

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

The latest update of the FPB medium-term outlook for Belgium shows an average GDP growth reaching 2.1% during the 2005-2010 period. This development can be largely accounted for by both domestic demand and exports, although the contribution of net exports to economic growth is expected to be limited; the current account should continue to decrease until 2006 due to terms of trade losses. Private consumption should grow at a moderate pace during the projection period (1.7% on average), in line with growth of households' disposable income in real terms. At the same time, gross fixed capital formation (and particularly business investment) should grow at a sustained pace with annual growth reaching 2.9% on average. The structural loss of export market share should be important, with exports increasing by 5% a year on average, compared with a 6.5% growth of our potential export markets.

Inflation should reach 2.2% on average during the projection period, due to figures close to 3% in 2005 and 2006. The current acceleration is explained by high energy prices and the recent depreciation of the euro against the dollar. However, inflation should be around 2% in 2007 and fall below 2% at the end of the projection period, mainly because of limited wage increases and moderate rises in imported costs. Employment is expected to increase by about 33,000 jobs a year during the 2005-2010 period. This performance can be explained by several factors: a relatively favourable macroeconomic context, limited wage increases, a - although very slow - reduction in working time and various measures taken to promote employment. Nevertheless, the fall in the unemployment rate should be very limited due to a considerable increase in the working population.

The FPB October update of the medium term outlook for Belgium does not yet take into account the measures taken within the framework of the 2006 budget.

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



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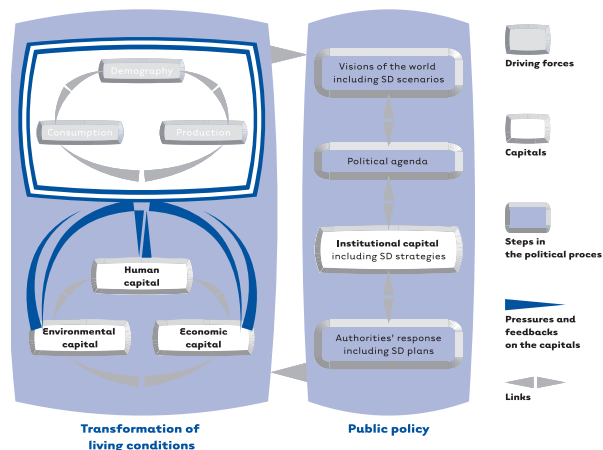
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Transdisciplinarity and the governance of sustainable development

Many questions about the directions in which our societies develop require answers from the authorities. Guiding this development requires an overall vision of the situation, which can be obtained by systematically organising the available social, environmental, economic and political information. The third Belgian *Federal Report on Sustainable Development* proposes such a comprehensive systemic model for describing and analysing how a given society develops.

The name of this model is *TransGovern*, short for *Transformation of living conditions through Governing*. It refers to the interactions (shown by the grey arrows between the two main boxes in the Figure below) between the transformation of living conditions in a society (the left-hand box) and the political decisions (the right-hand box) aimed at promoting a sustainable development. This model also represents the relationships between the main components that determine our living conditions as well as between the various components of the political decision-making process. This article further describes the main features of *TransGovern*, as well as its first application as a framework to structure the analysis of the development of our society.



TransGovern is a combination of several existing models. It combines the concepts central to the DPSIR framework (Driving forces, Pressures, States, Impacts, Responses), developed at the OECD, and the triangular model of interactions between the three basic development capitals (human, environmental and economical). The *TransGovern* model adds the institutional capital to these and places it at the core of an original public policy module, thereby following an approach to the political decision-making process that was developed earlier by the authors of the model. This political component is compatible with the theory on human, environmental and social risks put forward by the Dutch Scientific Council for Government Policy (*Duurzame risico's: een blijvend ge-*

geven, Wetenschappelijke Raad voor het Regeringsbeleid, 1994) which already served as a basis for the scenario analysis in the first two Federal reports.

Basic capitals of development

The evolution of well-being within a society depends on the human, environmental and economic resources that it can access. These resources constitute capitals, the accumulation and interactions of which determine how development evolves in that society.

Human capital is subdivided in three sub-capitals: the standard of living (material well-being), health (both mental and physical) and knowledge/capacities (what individuals know and are able to do).

Environmental capital includes, on the one hand, natural resources (water, air, land and mineral resources) and, on the other hand, the biosphere with all its biological diversity.

Economic capital is subdivided in two sub-capitals: physical and technological capital (equipments, buildings, infrastructure, and intangible assets including software and technology patents) and net financial assets.

Finally, *institutional capital* is the set of organisational, legal and social structures that characterise a country's governance and that determine how far people can engage in civil society and to what extent conflicts can be peacefully resolved.

Driving forces

The driving forces of development are human processes and economic activities that have an influence on basic capitals of development. *TransGovern* identifies three sets of driving forces.

The first set includes the dynamics of *demography*. *TransGovern* emphasises demographic structures and their variations and determinants (fertility, mortality, net immigration). Changes arising in those structures have a significant influence on development, even if it can only be perceived in the long term.

The second set of driving forces comprises the acts of *consumption*. Consumption patterns refer to the different ways that households meet a need (e.g. mobility) by using goods (e.g. cars and fuels) or services (e.g. public transport) and their habits in doing so.

The third set of driving forces comprises the acts of *production*. Production patterns refer to the different ways through which producers generate an offer on the market of goods and services.

Pressures and feedbacks

The driving forces exert their influence on the human, environmental and economic capitals through pressures (shown in the Figure by dark, downward arrows). Each pressure originates from one driving force and modifies the state of one capital.

For example, a growing population can increase the exploitation of natural resources, therefore decreasing the stock of that capital. Pressures on the capitals can be either positive or negative. Investments in new production equipment are an example of positive pressure on the physical capital.

Changes in the state of one capital can have impacts on the state of the other capitals. Those changes also produce *feedbacks* on the driving forces (shown by the dark upward arrows in the Figure). For example, a change within the sub-capital “health” can have an impact on each of the three driving forces considered in the model.

A pressure exerted by a driving force on a capital can thus make the whole array of living conditions evolve, as there are many connections between the various components of those living conditions as well as within them.

Political response and strategies

In order to manage the development of a society, policies are needed that can have an impact on the transformation of living conditions. The production of political responses and strategies is particularly required when pressures cannot be regulated by the interactions within this area (represented in the left-hand box), e.g. by market forces.

Political responses (represented by the arrow that goes from “Public policy” to “Transformation of living conditions”), can focus on any component in the left-hand box.

Such responses depend on the *information* that public authorities get (represented by the arrow that goes in the opposite direction, from “Transformation of living conditions” to “Public policy”).

However, the available knowledge will never be sufficient to support all responses of the public authorities. In such a situation, *visions of the world* and the perception

of existing risks play an important role. These are subjective elements that are influenced by norms, values and political priorities.

The authorities’ capacity to materialise the items on the *political agenda* into political responses depends on the institutional capital, i.e. the state of the country’s organisational, legal and social structures.

TransGovern’s first application

The third *Federal Report on Sustainable Development* highlights some twenty pressures that characterise the current and future development of our societies. It shows that if current trends persist, these pressures may generate obstacles to a sustainable development. The *TransGovern* model is used to analyse how these pressures modify living conditions. It helps to organise the complex changes brought about to by these pressures and their impacts – direct and indirect – on the various components of the model.

TransGovern can, for example, help to organise the interactions linked to household appliances. The use of these appliances consumes energy and generates a pressure on the environmental capital, in particular through pollution. On the one hand, their use is rising, following, in particular, changes in family structures (demography) – i.e. the increasing number of one-person households and single-parent families – which increase the equipment rate and their use, and thus energy consumption. On the other hand, the same changes in family structure (demography) increase the risk of poverty (human capital), which is more prevalent in single-adult families. Since poor households will often buy cheap, low quality appliances, which are energy inefficient and costly to use, this will indirectly increase the amount of energy used by households and the pressure on the environmental capital.

According to this analysis, a policy to reduce households’ energy consumption should not only provide guidance for the energy efficiency of appliances, but should also consider the purchasing behaviour of the various household categories. Such policy could also contribute to poverty-reduction policies.

This example illustrates the complexity of interactions that must be taken into account in a sustainable development analysis, and how *TransGovern* can help in this task. This example, as well as nineteen others, is detailed in the *third Federal Report on Sustainable Development*. This Report concludes, in particular, that there is a need for more integration in policy analysis and development and for accelerated development of integrated information tools such as *TransGovern*.

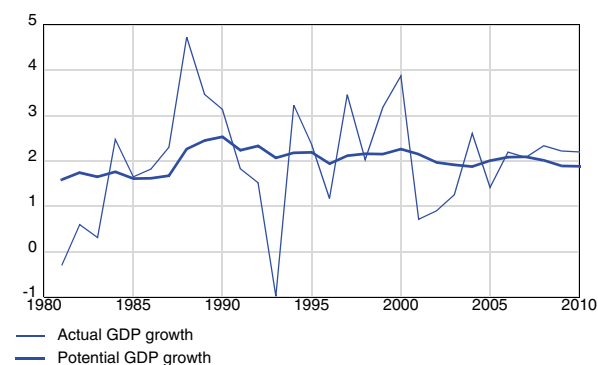
Economic outlook for 2005-2010, dated October 2005

In October the FPB prepared an update of its medium-term economic outlook from April 2005, covering the 2005-2010 period. This updated outlook will serve as the macroeconomic basis for the calculations in the new Belgian Stability Program (prepared for the 2005-2009 period). This projection does not take into account the measures decided within the framework of the 2006 budget.

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

The updated medium-term economic outlook is based on an revised short-term forecast (see economic forecasts for 2005-2006, dated September 2006) and slightly revised projections of growth in potential export markets in the medium-term. The new medium-term forecast shows average GDP growth reaching 2.1% during the 2005-2010 period. As in the economic forecast for April 2005, this development can be largely accounted for by domestic demand. The role of (net) exports is expected to be more limited.

Graph 1 - Actual and potential GDP growth



After moderate growth in 2005, the evolution of private consumption should be more favourable during the 2006-2010 period. This is particularly due to the development in households' disposable income (with a particular stimulus coming from reductions in personal income tax and the rise in employment). Gross fixed capital formation should recover, with growth attaining an average of 2.9% during the 2005-2010 period, mainly reflecting the increase in business investment.

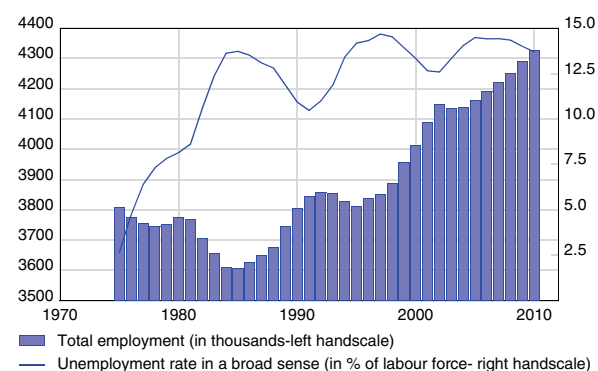
Growth in exports should be 5.0% on average, but the contribution of net exports to GDP growth is expected not to exceed 0.1%. The external surplus is expected to decrease significantly and to reach only 2.4% of GDP in 2010 (against 3.0% in 2004), mainly as a consequence of high prices for imported energy.

Average inflation to exceed 2%

Despite limited wage increases that are compatible with productivity gains, the average inflation rate will slightly exceed 2% in the medium term. This poor inflation performance mainly reflects a steep rise in energy prices at the beginning of the period and continuing high prices afterwards. Only towards the end of the period should the growth of the private consumption deflator fall back again below the 2% mark.

Low impact of employment growth on unemployment rate

Graph 2 - Employment and unemployment



Employment figures are showing a gradual improvement. Nearly 24,000 jobs were created in 2004 and a further 33,000 jobs should be created every year during the 2005-2010 period. This increase is accompanied by ongoing structural shifts in the sectorial composition of employment. Manufacturing will incur a loss of 62,000 jobs and market services will gain 253,000 jobs, bringing its share in total market employment to 74.3% in 2010 (compared to 53.9% in 1980 and 71.0% in 2004). As services industries have relatively lower levels of productivity than manufacturing, these shifts of employment to service industries are an important additional contributing factor in the weakening of trend labour productivity growth in Belgium.

Despite considerable growth in the population of working age (by 0.34% per year on average, but falling back strongly towards the end of the period), the employment rate should rise from 61.7% in 2004 to 63.4% in 2010. This is 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 is only sufficient to reduce unemployment gradually in absolute terms. The decrease in the unemployment rate (broad administrative measure) is limited (from 14.5% in 2004 to 13.3% in 2010) but should accelerate towards the end of the projection. This level is still high, but it should be noted that the growing proportion of people on unemployment benefits who are aged 50 or more could lead to an even wider discrepancy between administrative measures of unemployment and survey measures that register active job seekers.

Public finances not balanced in the medium term

As usual, the exercise assumes that policy will be unchanged. In addition, it does not take into account the measures decided within the framework of the 2006 budget.

A net financing requirement of 0.3% of GDP has appeared in 2005 and should wide to 1.7% in 2006, before gradually falling to 1.1% by the end of the projection period.

The medium-term target of the government (a financing capacity equal to 0.6% of GDP in 2008) is not expected to be reached without additional measures. Nevertheless, the total public debt to GDP ratio should continue to fall, going down by about 12%-points between 2004 and 2010.

Graph 3 - Gross public debt

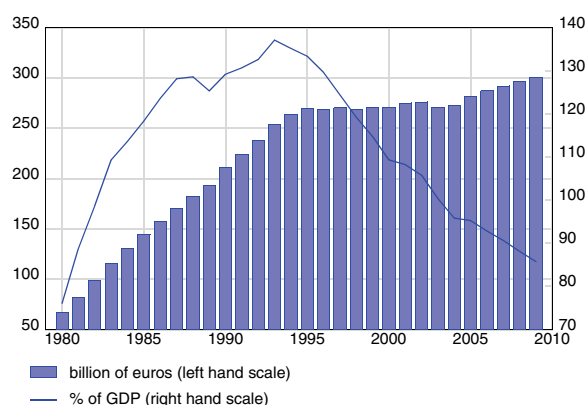


Table 1 - Key figures for the updated medium-term economic outlook in October 2004
(period averages- changes in volume unless otherwise stated)

	1990-1998	1999- 2004	2005-2010
Potential export market	6.1	5.5	6.5
Private consumption	2.0	1.7	1.7
Public consumption	1.3	2.6	2.1
Gross fixed capital formation	2.0	1.5	2.9
Stock building (contribution to GDP growth)	0.0	0.0	0.0
Final domestic demand	1.8	1.9	2.0
Exports	4.4	4.0	5.0
Imports	4.2	3.9	5.2
Net exports (contribution to GDP growth)	0.3	0.3	0.1
GDP	2.0	2.1	2.1
Private consumption prices	2.1	2.0	2.2
Real disposable income households	1.8	1.5	1.7
Domestic Employment (annual changes in '000)	17.0	34.3	33.4
Unemployment rate FPB definition (end of period)			
-thousands	648.5	713.8	679.0
-% of active population	13.9	14.5	13.3
Current account balance (% of GDP,end of period)	5.2	3.0	2.4
General Government financing capacity (% of GDP, end of period)	-0.8	-0.1	-1.1

Economic forecasts for Belgium by different institutions

	GDP-growth		Inflation		Government Balance		Date of Update
	2005	2006	2005	2006	2005	2006	
Federal Planning Bureau	1.4	2.2	3.0	2.9	.	.	09/05
INR/ICN	1.4	2.2	3.0	2.9	.	.	09/05
National Bank of Belgium	1.4	2.2	2.5	2.3	0.0	-0.4	12/05
European Commission	1.4	2.1	2.7	2.6	0.0	-0.3	11/05
OECD	1.4	2	2.6	2.4	0.0	-0.4	11/05
IMF	1.2	2.0	2.3	1.9	-0.8	-2.0	09/05
ING	1.3	2.2	2.8	2.1	0.0	-0.3	12/05
Fortis Bank	1.5	2.4	2.5	2.2	0.0	-0.3	12/05
Dexia	1.6	2.3	2.8	2.0	0.0	-0.3	12/05
KBC Bank	1.3	1.7	2.7	2.2	0.0	-0.5	12/05
Morgan Stanley	1.3	1.7	2.8	2.3	.	.	11/05
Petercam	1.25	1.75	2.75-3.0	1.7	-0.5	-0.75	12/05
IRES	1.3	1.8	2.9	2.4	-0.7	-1.5	10/05
DULBEA							
Consensus Belgian Prime News	1.4	2.0	2.6	1.9	-0.2	-0.8	09/05
Consensus Economics	1.4	1.8	2.4	2.1	.	.	11/05
Consensus The Economist	1.3	1.8	2.5	2.2	.	.	11/05
Consensus Wirtschaftsinstitute	1.4	1.9	2.6	2.1	-0.3	-0.4	10/05
Averages							
All institutions	1.4	2.0	2.7	2.2	-0.3	-0.7	
International public institutions	1.3	2.0	2.5	2.3	-0.3	-0.9	
Credit institutions	1.4	2.0	2.7	2.1	-0.1	-0.5	

Economic forecasts for the euro area by different institutions

	GDP-growth		Inflation		Government Balance		Date of update
	2005	2006	2005	2006	2005	2006	
European Commission	1.3	1.9	2.3	2.2	-2.9	-2.8	11/05
OECD	1.4	2.1	2.2	2.1	-2.9	-2.7	11/05
IMF	1.2	1.8	2.1	1.8	-3.0	-3.1	09/05
ING	1.4	2.2	2.2	1.7	-2.9	-3.0	12/05
Fortis Bank	1.4	2.2	2.2	1.9	-2.8	-2.6	12/05
Dexia	1.4	1.9	2.2	2.1	.	.	12/05
KBC Bank	1.4	1.7	2.2	2.0	-3.0	-3.1	12/05
Goldman Sachs	1.3	1.7	2.3	2.0	-3.0	-3.0	11/05
Morgan Stanley	1.4	1.7	2.2	2.1	-3.0	-2.9	11/05
Consensus AIECE	1.3	1.7	2.2	2.1	-2.8	-2.8	10/05
Consensus Economics	1.3	1.7	2.2	1.9	.	.	11/05
Consensus Wirtschaftsforschungsinstitute	1.3	1.8	2.2	2.1	-2.8	-2.8	10/05
Consensus The Economist	1.3	1.6	2.2	1.9	.	.	11/05
Averages							
All institutions	1.3	1.8	2.2	2.0	-2.9	-2.9	
International public institutions	1.3	1.9	2.2	2.0	-2.9	-2.9	
Credit institutions	1.4	1.9	2.2	2.0	-2.9	-2.9	

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Structural economic performance : introduction and conclusions

The FPB annual benchmarking of structural economic performance has been revised, with due attention to labour market indicators. It 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 of this year 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. The functioning of these markets is considered to determine economic growth and prosperity in the medium and long term. Good performance in these areas is expected to have a positive impact on competitiveness and the allocation of labour and capital. In turn this should move the economy towards a higher growth path.

The new approach has included certain innovations compared to the previous approach. First, each member state has to set clear policy objectives. These must be drawn up in a three-year National Reform Programme (NRP), the first of which was issued in 2005. Second, the NRP must be based on a set of Integrated Guidelines (IG), covering both new BEPG and EG. Third, the IG are stable for a period of three years, during which the member states must make annual progress reports on their implementation. The new approach thus 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 microeconomic 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

More than half of the indicators are drawn from the Structural Indicators (SI) database of Eurostat. This database covers many issues related to economic structure and has been built to follow up the progress of implementing the IG and detect best practices.

Summary of Belgium's performance

Wherever sufficient data was available, comparisons with the EU average in this issue refer to the EU25. In one third of indicators the issue refers to EU15 averages because data was insufficient for the EU25. Where sufficient data was available, reference is also made to the US and Japan.

For almost half of the indicators, Belgium does not perform better or worse than the EU average, where 'better' and 'worse' are interpreted from the perspective of market performance. Examples are real growth, market regulation, innovativeness, ICT use, long-term unemployment and gender gap. For certain indicators, Belgium outperforms the EU average. These are labour productivity, state aid reform, certain environmental indicators, e-government usage and poverty risk. For certain other indicators, however, performance can be improved when considered from the perspective of market performance. These are employment of the oldest age groups, fiscal burden on wages, local telephony prices, electricity prices, greenhouse gas emissions, openly advertised public procurement and transposition of internal market directives.

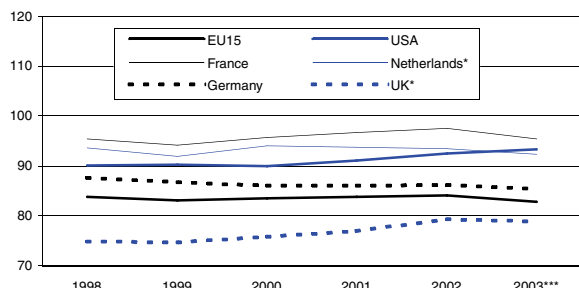
During recent years a catch-up with the EU average has been observed for potential growth, female employment, fiscal burden on labour and consumption, life-long learning, and, recently, for electricity prices. Some divergence from the EU average, however, was recorded for local telephony prices, transposition of internal market directives and openly advertised public procurement.

A comparison with Belgium's neighbouring countries shows that best practices are often found in the Netherlands and the UK. In about two thirds of indicators, either or both of these two countries perform significantly better than Belgium, France and Germany. This implies that even for indicators for which Belgium is close to the EU average there is still room for improvement.

Best practices are also found in the US and Japan. To achieve the performance observed in these two countries, Belgium and many other EU countries need to improve on the employment rate, innovativeness, spending on ICT, entrepreneurial activity, market regulation, local telephony prices, railway development, youth unemployment and the gender gap. In most of these cases the gap between the country with the best practice certain EU countries is considerable.

Policy objectives: productivity and employment

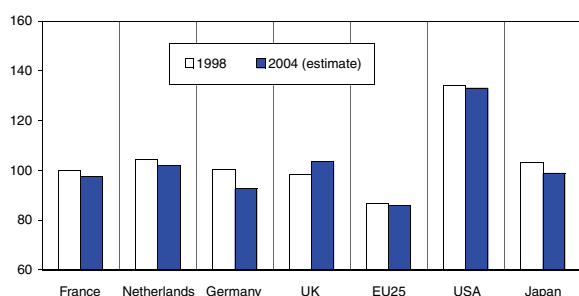
Graph 1 - GDP per hour worked (Belgium*=100)**



Source: FPB, based on Eurostat, NewCronos (domain Structural Indicators), and OECD
 (*) Estimates (**) Measured in PPS (***) Estimates

GDP per hour worked in Belgium is high. Between 1998 and 2003, Luxembourg was the only EU country that exceeded the Belgian figures. Also, a slight upward trend for the Belgian figures is observed: the forecast of the Belgian GDP per hour worked for 2003 is 21% higher than the EU15 average. For the UK, which has the lowest GDP per hour worked in the EU15 member states, an upward trend of 6%-points was estimated for 1998 to 2003. Germany was able to maintain GDP per hour worked at the average EU level between 1998 and 2003. The French and Dutch figures are high but below the Belgian figures.

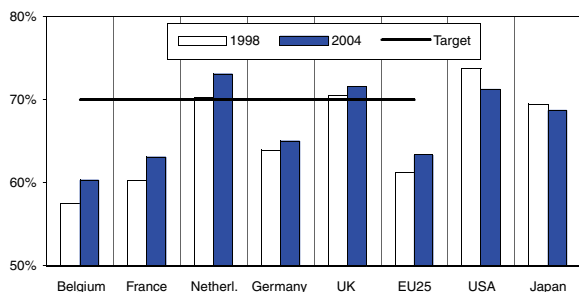
Graph 2 - GDP per capita, in PPS (Belgium=100)



Source: FPB, based on Eurostat, NewCronos (domain Structural Indicators)

Belgium improved its GDP per capita compared to the EU25 average by 1.2%-points between 1998 and 2004. Compared to the EU15, the improvement was even higher at 2.1%-points. A poor performance was observed in Germany (-7.8%-points with respect to Belgium). The UK had the best performance at 5.3%-points more than 1998.

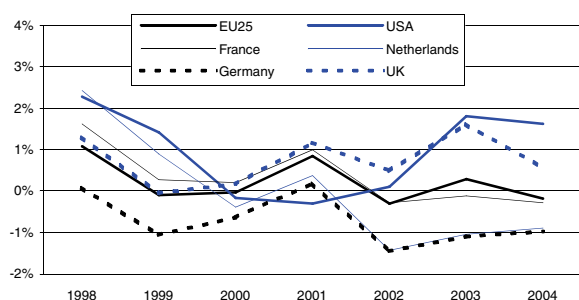
Graph 3 - Total employment rate*



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

In Belgium, the progress towards full employment is unsatisfactory. The overall employment rate remains below the European average. After rising sharply during the second half of the nineties, it has remained stable at around 60%. During the 2001-2005 period, the slow growth registered in Belgium did not allow the employment rate to rise in spite of weak productivity gains (+1.4% in average) and an average increase of 20,300 jobs per year in the market sector. This was because the working-age population continued to grow by nearly 22,000 people per year. In certain countries, such as the US, the Netherlands and Germany, the employment rate has gone down.

Graph 4 - Real GDP growth differential with Belgium



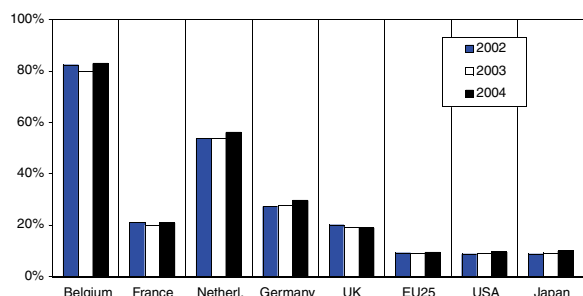
Source: FPB, based on AMECO-database

Economic growth rates are close to the EU25 average and in between the growth rates of the neighbouring countries. Potential growth rates exclude business-cycle influences. Instead, they focus on the evolution of labour, capital and productivity as structural determinants of economic growth. With a potential growth rate of 2.1% per year for the past decade, Belgium is close to the EU15 average. Over the same period, German potential growth was less than 1.5%, whereas the UK and the US achieved about 3%¹. Potential growth in Belgium is expected to remain at around 2.1% during the coming years. The contribution of productivity growth to the potential growth rate is expected to increase, whereas the contribution of labour is expected to fall to zero due to the falling number of hours worked per employee.

1. Source: Rigo, C., 2005, De potentiële groei van de Belgische economie en zijn determinanten. *Economisch Tijdschrift*, Nr.3-2005, Nationale Bank van België.

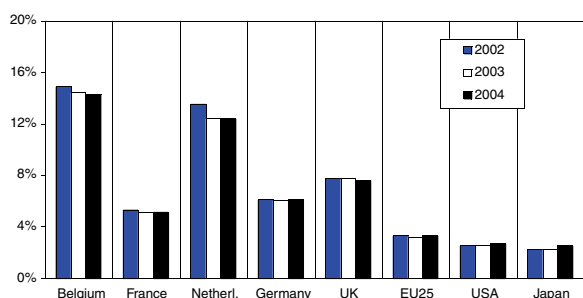
Policy objectives: openness and FDI

Graph 5 - Trade integration of goods, in % of GDP*



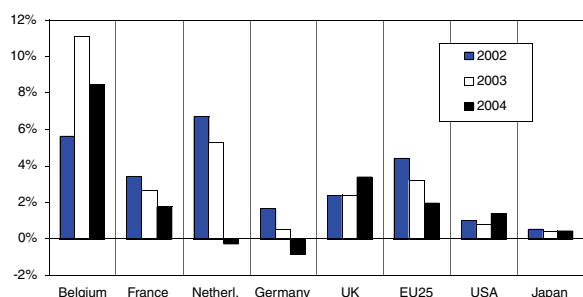
Source: Eurostat, NewCronos (domain Structural Indicators)
 (*) Average value of exports and imports of goods divided by GDP

Graph 6 - Trade integration of services in % of GDP*



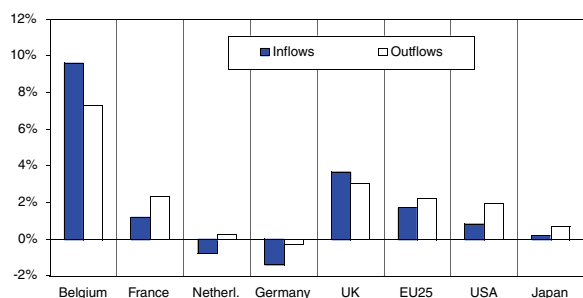
Source: Eurostat, NewCronos (domain Structural Indicators)
 (*) Average value of exports and imports of services divided by GDP

Graph 7 - FDI intensity, in % of GDP*



Source: Cnuceo (FDI flows) and Eurostat (GDP)
 (*) Average value of inward and outward FDI flows divided by GDP

Graph 8 - FDI flows, in % of GDP (2004)



Source: Cnuceo (FDI flows) and Eurostat (GDP)

Belgium is a very open economy. In 2004, the country remained at the top of the EU25 countries in terms of trade integration of goods, with a share of 82.9%, and an increase of 3.1%-points compared to 2003. In fact, with the exceptions of the UK and Malta, all EU25 members¹ have registered an upward shift for this indicator over the last year. New EU members are generally more internationally integrated than old ones, especially Poland, which had a share of 62.8%, an increase of 7.7%-points compared to 2003. The shares of US and Japan increased slightly and were just above the EU25 level for 2004.

Statistics varied widely between most countries for the market integration of services. A downward shift has characterized Belgium since 2002, and its share has declined from 14.9% to 14.3% of GDP. Yet the country performed well overall in 2004, especially compared with its neighbouring countries. The noteworthy exception is Luxembourg, for which the market integration of services has gained nearly 10%-points over two years, to reach 87.1% in 2004. The average measure for the EU25 is relatively stable (at around 3.3%) and larger than those for the US and Japan (each around 2.6%). However, the gap seems to have narrowed over recent years.

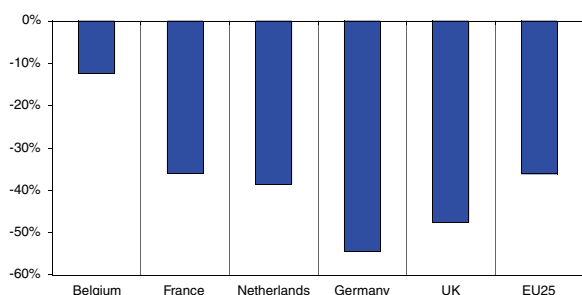
International investment is closely related to globalisation. After a substantial rise in 2003, FDI intensity declined in Belgium to 8.4% of GDP in 2004. A similar trend was observed in the bordering countries, with a negative share in Germany (-0.8%) and in Denmark (-4.3%). While the UK was among the few EU members that improved its FDI intensity in 2004, the Netherlands and Ireland also experienced a major fall. For the EU25 overall, this measure has declined over recent times.

Regarding the direction of flows, Belgian FDI inflows exceeded outflows in 2004 (9.6% versus 7.4% of GDP), while the opposite observation had been made in 2003. The FDI percentages scored by other countries were far below those for Belgium. They have fallen in Ireland, Germany and the Netherlands over the past year. For the two latter countries, as for France, FDI outflows were larger than inflows in 2004. Also, the US and Japan have recently invested more abroad than they have received in foreign investment.

1. Data for Ireland are not available in 2004.

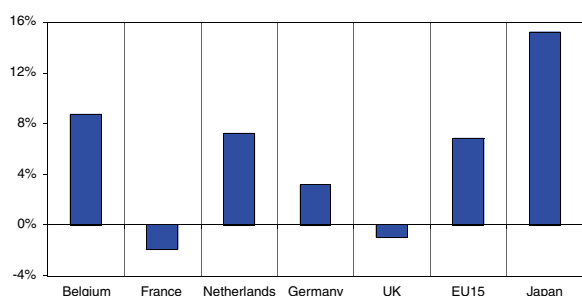
Policy objectives: environment

Graph 9 - Emission of tropospheric ozone precursors, % change 1990-2002*



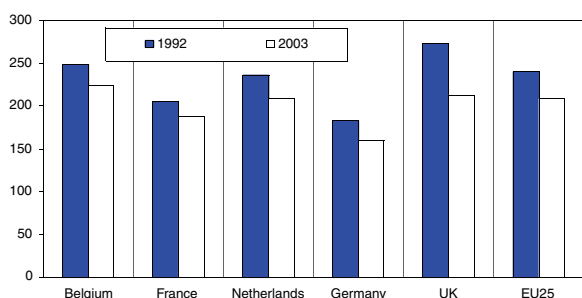
Source: Eurostat, NewCronos (domain Environment and Energy)
 (*) Tropospheric ozone formation potential (TOFP) equivalent, 1000 tonnes

Graph 10 - Greenhouse gas emission deviations from 2010 target (2003)



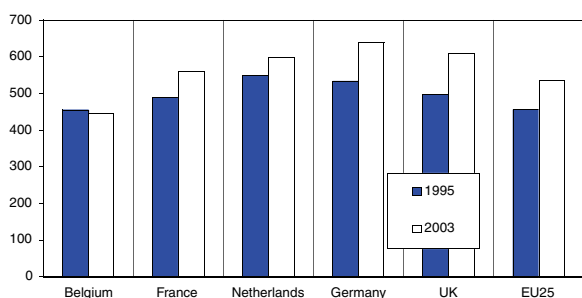
Source: Eurostat, NewCronos (domain Structural Indicators)

Graph 11 - Energy intensity*



Source: Eurostat, NewCronos (domain Environment and Energy)
 (*) Consumption of energy, measured in kilograms of oil equivalents per 1,000 EUR of GDP

Graph 12 - Municipal waste collected, in kg/person



Source: Eurostat, NewCronos (domain Environment and Energy)

As regards air pollution, Belgium has performed worse than its neighbouring countries and the EU25. Although decreases in acidifying substances and tropospheric ozone precursors were achieved, these were less pronounced. Between 1990 and 2002 Belgium achieved a decrease of 35% of the former and of 12% of the latter, while the corresponding decreases in the EU25 were of 47% and 36%. To meet its Kyoto protocol obligations, Belgium needs to obtain an average decrease over the 2008-2012 period of its greenhouse gas emissions of 7.5% of the 1990 level. Belgium still has a longer way to go to fulfil its commitments than the EU15. The lacklustre performance of Belgium in the field of air pollution can partly be explained by the high energy intensity of its economy. Furthermore, the decrease of this energy intensity of 10% between 1992 and 2003 was smaller than the decrease for the EU25.

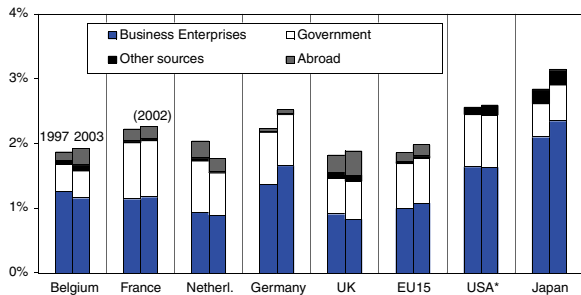
Due to the low rate of connection of the population to waste water treatment plants and a relatively high surplus of nitrogen per hectare, water pollution was also higher in Belgium than in its neighbouring countries. There were problems not only with the quality of coastal and inland waters, but also with the quantity of freshwater abstracted in order to sustain the Belgian economy. Together with Germany, Belgium was the only country exceeding the warning threshold of 20% of the water exploitation index. Mean annual freshwater abstraction was over 40% of mean annual freshwater resources. However, drinking water safety was higher in Belgium than in its neighbouring countries. Of the number of hazardous substances on the Water Framework Directive's priority list, the smallest number was found in Belgian drinking water.

As concerns waste generation, Belgium outperformed its neighbours. While municipal waste collected per person in the EU25 increased by 17% between 1995 and 2003, in Belgium it decreased by 2%. As a consequence, municipal waste collected per person in Belgium in 2003 was only 84% of the EU25 average, whereas in 1995 it was still approximately equal to the EU25 average.

Regarding biodiversity, in 2003 9.9% 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 EU15 as a whole. Between 1991 and 2001 the population of farmland birds decreased much faster than in the EU25, but this was also the case in Belgium's neighbouring countries.

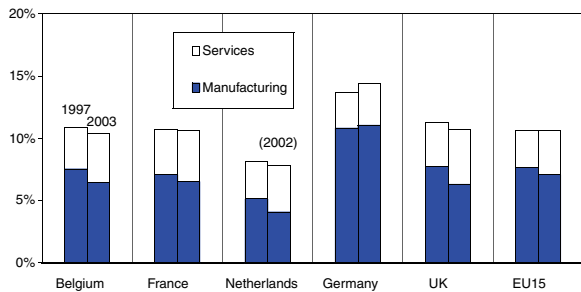
Micro-economic: R&D and innovation

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



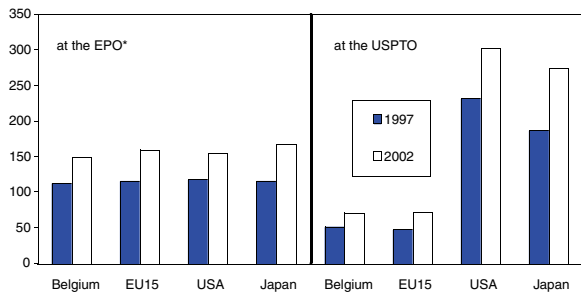
Source: Eurostat, NewCronos (domain R&D)
 (*) Provisional values for 2003

Graph 14 - Share of MHT sectors in total employment*



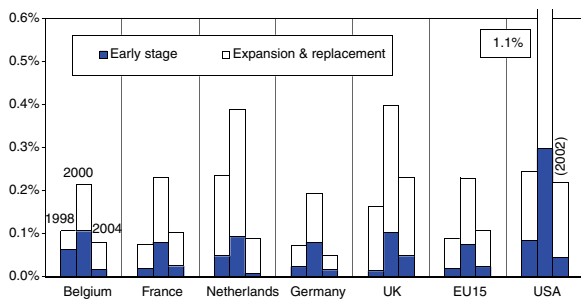
Source: Eurostat, NewCronos (domain Statistics on high-tech industries and knowledge-intensive services)
 (*) MHT = medium- and high-technology sectors

Graph 15 - Patent applications per million inhabitants



Source: Eurostat, NewCronos (domain Structural Indicators)
 (*) Provisional values for 2002

Graph 16 - Venture capital investment as % of GDP



Source: Eurostat, NewCronos (domain Structural Indicators)

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 fell below the European average in 2003 (1.92% of GDP in Belgium, against 1.98% in the EU15) as the result of declining R&D intensity in Belgium since 2001.

Belgian enterprises financed R&D at a level of 1.16% of GDP in 2003, which was above the European average. However, this percentage is lower than the level achieved in Belgium in 1997. Large enterprises are responsible for the majority of R&D activity and have played an important role in the fall of Belgian R&D expenditure. R&D intensity financed by the public authorities reached 0.42% of GDP, which was significantly below the European average for 2003. This proportion has also declined in the last two years.

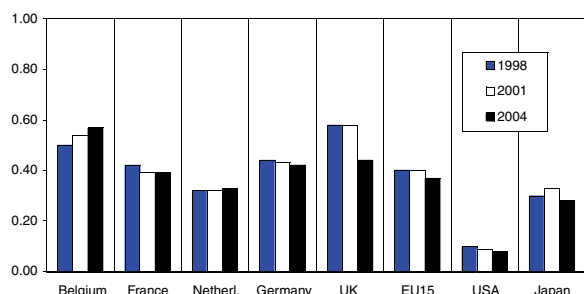
R&D activities and innovation are concentrated in the medium- and high-technology sectors (MHT). In Belgium, the most R&D-intensive industries are electronic-equipment manufacture and chemicals. In 2003 the MHT sectors represented 10.4% of total employment in Belgium, which was close to the European average (10.6%) and similar to the level achieved in 1997 (10.8%).

The number of patent applications is an indicator of the productivity of innovation and R&D. In 2002, 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 18.7% 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.

Easy access to venture capital promotes the dissemination of innovation. In 2004, investment in Belgium in venture capital amounted to 0.08% of GDP, which was slightly lower than the European average (0.11%) and the levels achieved by its neighbours, with the exception of Germany. However, investment in expansion and replacement has strongly increased in the last year in Belgium (from 0.03% to 0.06% of GDP), while it has remained constant on average in Europe. This growth allowed to narrow the gap between Belgium and the European average.

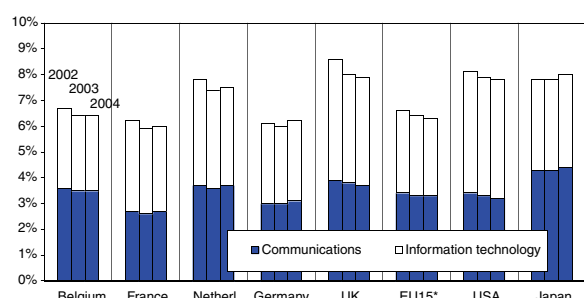
Micro-economic: communications

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



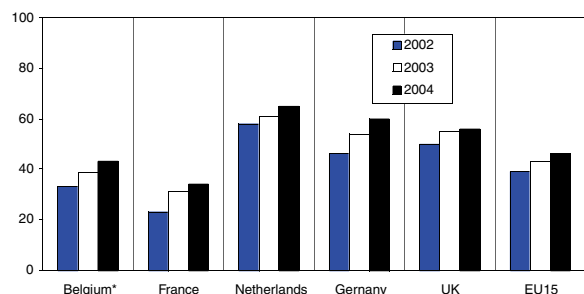
Source: Eurostat, NewCronos (domain Information Society Statistics)

Graph 18 - Expenditures on ICT as % of GDP



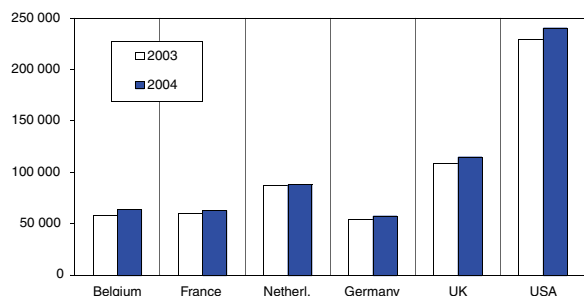
Source: Eurostat, NewCronos (domain Structural Indicators)

Graph 19 - Internet connections per 100 households



Source: Eurostat, NewCronos (domain Information Society Statistics)
 (*) 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

In July 2005 a new law transposing the EU electronic communications package came into effect. The major provisions of this law concern free entry, consumer protection, control of market power and universal services. 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 under price control. By March 2005, the number of fully unbundled local lines amounted to only 0.18% of the incumbent's copper lines. The number of mobile subscriptions reached the equivalent of 88% of the population in 2004. The mobile incumbent now offers commercial UMTS¹ services for business customers. The fixed incumbent offers digital TV services via its telephony network.

Prices in Belgium show a rising trend in recent years. The fixed incumbent's nominal prices increased 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. Expenditure has fallen slightly in recent years. Among the neighbouring countries, the Netherlands and the UK perform better and achieve the US and Japanese levels of about 8%. It should be noted that the EU25 average for 2004 was very close to the EU15 average for the same year.

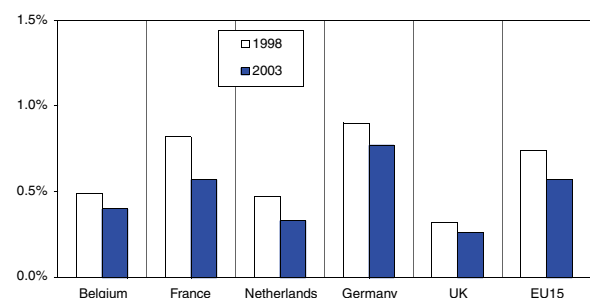
The growth rate for the number of Internet connections in Belgium is slowing, as is the case in most other North-West European countries. New growth may be contingent on the extension of computer equipment within households. In December 2004, broadband access accounted for 79% of all connections, and for 92% of business connections.

The number of postal items processed in Belgium increased by 1.8% during 2004. In the same period, the number of employees of the incumbent (De Post/La Poste) decreased by 6.9%. These developments led to a remarkable improvement in productivity of 9.3% in one year, in terms of items processed per employee. 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. UMTS stands for Universal Mobile Telecommunications System. It is also called the third generation (3G) of mobile communications and allows for intensive data transmission (internet) via mobile networks.

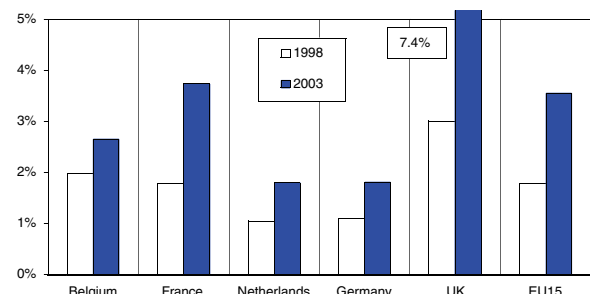
Micro-economic: internal market and competition

Graph 21 - State aid, as % of GDP*



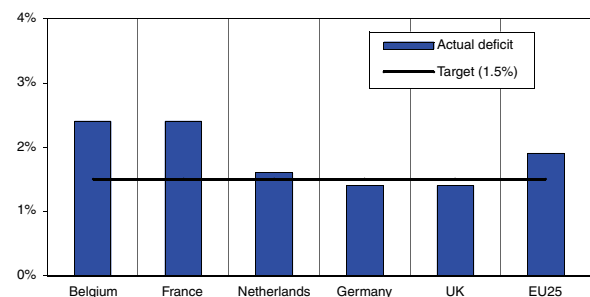
Source: European Commission, DG Competition
 (*) Total state aid, excluding support for railways, but including support for agriculture and fisheries

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



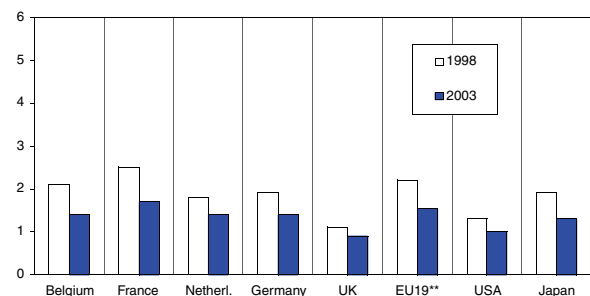
Source: Eurostat, NewCronos (domain Structural Indicators)
 (*) Advertised in the Official Journal of the European Communities

Graph 23 - Transposition deficit of internal market directives (1 June 2005)*



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

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 0.74% of GDP in 1998 to 0.57% in 2003. Belgium's level initially remained around the 0.5% mark during this period, but in 2003 a fall to 0.4% was observed. The UK granted the least aid, giving 0.26% of GDP, followed by Luxembourg and the Netherlands. Belgium was fourth in the EU15.

In 2001 the Stockholm European Council asked member states not only to reduce state aid but also to redirect aid towards horizontal objectives. In 2003, Belgium, Luxembourg and Sweden achieved the 100% horizontal objective. As laid down in the State Aid Action Plan 2005-2009, 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.

Following the growing e-government dominance of economic life, two new public procurement directives were agreed in 2004 and have to be implemented in January 2006. Electronic procurement in the public sector will be possible and the current legal framework will be simplified and made more flexible. Also, new evaluation indicators will be set up. Openly-advertised public procurement, as a percentage of GDP, doubled between 1998 and 2003 in the EU15. The UK had the best performance with 7.4% in 2003. The evolution in Belgium lagged behind that of the EU15.

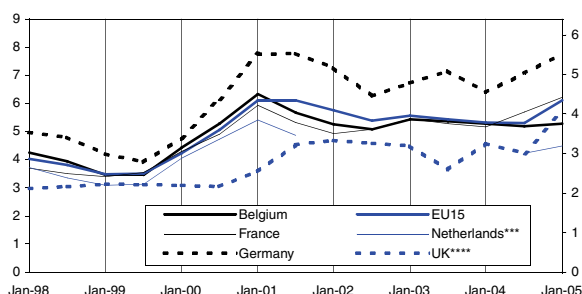
Belgium is ranked only 17th in the transposition of internal market directives. Last year, the Belgian performance worsened from a deficit of 2.1% in 2004 to 2.4%. However, many other member states made impressive progress. The new member states are performing better than the EU15, despite having to absorb the whole body of Community law. Nevertheless, only six member states of the EU15 reached the deficit target of 1.5% or below in 2005.

In contrast, 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 investment¹. 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. Its index fell from 2.1 to 1.4 on a scale of 6. The UK, the US and Australia kept their leading positions with indices as low as 0.9.

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.

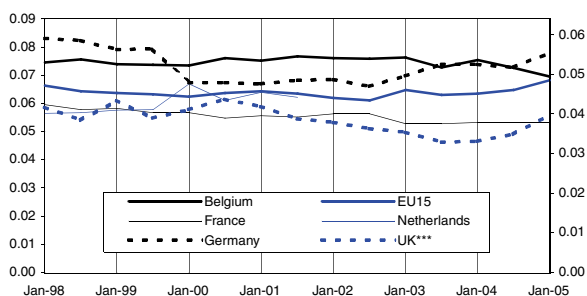
Micro-economic: network industries

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



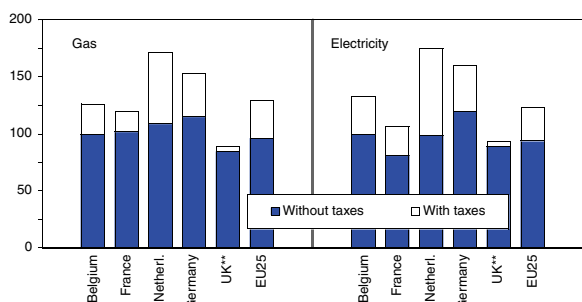
Source: Eurostat, NewCronos (domain Environment and Energy)
 (*) Standard consumer group: industry 41,860 GJ/year, net of taxes
 (**) Up to 1999 measured in Ecu/GJ (***) No data for 2002-2003
 (****) £/GJ, right-hand scale

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



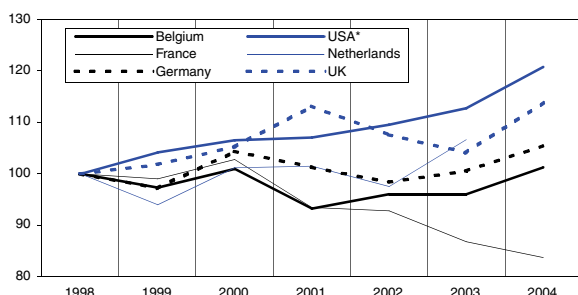
Source: Eurostat, NewCronos (domain Environment and Energy)
 (*) Standard consumer group: industry 2 GWh/year, net of taxes
 (**) Up to 1999 measured in Ecu/kWh (****) £/kWh, right-hand scale

Graph 27 - Energy prices for households (Jan 2005; Belgium=100)*



Source: Eurostat, NewCronos (domain Environment and Energy)
 (*) Standard consumer group for gas 83.7 GJ/year, for electricity 3,500 kWh/year
 (**) Based on: £1 = EUR 1.40

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



Source: FPB/BfP, own calculations based on UIC and NMBS/SNCB
 (*) Referring to the Class 1 railways (± 90% of rail freight traffic)

The evolution of gas prices is mainly driven by the development of international gas prices, which are closely related to oil prices. Until mid-2004, gas prices for the standard industrial consumer category using 41,860 GJ per year (as defined by Eurostat) were higher in Belgium than in all its neighbouring countries except Germany, and were moving close to the EU15 average. In the second half of 2004 prices remained stable, while prices in other member states rose significantly. When taxes are included for this period, Dutch prices rose slightly above those for Belgium, and Belgium thus became the cheapest of the analysed countries.

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, a remarkable evolution was observed during 2004. Prices in Belgium fell by 7.9%, whereas they rose significantly in Germany and the UK and in the EU15 on average. When taxes are included, Belgium's position is basically unchanged, but the convergence to the EU15 average becomes somewhat weaker because of recent tax increases.

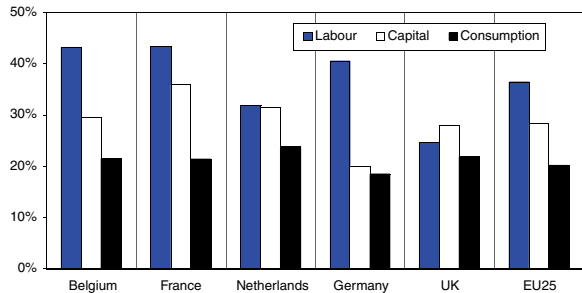
Similar trends can be observed for households. Gas prices, both including and excluding taxes, are very close to the EU15 and EU25 averages and, since the 2001 price reform, lower than in most neighbouring countries. Electricity prices have remained higher than in most neighbouring countries, but the difference has reduced. 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.

Freight traffic by rail has done better in Germany, the UK and the Netherlands than in Belgium and France since 1998. 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 14th and 18th, respectively¹. Likewise, the US has a high level of liberalisation. In a growing transport market, the stability of Belgium's level of rail traffic has translated into a falling market share. Compared to other modes (road, inland waterways and pipelines), rail accounted for 12.9% of transport in Belgium in 2002, whereas it had accounted for 21% in 1990.

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

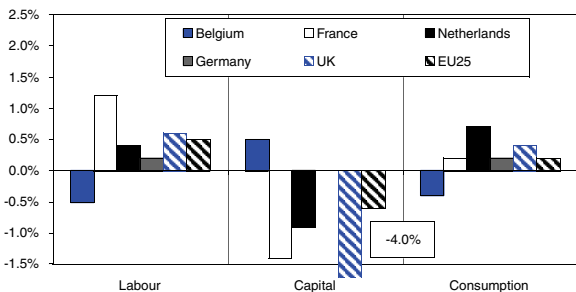
Micro-economic: taxation and business climate

Graph 29 - Implicit tax rates (2003)*



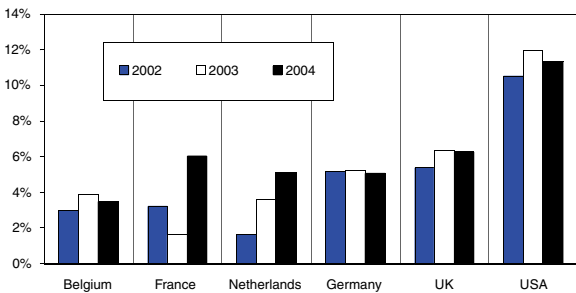
Source: European Commission, The structures of the taxation system in the EU
 (*) Ratio of total tax revenues of the category (labour, capital, consumption) to a proxy of the potential tax base defined using the production and income accounts of national accounts.

Graph 30 - Changes in implicit tax rates, %-points (2002-2003)



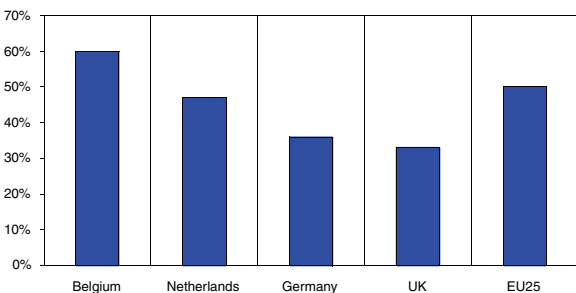
Source: European Commission, The structures of the taxation system in the EU

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 (2004)* **



Source: Eurostat, NewCronos (domain 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

In 2003, the taxation structure in reported countries remained roughly the same as previously, with higher rates of tax levied on labour, except in the UK where capital taxation still dominates.

Specific shifts in taxation have, however, been observed for Belgium. Implicit tax rates both on labour and consumption dropped in 2003 (by around 0.5%-point), against an increase in the neighbouring countries. This reflects the recent fiscal reforms in Belgium, based on a reduction of the level of employers' social security contributions in general, and the stimulation of low-wage employment and the subsidisation of the hiring of specific categories of labour¹. Hence, the implicit tax rate on labour became slightly lower in Belgium (43.2%) than in France (43.3%). Nevertheless, the current Belgian taxation burden on labour remains relatively high with respect to other European countries (except for Sweden, at 46.1%). At the same time, the Belgian implicit tax rate on capital increased in 2003 while decreasing, or stabilising, in neighbouring countries. The most remarkable change on capital taxation was registered in the UK, with a fall of 4%-points. In all tax domains, fiscal pressure was stronger in Belgium in 2003 than in the (base-weighted) EU25.

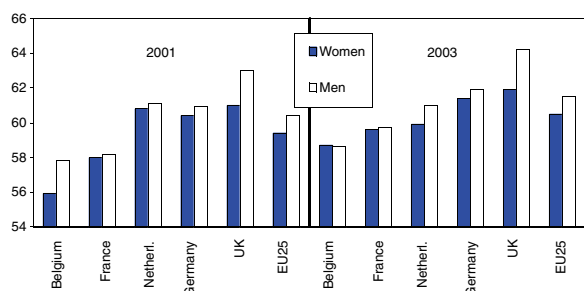
The quality of the business climate is closely related to the level of dynamism in entrepreneurship. From that prospective, the Total Entrepreneurial Activity (TEA) Index indicates a lagging position for Belgium over recent years. The proportion of individuals actively involved in new or young businesses appears to be low with respect to other countries, and especially the US. In contrast with Belgium, France has recently improved on its unfavourable 2003 entrepreneurship ranking.

Developments in e-government reflect the efforts made by public authorities to help enterprises to evolve in a competitive framework and to stimulate private initiatives. It is therefore important to analyse how enterprises respond to these developments. Belgium performs well when compared to its neighbouring countries: 60% of Belgian enterprises used the Internet for interactions with the government in 2004, 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.

1. Taxation on low-wage earners is discussed in the section related to labour market.

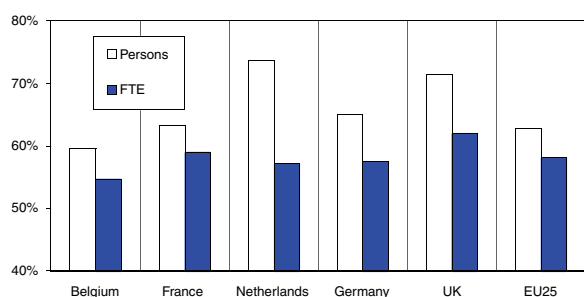
Labour market: participation

Graph 33 - Average exit age from the labour force



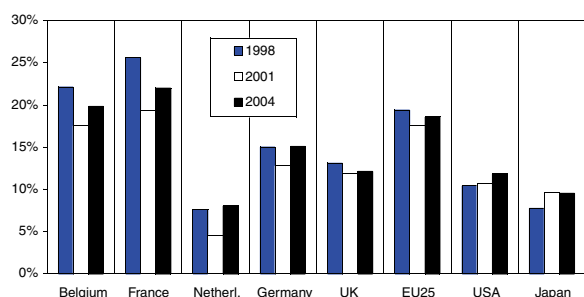
Source: Eurostat (Labour Force Survey) and European Commission (DG Employment)

Graph 34 - Employment rate of persons versus FTE (2003)* **



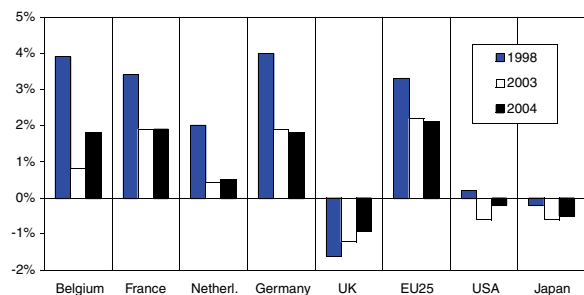
Source: Eurostat (Labour Force Survey)
 (*) FTE = full-time equivalents. (**) Males and females aged 15-64

Graph 35 - Youth unemployment rate (-25 years)



Source: Eurostat (Unemployment Harmonised Series)

Graph 36 - Unemployment rate, gender gap females-males



Source: Eurostat (Unemployment Harmonised Series)
 (*) Standard consumer group: industrial consumer 2 GWh/year, net of taxes
 (**) Up to 1999 measured in Ecu/kWh, (***) £/kWh, right-hand scale

The Belgian female employment rate has been constantly going up since the beginning of the nineties and is catching up with the European average. In 2004, it amounted 52.6%, which is still 3%-points under the European average¹.

The Belgian employment rate of older workers is the lowest in Europe (30% in 2004 against 41% in the EU25). It has been rising since the mid-nineties and catching up strongly with the EU25 average, but not yet sufficiently. In spite of a small increase, especially for women, the average exit age from the Belgian labour market is the lowest in the EU (58.6 years). The recent "Generation Pact" drawn up by the federal government 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.

Expressed as full-time equivalent, the employment rates at the European level are less dispersed than the employment rates per person. It shows the diversity of scope of reduced-time work (part-time, temporary work, etc.) in the member states. Part-time work is largely widespread in the Netherlands, where the employment rate decreases from 73.6% when calculated per person to 57.1% 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 2003, the full-time equivalent employment rate amounted to 54.7%, which is 3.3%-points under the European average (EU25).

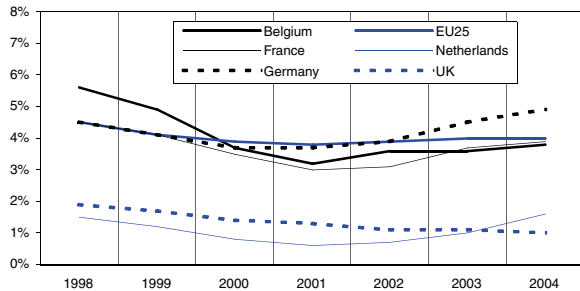
Since the beginning of the decade, youth unemployment has increased in Europe as well as in the US. This increase can be explained by weak economic growth. In the UK, where growth has been stronger, youth unemployment has stabilised at 12%. This factor counters efforts to improve young people's inclusion in the labour market through job search assistance. In Belgium, youth unemployment is high (nearly 20% in 2004), although close to the EU25 average.

As far as the gap between the male and female employment rates is concerned, a downward trend can be noted across Europe. The Belgian performance is similar to the EU25 average. 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 2004. 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.

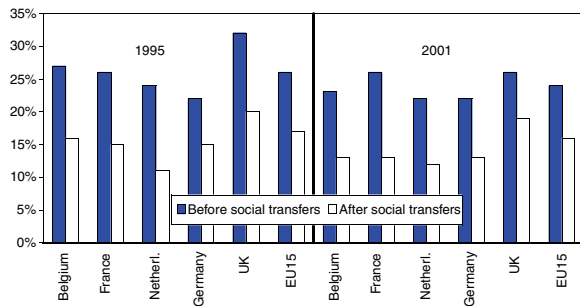
Labour market: social cohesion

Graph 37 - Long-term unemployment rate*



Source: Eurostat (Quarterly Labour Force Data)
 (*) 12 months and more, as % of the active population

Graph 38 - At risk of poverty rate*



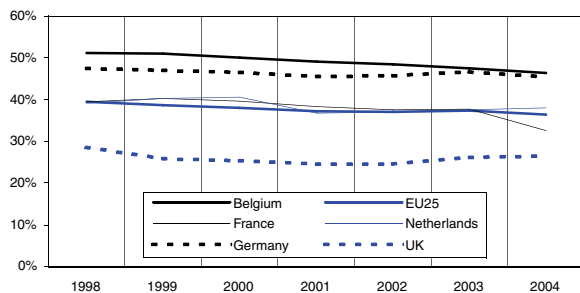
Source: Eurostat (European Community Household Panel)
 (*) Share of persons with an equivalised disposable income below the risk-of-poverty threshold, which is set at 60% of the national median equivalised disposable income (after social transfers).

Graph 39 - Diversity of contractual and working time arrangements (2003)



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. The Belgian position has improved since the end of the nineties. At present, it is approaching the EU25 average, whereas the German rate has clearly deteriorated.

Between 1995 and 2001 there was a drop in the poverty risk rates before social transfers. This also indicates a greater inclusion of those most excluded from the labour market, thus contributing to the eradication of poverty. The decrease in poverty risk rates is strongest in Belgium and the UK, whereas the rates in Germany and France have 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 high in France and relatively low in the UK, which still has the highest risk of poverty. Note that Belgium has the lowest rate of poor workers (as have Germany and Denmark), who account for 4 % of the working population (2001).

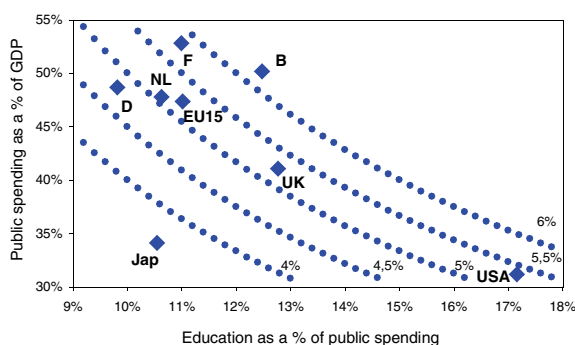
The diversity indicator shows how flexible employment legislation is with respect to the diversity of contractual and working-time arrangements. The Netherlands has the highest indicator as a result of the intensive application of part-time labour, which is on an almost completely voluntary basis. France has the lowest indicator, and, surprisingly, German legislation seems to result in more flexibility than British legislation. The flexible working possibilities that result from the Belgian legislation 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 severe 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 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 or are in the pipeline (Budget 2006) 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.

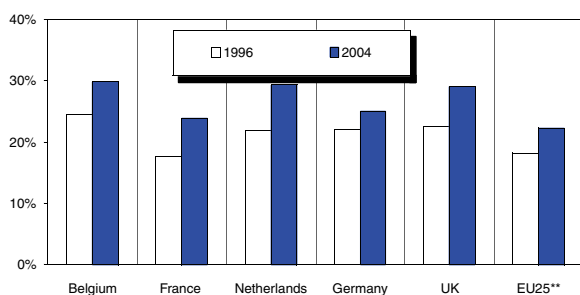
Labour market: education

Graph 41 - Public spending on education (2002)*



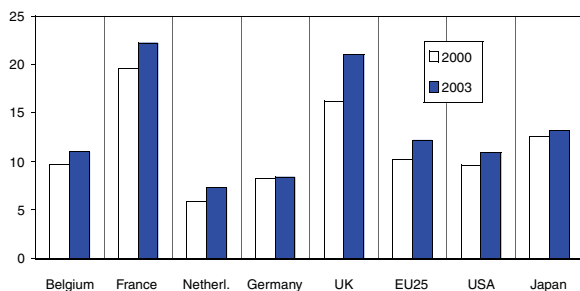
Source: Eurostat, NewCronos (domain Education)
 (*) On both public and private institutions

Graph 42 - People with higher education*



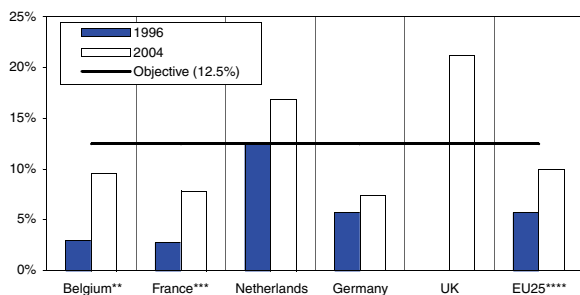
Source: Eurostat, NewCronos (domain Labour Force Survey)
 (*) Percentage of people aged 25-64 who completed higher education (ISCED 5-6)
 (**) 1996: EU15

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



Source: Eurostat, NewCronos (domain Structural Indicators)
 (*) Number of persons per 1000 of population aged 20-29 who graduated in science and technology at post-secondary level (ISCED 5 and above) during the given year

Graph 44 - Participation in life-long learning*



Source: Eurostat, NewCronos (domain Labour Force)
 (*) % of people aged 25-64
 (**) Break in series for 1999
 (***) EU15 for 1996. Break in series for 2003.

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 2002, about 6.3% of GDP (shown along the curved dotted lines in Graph 36) or 12.5% 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 higher in Belgium (29.8% in 2004) than the EU25 average (22.2%) 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 (% of the 20-29 year old age group) 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 (9.5% in 2004) is still below the EU25 average (9.9%) and the Lisbon objective (12.5% by 2010). Moreover, data from the 2003 Social Balance sheet has shown that companies' budgets for vocational training programs have declined in the last two years, dropping to 1.2% of total labour costs in 2003.

Third Federal Report on Sustainable Development: Understanding and Managing Development

The publication of the third Federal Report implements the Belgian Act of 5 May 1997 on the Coordination of Federal Sustainable Development Policy. This Act institutes a strategic process of reporting, planning, implementation and monitoring in order to introduce policies at the federal level that contribute to the goals of sustainable development. This report assesses the existing situation in Belgium and the current policy on sustainable development. It also provides some tools and a road map to build sustainable development scenarios for the future.

The first two Federal Reports both highlight the fact that the transitional process towards a sustainable development has engaged Belgium in a society's project on a global scale as well as on a local scale. They emphasise that the stakes involved require the definition of very long-term objectives (2050) and of realistic intermediary targets (e.g. 2012, 2020, etc.) that are consistent with the very long-term objectives. The third Federal Report shows that Belgium has already partly met the global project's expectations by signing a series of international agreements, most importantly the Plan of Implementation drawn up at the World Summit on Sustainable Development in Johannesburg in September 2002. It also shows that there is still a long way to go before development is managed according to the principles of sustainable development.

The third Federal Report stresses that three principles of sustainable development – the integration, participation and precautionary principles – should, from now on, be better implemented in a sustainable development policy. It proposes methods and tools to apply these principles to the federal government's actions in favour of sustainable development.

In Part 1, the Report describes a global systemic framework for understanding and analysing society's development. The model links the long-term transformation of life conditions (the driving forces of development, the human, environmental and economic capitals, and their interaction) together with government policies. This model is called *TransGovern*, short for *Transformation of living conditions through Governing*.

Part 2 of the Report examines the transformation of life conditions. Twenty pressures are highlighted. They originate from the driving forces reviewed in the Report – demographic structure, consumption and production patterns – and they cause some worrying changes in the human, environmental and economic capitals. These

changes are the result of complex processes (indirect effects, feedbacks, mutual reinforcement, etc.), which the *TransGovern* model makes easier to understand. The Report analyses, among other factors, the pressure of new employment forms (production patterns) on the standard of living and on health (human capital), the pressure of transportation (production and consumption patterns) on climate change (environmental capital) and the pressure of ageing (demographic structure) on the standard of living (human capital) and on financial patrimony (economic capital).

This examination of current trends is extended in Part 3 of the Report with a general evaluation of federal policy on sustainable development and of the Federal Sustainable Development Plans for 2000-2004 and 2004-2008. This evaluation shows that at least 71% of the 622 measures proposed in the first Federal Plan, led to concrete action during the period 2000-2004. The assessment also reveals that there is capacity for further integration of policies. Part 4 of the Report widens the vision on the federal policy by evaluating the federal strategy on sustainable development. It shows that the sequence of steps in that strategy could be improved.

Finally, Part 5 of the Report opens up the way to consider alternative policy scenarios which aim to achieve sustainable development objectives based on the commitments endorsed by the international community. It proposes a methodology for developing these scenarios on the basis of backcasting and a participative approach, and applies it to a few examples. The Federal Report finally recommends adopting, as from January 2006, a road map for creating participative scenarios for sustainable development, based on the backcasting method thus paving the way for a fourth Federal Report.

The Report is completed by a supplement presenting an update and a classification of the sustainable development indicators (SDI) that were published in the first two Reports. The SDI make it possible to describe and project social, environmental and economic phenomena for which the situation or evolution is particularly representative sustainable development issues.

"Comprendre et gouverner le développement, 3^{ème} Rapport fédéral sur le développement durable 2000-2004"

"Ontwikkeling begrijpen en sturen, 3de Federaal Rapport inzake duurzame ontwikkeling 2000-2004"

Task Force Sustainable Development, FPB, 2005

The Report comes with a presentation folder.

The Report exists in French and in Dutch.

Monetary Policy, Asset Prices and Economic Growth in the World Economy: 1995-2004

This Working Paper assesses the worldwide macroeconomic implications of an interest-rate rule whereby the major central banks of the world target changes in asset prices in addition to changes in the consumer price index. The inclusion of asset prices reflects the fact that the household sector's intertemporal utility depends not only on contemporaneous prices, income and wealth, but also on future prices, income and wealth.

This Working Paper starts with a brief description of the major worldwide macroeconomic developments during the 1995-2004 period, and illustrates that, across the major areas of the world economy, changes in asset prices did not affect interest rate policy in a significant way. A broad-based interest rate rule is then specified whereby the central banks target changes in asset prices in addition to targeting changes in contemporaneous consumer prices. The target values for the asset prices in the new interest rate rule are obtained by applying a Hodrick-Prescott filter to the historical data.

In the second part of the Working Paper, the NIME world macroeconomic model is used to calculate how the macroeconomic variables of the major areas of the world economy would have evolved for the 1995-2004 period, if the central banks of these areas had implemented a broad-based interest rate rule. The simulation results show that up to 2000, interest rates would have risen above their historical baseline levels in the euro area and the United States. For example, the US short-term interest rate would have been 1.4%-points above its historical baseline in 1999, while the short-term interest rate of the euro area would have been 0.9%-points above baseline in 2000. The increased interest rates in the euro area and the United States would have lowered domestic demand by increasing the cost of investment and reducing household wealth. However, as the rate increases would have been highest in the United States, the US dollar would have appreciated against the other major currencies, thereby restraining export growth in the US and stimulating export growth from Europe and, in particular, from Japan.

After 2000, the implementation of the broad-based interest rate rule would have led to a fall in interest rates below the historical baseline levels in the euro area and the United States, and domestic demand would have risen above the historical baseline in both areas during this period. Once again, the effect of the interest rate cuts on exchange rates is not straightforward. All areas except Japan would have benefited from significant interest rate cuts. However, in Japan, such cuts would not have been possible, as Japanese monetary authorities had already pushed historical nominal interest rates down to their lower bound.

On balance, the counterfactual simulation indicates that, when measured in terms of discounted cumulative deviations from baseline, a broad-based interest rate rule would have pushed the euro area's gross domestic product (GDP) above its historical level by about 0.3% by the end of the 1995-2004 period and would have reduced US GDP by about 0.6% by the end of the same period. Finally, it should be noted that although the new interest rule lowers output variability, the rule itself is based on target values obtained from a filtering process applied to a historical outcome. In real-time, however, formulating targets for asset prices may not be so straightforward as they may be subject to great uncertainty, rendering their use an additional source of volatility.

*“Monetary Policy, Asset Prices and Economic Growth in the World Economy over the 1995-2004 Period: A counterfactual simulation with the NIME Model”,
E. Meyermans, P. Van Brusselen,
Working Paper 17-05, December 2005.*

Model of The Self-Employed Pension Scheme (MoSES)

In order to evaluate the budgetary cost of ageing by 2050, the FPB uses a self-developed model called the MALTESE model (Model for Analysis of Long-Term Evolution of Social Expenditure). This model contains a module for each social security branch. Although the module concerning the pensions in the wage earners' scheme is highly sophisticated, this has not been the case for the module concerning the pensions of the self-employed. The new MoSES model (Model of the Self-Employed Scheme) completes MALTESE by providing extensive and detailed modelling of these pensions.

The MALTESE model provides the macroeconomic and social-demographic framework for the MoSES model: it notably simulates the evolution of the number of self-employed workers and pensioners in the scheme and gives average income projections. The MoSES projection of the evolution of the average pension in the self-employed scheme is integrated into the overall MALTESE projection, which notably simulates the evolution of total pension expenditure in the self-employed scheme.

MoSES is a model made up of typical cases, characterised by several variables, such as gender, class of activity (which determines the income level), type and length of career, and type of pension. The breakdown of the different types of pensions is based on the classification of the National Office for Pensions (RVP/ONP). A specific projection of the average pension is drawn up for each category. This average pension is then projected for consecutive years, making a distinction between the pension of those who have retired in the previous years (applying, wherever appropriate, a coefficient for welfare adjustment) and the pension of those going into retirement in the course of the year.

The pension of those "entering" the scheme is calculated on the basis of two elements: the length of the career and the income associated with the different classes of activity. The model makes a distinction between two kinds of career: "pure", i.e. the careers of workers who have never had any other status than "self-employed", and "mixed", i.e. the careers of those who have also worked as employees. For each of these categories, we consider six typical lengths of career. The eligibility conditions for a possible granting of the minimum pension are also taken into account.

For income projection per case, the self-employed population is divided into 60 classes of activity (following the NACE-Bel nomenclature). A specific income is used for each of the 60 different activity classes. Indeed the pen-

sion of self-employed depends notably on the "reference income", which is determined by the incomes of the career from 1984 onwards and by a standard fixed income in the years prior to 1984.

The inclusion of all of these elements results in the calculation of 720 pensions ($2 \times 6 \times 60$) for each RVP/ONP category. Each pension is calculated according to the regulations in force and is then compared with the minimum pension prevailing during the retirement year. This minimum pension replaces the calculated pension if the individual who represents the category is 'eligible'. The scheme's average pension is then computed using a weighted average.

The model highlights the importance of the transitional period during which the calculation takes into account both the reference income of the years prior to 1984 when the standard fixed income system was still in force and the real income of the years from 1984 onwards. This transitional period ends in 2030 and is characterised by weak growth of the average pension, declining to slight negative growth at the end of the period. Detailed modelling of the regulation of the standard fixed income makes it possible to analyse its effects and shows that, contrary to intuition, replacing a standard fixed income by a real income in the pension calculation is not always favourable for the self-employed. This is especially true for self-employed women, whose real income is mostly lower than the standard income.

A second feature highlighted by the model is the great importance of the minimum pension in the self-employed pension scheme. In fact, the minimum pension almost totally nullifies the complex effects of the legislation on calculation of the pension for the self-employed. Overall, the growth rate of the average amount of pension appears to depend much more on the growth of the minimum pension than on other variables, such as the growth of self-employed income or the evolution of income ceilings. This situation is fundamentally different from that in the wage-earners' pension scheme, where income growth and upper wage limits play an essential role. It should be noted that the proportion of male beneficiaries of the minimum pension in the self-employed pension scheme is decreasing. Women make up an increasing proportion of beneficiaries because they will have longer careers in the future than in the past.

"MoSES (Model of The Self-Employed pension Scheme) : une modélisation du régime de pensions des travailleurs indépendants", B. Scholtus, Working Paper 18-05, December 2005.

Other Recent Publications

The NIME Economic Outlook for the World Economy,
August 2005

"A Medium-Term Outlook for the World Economy
2005-2011 - Focus: Monetary Policy, asset Prices and
Economic Growth"

Planning Paper 98, May 2005

"Réforme de marché dans les industries de réseau en
Belgique - Markthervorming in netwerkindustrieën
in België", J. van der Linden

Planning Paper 99, January 2006

"Overheidsparticipaties in de marktsector in België,
1997-2003 - Participations publiques dans le secteur
marchand en Belgique, 1997-2003"
H. Spinnewyn

Working Paper 10-05, May 2005

"Hervorming van de spoorwegsector in België.
Lessen uit Groot-Brittannië, Duitsland en Zweden"
P. Mistiaen

Working Paper 11-05, May 2005

"Hervorming van de posterijen in België. Lessen uit
Zweden en Nederland", J. van der Linden

Working Paper 12-05, June 2005

"Analyse van de rubber- en kunststofnijverheid -
Analyse de l'industrie du caoutchouc et des plas-
tiques", B. van den Cruyce

Working Paper 13-05, June 2005

"Innovatie en O&O in de Belgische gewesten in een
Europees perspectief - Innovation et R&D dans les
régions belges dans un perspective européenne"
J. Fiers

Working Paper 14-05, June 2005

"Quelle énergie pour un développement durable ?"
A. Henry

Working Paper 15-05, July 2005

"De financiële implicaties van langer werken: een
Micro-Economisch Pensioenmodel (MEP)"
G. Dekkers.

Working Paper 16-05, September 2005

"Determinanten van internationale lokalisatie, met
toepassing op de Agoriabranche - Déterminants de
la localisation internationale, avec application aux
secteurs Agoria"
B. Hertveldt, C. Kegels, B. Michel,
B. Van den Cruyce, J. Verlinden, F. Verschueren

Research in Progress

Transport and mobility

The FPB undertakes research in this area in coopera-
tion with the federal "Transport and Mobility" ad-
ministration. In particular, transport satellite
accounts and a transport model are constructed. The
aim is to get a better grasp of the relationship be-
tween transport, mobility and the economy and to
analyse the impact of transport and mobility policies
on the Belgian economy.

contact: dg@plan.be

Health care expenditure

Different research projects concerning the determi-
nants of health care expenditure are currently under-
way, in collaboration with various agencies and
institutions.

contact: mln@plan.be

Social policy and long-term budgetary challenge

The FPB is investigating the impact of the 1996 pen-
sion reform and the dynamics of the pension benefits
for self-employed and for civil servants, as well as

the budgetary impact of adjusting social benefits to
welfare.

contact: maltese@plan.be

Public finances and macroeconomic performance

The FPB is complementing its studies into the inter-
actions between macroeconomic performance and
different categories of public revenue and expendi-
ture. Tax shift operations are being scrutinized in
particular.

contact: fb@plan.be, db@plan.be

EU-KLEMS

As a partner in a European consortium, the FPB
works on the development of a database that would
allow the evaluation of European performance in
terms of prices, output and intermediate consump-
tion. An additional aim is that the database would al-
low an analysis of the determinants of certain
measures of productivity, in particular total factor
productivity (TFP).

contact: ck@plan.be

Recent history of major economic policy measures

- November 2005 The Danish Post and the British investment group CVC agreed with the federal government to acquire a 50%-1 stake in the postal incumbent De Post/La Poste. This will be done by investing fresh capital rather than taking over government shares.
- October 2005 At the October conclave, the federal government announced its objectives for public finances for 2006. These are based on assumptions of 2.2% economic growth (1.4% in 2005) and 2.9% inflation (3.0% in 2005).
The finances of general government should remain balanced. The federal government and state governments (communities and regions) should each record a 0.1% of GDP surplus. These surpluses should compensate for the forecasted 0.3% GDP deficit in local government finances, related to a temporary surge in infrastructure investment ahead of the next municipal elections. A balance in the social security budget will be achieved through increased transfers from the federal government.
The total state debt-to-GDP ratio should decrease from 94.3 % at the end of 2005, to 90.7 % at the end of 2005.
The government intends to keep the growth of expenses strictly under control, both in the federal departments and in social security. However, the budget preserves room for manoeuvre for new initiatives in the areas of mobility, justice and security, in health care expenditure, and for selected increases in social allowances.
Additional cuts in social security contributions have been decided, targeted on those categories of workers with the lowest rates of activity: young low-wage earners and workers aged 50 or above. These wage-cost reductions are part of the "Solidarity Contract between Generations" proposed by the government, together with the 2006 budget, which also contains various regulatory proposals to discourage early retirement from the labour market. Furthermore, wage subsidies for night-time labour and labour organised in shifts have been increased, as have wage subsidies for researchers.
Taxation in the 2006 budget is marked by the introduction of new levies for households on the previously-exempt income from bond funds and insurance-related saving vehicles. On the other hand, the recently-decided corporate tax reform (the "notional interests" deduction) will encourage the financing of companies through risk capital rather than debt. This reform will reduce the corporate tax burden and thus make the Belgium tax system more attractive for foreign investors, compensating, through a general solution, for the planned dismantling of the special regime for coordination centers.
As was the case in previous years, the 2006 budget partly relies on non-structural corrective fiscal measures, notably the creation of a public/private investment trusts for the management of public real estate properties, new sales of real estate and a second wave of securitisation of future cash flows from tax arrears. A so-called "tax regularisation operation" is also envisaged, together with a reinforcement of the anti-fraud machinery.
- September 2005 The federal government decided to contribute to the cost of fuel oil for heating for private consumers. It will pay the difference between the consumer price and 0.5 euros per litre, with a ceiling of 17.35% of the total price.
Furthermore, the so-called 'fuel oil fund' will help people in need to pay their bill.
- June 2005 The implementation of the EU package of directives on electronic communication was finalised by the publication of a new telecommunications act. The most significant element of this act is that telecom providers no longer need regulatory authorisation to enter the market. A notification to the regulator is sufficient.
As of tax year 2007, financing investments through equities can lead to a reduction in the tax base of corporate income tax, to the amount of the so-called "notional interests". This measure aims at reducing the gap in the tax incentives between different financing vehicles.
Two new acts amending the 1999 legislation on electricity and gas come into force. Significant elements of these acts are the independence of the electricity and gas transport system operators (TSO), and the implementation of multi-annual instead of annual network tariffs. This latter measure is primarily intended to reduce uncertainty for potential suppliers and also to reduce the administrative burden on the TSO and the regulator. The new acts transpose certain elements of the 2003 EU directives on energy market reform into Belgian law.
- May 2005 In accordance with EU legislation, the Walloon government decides to open up the remaining parts of the regional electricity and gas markets in 2007.
- April 2005 The federal government confirms the objective of keeping the budget in balance in 2005. To this end, various measures are taken and a very strict system for monitoring expenditure is put in place, particularly for the health care sector.

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