pension wealth over the extra earnings, decreases considerably. A first conclusion, therefore, is that the introduction of the pension bonus might effectively decrease the implicit tax on working longer.

However, the paper also suggests that there are important differences between the fictitious individuals representing various types of workers. The proportional effect of the pension bonus is strongest for the female white-collar worker, followed by the male blue-collar worker. Finally, the effect is the smallest for the male white-collar worker. Overall, it seems that the decreasing effect of the introduction of the pension bonus on the implicit cost of retirement of white-collar women is higher than that for men. This can be explained by the higher life expectancy of women relative to men. The greater effect of the pension bonus for a typical male blue-collar worker than for his male white-collar colleague can be explained by the fact that the benefit is a lump sum.

The paper describes the simulation results for the female blue-collar worker in more detail, as these are to the largest part determined by a nonlinearity caused by the interaction between the minimum pension benefit and the bonus. It should be remembered that the minimum pension benefit itself is not increased by the bonus. So, any individual whose pension-benefit-plus-bonus is lower than the minimum pension benefit will see his or her pension benefit being scaled upwards to this minimum level, and the effect of the bonus will be absent. The minimum pension benefit introduces a pivotal effect of the bonus. If the pension plus the bonus is below the minimum pension benefit, then the implementation of the bonus will have no effect. If, on the other hand, the pension before the bonus is equal to the minimum pension benefit, the implementation of the bonus will have a full effect on the financial consequences of postponing retirement. In between, there is a small bandwidth where the bonus will have a partial effect. A

very small change in income or in bonus can, in this nonlinear case, have a large effect on the financial consequences of retirement, and therefore on the simulation results. This is especially so for female blue-collar workers, as it is obvious to assume that they have the highest probability of finding themselves in this situation, and their high life expectancy increases the effect of these

small changes in income or bonus on the results of the simulation.

*“De pensioenbonus in de werknemersregeling: simulatie met het model MEP”, G. Dekkers, Working Paper 11-06, November 2006.*

## Impact of vocational training for the unemployed on employment duration

This paper examines the impact of publicly funded vocational training for the unemployed on the duration of employment spells. It uses anonymous, longitudinal micro-information about people on unemployment benefits. The paper borrows heavily from statistical techniques traditionally used in survival analysis and proposes a method to correct for non-observed heterogeneity through the historic employment record of the individuals sampled. It finds that vocational training significantly enhances the length of employment spells.

Vocational training for the unemployed may be considered as an important part of active labour market policies, aiming at durable integration of unemployed people in the labour market. By statistically estimating the impact of vocational training on employment spells, this paper contributes to the debate on the effectiveness of this policy measure.

The data for the research have been supplied by the national unemployment agency (RVA/ONem). Longitudinal information at micro-level is available for all people on RVA/ONem benefits (unemployment and other) for the period from January 2001 to December 2005. Apart from the detailed benefits history of each individual, the data also contain information about a number of socio-economic characteristics of each of the individuals involved (age, gender, educational attainment level, etc.). Based on some simplifying assumptions, the entire labour market history may be charted of all people transiting through the RVA/ONem database at any one time during the observation period. This provides all the empirical building blocks needed to conduct the research.

As usual in this type of micro-research, the impact of the policy under consideration is measured by comparing the performance of the target group to that of a control group. Fortunately, the data allow performance to be measured in terms of employment spells rather than job spells: the former are not interrupted by a mere switch of employers. Nevertheless, a number of important methodological challenges had to be dealt with. First, since the observation period is limited in time, ‘censored observations’ for employment spells emerge. Second, since the policy measure is non-experimental in nature,

‘selection bias’ may occur in one of its multiple guises if, for any reason, the participants in the programme are atypical with respect to the entire population.

Censored observations have been handled in this paper by means of statistical techniques that are standard in survival analysis. Selection bias has been countered by a careful draw of the control group. Notably, the control group has been matched as closely as possible to the target group, not only with respect to all directly observable characteristics (gender, age, educational level, time of initiation of employment spell), but also with respect to the distribution of ‘intrinsic qualities’ within the target group. The ‘intrinsic quality on the labour market’ of any individual is determined on the basis of his/her past employment record and aims at capturing the remaining - not directly observed - heterogeneity across individuals with respect to employment spells. As an important side-conclusion, it may be inferred from the results of this procedure that, on average, the intrinsic quality of the programme participants is significantly higher than that of the total population.

The paper finds a significantly positive effect of vocational training on the duration of employment spells, in contrast to previous empirical research that measured labour market performance in terms of job spells rather than employment spells. Technically, employment spells in target and control groups have been compared by means of a proportional hazard model, the measured hazard ratio of the programme participants amounting to 0.79 and situated in the range between 0.76 and 0.82 at a 95% confidence interval. More specifically, this means that, for those still employed at the beginning of each month, the probability of losing employment during that month is about 20% less in the target group.

No indication has been found of a differentiated impact of vocational training according to age, gender or educational level, but the impact does seem to be differentiated according to the level of intrinsic quality.

*“Effect van beroepsopleidingen voor werklozen op de tewerkstellingsduur”, V. Bresseleers, Working Paper 12-06, November 2006.*

## Qualitative employment data for Belgium, a SAM-approach for the period 1999-2005

This working paper describes the methodology used to subdivide the number of employed persons (both employees and self-employed workers) in the national accounts by gender, age class, labour type and educational attainment at a detailed industry level.

The construction of this qualitative employment database, which covers the period 1999-2005, is a first step in the compilation of a Social Accounting Matrix (SAM) for Belgium. A SAM is an extension of national accounts. It typically focuses on the role of people in the economy, which may be reflected by, among other things, extra breakdowns of the household sector and a disaggregated representation of labour markets (i.e. distinguishing various categories of employed persons).

The approach followed for this qualitative breakdown of employment data is guided by three principles. The first principle is consistency with national accounts data and its methodology. The version of the national accounts that is referred to in this working paper is the one published in November 2006. Secondly, the method and data chosen should allow the production of results for several consecutive years and, thirdly, the method should be applicable at a detailed industry level. Due to limited data availability, these targets are clearly ambitious. It is, for instance, not straightforward to provide both a high level of industry detail and a reliable view of evolution over time.

Although mostly the same administrative data were used as in the national accounts (except for the breakdown by educational level), a series of major and minor adjustments that are typically performed in the national accounts often make it difficult to break down the national accounts totals.

Employees were subdivided by gender and by up to 11 age classes with a distinction between white-collar, blue-collar and public sector workers. These breakdowns are based on firm-level administrative databases from different social security institutions. To guarantee

the coherence with national accounts, firms were allocated to the same industries as in the national accounts.

While administrative totals are the basis for the total distribution over age class and gender for the self employed, the industry-level detail on gender and age class was based on Labour Force Survey (LFS) data.

In line with their special treatment in the national accounts, several groups of employees (e.g. students, household workers and temporary workers) and self-employed workers (e.g. firm administrators) have been dealt with in a way appropriate to them.

LFS data were also the basis for the breakdown of employees and self-employed workers into six educational attainment levels by industry. As the LFS only represents 1% of workers, the distribution by industry of educational attainment levels as well as distribution over age classes and gender for the self employed was estimated using ordered and nested logit regression techniques applied to individual LFS data. The purpose of these regression techniques is twofold: to increase the robustness of the LFS data at a detailed industry level and to smooth the development over time by eliminating undesirable noise from the survey data. The final results for the educational attainment levels are obtained by weighing the regression results by the number of workers per gender, labour type and age class generated for each industry using administrative data. Compared to the LFS data, the SAM contains more blue-collar workers and more workers aged under 30 years. With blue-collar workers less and younger workers more highly schooled, both differences had a (partly) offsetting effect on the overall educational attainment level of workers.

*"Kwalitatieve werkgelegenheidsdata voor België, een SAM-aanpak voor de periode 1999-2005", V. Bresseleers, K. Hendrickx, B. Hertveldt, B. Van den Cruyce, J. Wera, Working Paper 13-06, December 2006.*

## Other Recent Publications

The NIME Economic Outlook for the World Economy, August 2006  
 "A Medium-Term Outlook for the World Economy 2006-2012 - Focus: A Stochastic Appraisal of the NIME Outlook for the World Economy"

Working Paper 10-06, September 2006  
 "Network Industry Reform in Belgium: Macroeconometric versus General-Equilibrium Analyses", J. van der Linden

## Recent history of major economic policy measures

- December 2006 The ECB raised its main refinancing rate by a quarter of a point to 3.5%.
- November 2006 The European Commission approved the merger of Suez and Gaz de France (GdF), but under several conditions. Suez will sell the gas trading company Distrigas and give up control of the gas transport network manager Fluxys. GdF will sell its share in the Belgian power generation company SPE. Under these conditions the new company's dominant position on the Belgian energy markets will be alleviated. Furthermore, the international gas hub at Zeebrugge will be operated independently from Suez and new network capacity will be developed.
- Independently of the approved merger, two other projects in the area of energy were implemented. Firstly, the Belpex day-ahead electricity market became operational. It works in close co-operation with the Dutch and French electricity exchanges, which allows for equal prices in the three countries. Secondly, the German company Wingas received permission to operate a gas pipeline from the Port of Antwerp to the nearby Dutch gas network. This allows competition in infrastructure management. The potential market share of the new pipeline is 9%.
- In the area of electronic communications the first stage of reducing mobile termination prices has been implemented. This is based on decisions of the European Commission and the Belgian market regulator BIPT/IBPT. The stepwise reduction will be finalised in mid 2008.
- October 2006 At the October budget conclave, the federal government announced its objectives for public finances for 2007. These are based on assumptions of 2.2% economic growth (2.7% in 2006) and 1.9% inflation (1.9% in 2006 as well). After an expected budget balance in 2006, the finances of general government should record a surplus of 0.3% of GDP in 2007, in accordance with the target defined in the Stability Programme and in the revised Ageing-fund law. The primary surplus should increase by 0.2% of GDP as compared to 2006, after five years of decrease. The budget surplus of 0.3% of GDP should be located in the social security budget for 0.2% of GDP (as in 2006) and in state governments (communities and regions) for 0.1% of GDP (0.2% of GDP in 2006). The federal government finances should be almost balanced (-0.1% of GDP in 2006), as should local government finances (which are expected to recover from a 0.2% of GDP deficit in 2006, related to a temporary surge in infrastructure investment ahead of the municipal elections). The forecasted 0.2% of GDP surplus in the social security budget is expected to be achieved through increased 'alternative financing' (transfers from the federal government) and a change in the mode of collection of social contributions on anticipated holiday pay. The total state debt-to-GDP ratio should decrease from 90.6% at the end of 2006 to 83.9% at the end of 2007.
- The government intends to keep the growth of expenses strictly under control, both in the federal departments and in social security. However, the budget allows for welfare increases in social allowances as proposed by the social partners within the envelope defined in the 2006 Generation Pact. The budget for health care will remain within the 4.5% real growth rate boundary defined in the 2003 government's agreement. The price that firms receive for household services provided within the framework of service vouchers will be lowered from EUR 21 to EUR 20 per hour.
- The extension of targeted labour cost reductions for researchers, and for night-time and shift-organised labour has been confirmed; the measure aimed at easing the taxation of overtime work will be strengthened, via both an increase in wage subsidies and a specific decrease in personal income taxation. Other selected cuts in direct and indirect taxation have been decided upon to promote investment in social housing, housing investment in run-down buildings and energy-saving expenditure. Moreover, the level of taxation on professional income will be slightly reduced. As regards corporation tax, some elements of the tax system will be made more favourable to companies. On the other hand, selected taxes on products will be increased (taxes on packaging and on tobacco products).
- As was the case in previous years, the 2007 budget partly relies on non-structural corrective fiscal measures for about 0.4% of GDP (0.6% in 2006), notably new sales of real estate, the take-over of pension funds assets and liabilities and a new wave of securitisation of tax arrears, together with a reinforcement of the anti-fraud machinery (0.1% of GDP).
- The ECB raised its main refinancing rate by a quarter of a point to 3.25%
- September 2006 The postal incumbent (De Post/La Poste) officially opened the first two of four newly built sorting centres. The new centres bring the sorting process to a high standard of automation and serve as a trump for the incumbent in the light of the upcoming market liberalisation. The whole operation costs 250 million EUR and is the biggest investment ever made by De Post/La Poste.
- August 2006 The upgrade of the Brussels suburban rail network officially started and will last six years. In 2012, Brussels should have a modern Regional Express Network to face the challenge of improving mobility.
- The ECB raised its main financing rate by a quarter of a point to 3%.
- June 2006 The federal government increased its control over the energy market regulator CREG. The government may now, for example, approve the regulator's strategic plans, give instructions to the regulator, and now has a supervising role.
- The ECB raised its main financing rate by a quarter of a point to 2.75%.

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