

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

On the basis of its short term economic forecast of September and revised figures for the medium-term international economic environment, the FPB has updated its medium-term outlook 2007-2012. GDP growth should reach 2.1% on average and should be driven by both domestic demand and exports, although the structural loss of export market shares should remain significant: while growth in our potential export markets will reach 6.8% a year on average, exports are expected to record an average annual increase of 5.4%.

The growth of private consumption (1.8% on average) should be in line with the growth of real disposable income (1.9% on average). Gross fixed capital formation should continue to register sustained growth, attaining an average of 3.1%, mainly reflecting an increase in business investment, but also an acceleration of public investment in view of the local elections of 2012.

Inflation (as measured by private consumption deflator growth) should be below 2% on average during the projection period, despite an acceleration in 2008: inflation could even climb to 2.5% next year, according to the latest update of the monthly inflation forecasts of FPB. Limited wage increases (lower than productivity gains), the increase in interest rates, a negative output gap and a moderate increase in imported costs are the main factors accounting for the low inflation rate in the medium term.

Total employment will increase by more than 40,000 jobs a year on average during the projection period, due to sustained economic growth combined with persistently modest labour productivity (1.4% per year). Due to ongoing structural shifts in the sectoral composition of employment, the manufacturing industry will incur a further loss of 6,000 jobs a year on average, whereas market services should gain 46,000 jobs a year. The employment rate is expected to increase from 62.6% in 2006 to 65.4% in 2012; the fall in the unemployment rate (from 13.8% in 2006 to 11.0% in 2012 - broad definition) should accelerate at the end of the projection period, when baby-boomers will leave the labour force on a massive scale.

The pace of employment growth should have nearly doubled during the period 2001-2012 compared with the previous decade, despite very similar average economic growth rates for both periods.

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

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

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Why the medium-low paid benefit less from gross wage increases than the better paid

Although cuts in employers' and employees' social-security contributions (SSCs) are designed to enhance the employment of low-skilled and low-productive labour, across-the-board gross wage increases may weaken the effectiveness of these policies. Some of the disincentives on medium-low employment could be remedied by adapting the rules for SSC cuts or by reforming the personal-income tax system.

Following an across-the-board gross wage increase and assuming no adjustments in fiscal and SSC legislation, take-home wages of the medium-low-wage earners will increase by far less in comparison with other wage categories, undermining their supply of labour, while their total wage cost will increase by far more, undermining demand for their labour. The article will break down the overall marginal tax burden into the impact of SSC and personal-income tax parameters.

Fiscal and SSC parameters used in the calculations

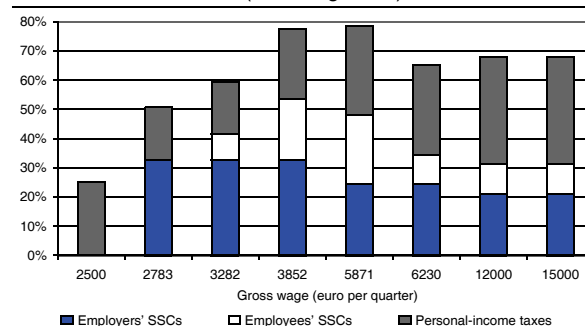
All rates are defined as a percentage of gross wages, unless stated otherwise. The income levels marked out on the horizontal axis of Graphs 1-4 correspond to the income thresholds spelled out by the legislation on SSC cuts. Wages and SSC cuts are per quarter. The analysis of the SSC rates is based on the 2007 parameters (second quarter) of the "harmonised structural measure" (employers' SSC cuts) and the "work bonus" (employees' SSC cuts). Employers' and employees' SSC cuts cannot exceed the contributions that are legally due (32.35% and 13.07% of the gross wage). The personal-income tax rates apply to a full-time working single earner without dependents, who qualifies for the tax brackets and tax allowances prevailing in 2006. This tax payer claims only the standard default tax allowances prescribed by law. Additional tax breaks, relating e.g. to mortgages, third-tier pension funding, etc., are ignored. Being mostly lump-sum, these tax breaks would lower the average income tax rate for all income brackets, but also lower the marginal income tax rate for low income brackets at the expense of higher marginal rates for medium-low incomes, exacerbating the marginal fiscal pressure on medium-low gross wages.

Overall marginal tax burden

The share of taxes on labour in the marginal wage cost rises from 25% to 50% for very low wages, peaks at 78% for medium-low gross wages and flattens down at 68% for high wages (Graph 1). The reasons are that SSC reductions are a mixture of fixed-amount and degressive cuts, causing marginal SSC rates to be particularly high for medium-low-wage earners, and that marginal per-

sonal-income tax rates rise fast for medium-low income brackets.

Graph 1 - Overall marginal tax rate on labour and its breakdown (% of wage cost)



Wage cost: employers' SSC cuts and rates

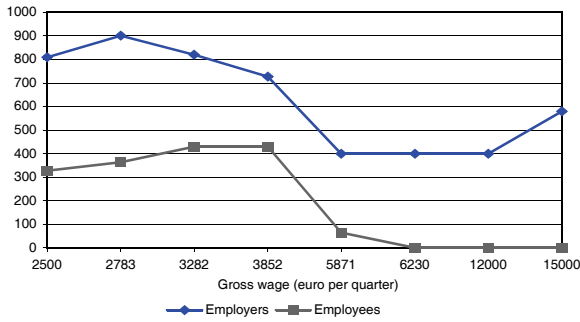
Although employers' SSC cuts apply to all employment in businesses, they are more generous for the lower-paid (see Graph 2). The low-wage focus itself is appropriate because cutting payroll taxes on low-wage labour (broadly defined) creates more jobs than across-the-board employers' SSC cuts, as demonstrated by e.g. the Federal Planning Bureau¹ and a number of UCL researchers². The basic reduction is an across-the-board cut (€400 per quarter), which is topped up with a low-wage supplement (for gross wages up to €5,870 per quarter – i.e. about 35% of the workforce employed by businesses) or a high-wage supplement (for wages in excess of €12,000). As the differential between the low-wage threshold and the actual wage narrows, the low-wage supplement is phased out (with a slope of 0.162). The high-wage supplement increases with the differential between the actual wage and the high-wage threshold (with a slope of 0.06). Special-category supplements, varying between €30 to €1,000 per quarter, may come on top of that. They are linked to the age of the employee (the youngest and the oldest groups), the nature of the firm (start-ups), the working hour regime (4-day working week), the level of formal education (low formal education), or the employee's employment history (first-time employed, long-term unemployed). Since most of those additional special-category employers' SSC cuts expire after a period of time, they are ignored in the analysis here.

As a result, employees earning up to €2,783 and not belonging to any of the special categories entitled to sup-

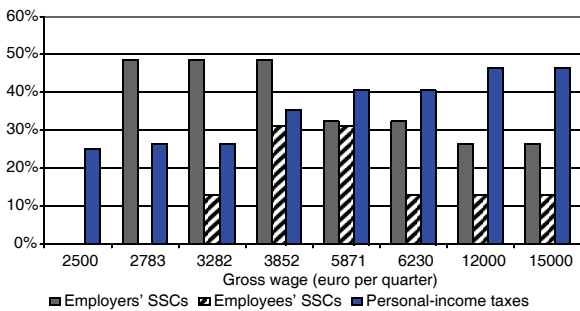
1. D. Bassilière et al (2005), Socialezekerheidsbijdrageverminderingen en alternatieve financiering van de sociale zekerheid / Variantes de réduction des cotisations sociales et de modalités de financement alternatif, Federal Planning Bureau Planning Paper 97.
2. B. Cockx., H. Sneessens, B. Vanderlinden, Evaluations micro et macroéconomiques des allègements de la parafiscalité en Belgique, Politique scientifique fédérale et Academia Press, Gent, 2005

plementary employers' SSC cuts, are exempt from employers' SSCs altogether and face zero marginal SSC rates (Graph 3). The wage categories that do not enjoy wage-related SSC cuts (from €5,870 up to €12,000) face a constant marginal SSC rate, equal to 32.35%. Those earning more than €12,000 are taxed at a lower marginal SSC rate: 26.35% (32.35 minus 0.06). And, spectacularly, medium-low-wage earners are subjected to a far higher marginal SSC rate: 48.55% (32.35 plus 16.20).

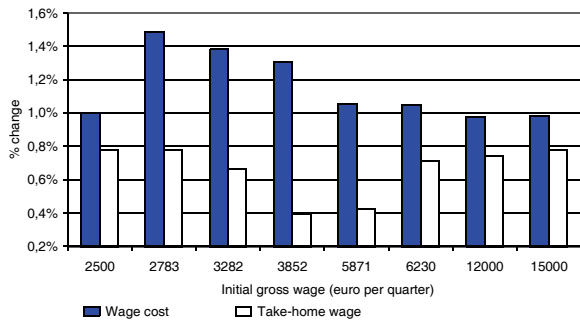
Graph 2 - Cuts in Social-Security contributions



Graph 3 - Marginal SSC and personal-income tax rates (% of gross wage)



Graph 4 - Impact of 1% rise in the gross wage on wage cost and take-home wage



A 1% rise in the gross wage raises the wage cost of the very low-paid (up to €2,783 gross per quarter) by 1% (Graph 4), by 1.05% or less the wage cost of those earning more than the low-wage threshold (€5,870 gross per quarter). In contrast, employees whose gross wage is situated in the declining section of the employers' SSC reduction curve, face far higher increases in the wage cost, starting from a painful 1.49% that gradually eases off to 1.05%. The inverted-U impact on wage costs hurts the competitiveness of the medium-low paid in terms of wage cost. Employees who started off at very low wages, will face either an increasing reluctance by employers to let them move up the pay scale or an increasing

likelihood of losing their job.

Take-home wages: employees' SSC cuts and rates and personal-income tax rates

Disincentives also appear on the supply side. Low-wage earners are entitled to a reduction in employees' SSC cuts (Graph 2), which should make low-skilled and low-productive labour force more inclined to accept low-paying jobs. The SSC cuts amount to at most €429 per quarter for gross wages up to €3,852 per quarter, and gradually fall for gross wages exceeding that threshold, becoming zero for wages exceeding €6,230. It is precisely the phasing-out of the employees' SSC reductions that may have perverse effects on the supply of labour, a complication already reported by Valenduc (2007)¹ for the year 2002. Very-low-wage earners (up to €3,282) are exempt from paying employees' SSC and face zero marginal SSCs (Graph 3). Employees earning more than the low-wage threshold (€6,230) face effective and marginal SSC rates equal to 13.07%. In contrast, medium-low-wage earners also face marginal SSC rates that are far higher than 13.07% (up to 31%). Moreover, personal-income taxes seem to penalise low-wage earners more at the margin than other income groups (Graph 3) due to the combination of rising nominal tax rates and falling marginal tax allowances. The biggest increase in marginal personal-income tax rates (from 24% to 40% of the gross wage) occurs between the low and medium-low end of wage distribution.

As a result, a 1% increase in gross wages translates into a 0.8% rise in the take-home wages of the very-low-wage earners, a 0.7% rise for employees earning more than the low-wage threshold, but only a poor 0.4% for the medium-low-wage earners (Graph 4). The feeble response of take-home wages may blunt labour supply in several ways: either by a general reluctance to supply more labour or by an aversion to be promoted into slightly better paid jobs that command higher responsibility in the workplace.

Fixing the problem

Some of the disincentives to medium-low-wage employment could be remedied. Indexing the parameters of the SSC cuts to the overall gross wage would remove the creeping drain on low-wage SSC cuts over time. Applying the low-wage supplement to all wages would imply constant marginal SSC rates and still maintain lower average rates at the low-wage end. A personal-income tax reform could tackle the fast rise in the marginal rates for medium-low incomes.

1. Valenduc C. (2007), Taxation du travail, emploi et compétitivité, FOD Financière / SPF Finances, p 45.

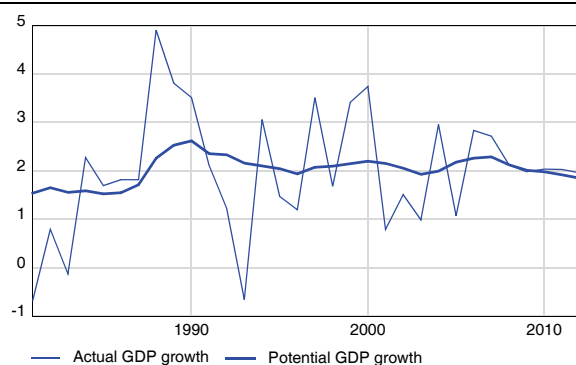
Economic outlook for 2007-2012

In October the FPB prepared an update of its medium-term economic outlook from May 2007, covering the 2007-2012 period. This new outlook should serve as the macroeconomic basis for the calculations in the new Belgian Stability Programme.

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

Based on an updated short term forecast (see economic forecasts for 2007-2008, dated September 2007) and revised growth in potential export markets and in international prices in the medium term, the new medium-term forecast shows average GDP growth reaching 2.1% during the period 2007-2012 (1.7% for the period 2001-2006). As in the economic forecast for May 2007, this development can be largely accounted for by domestic demand, as well as by the performance of exports.

Graph 1 - Actual and potential GDP growth



After moderate growth in 2005, private consumption has become more dynamic in 2006, particularly due to the favourable development in household disposable income (stimulated especially by reductions in personal income tax and by the rise in employment). From 2007 onwards, household demand growth should stabilise at a rate equal to 1.8% on average. Gross fixed capital formation should continue to register sustained growth, attaining an average of 3.1% during the 2007-2012 period, mainly reflecting the increase in business investment, but also an acceleration of public investment at the end of the projection.

Growth in exports should be 5.4% on average and the contribution of net exports to GDP growth is expected to be 0.1%-points. The external surplus, which strongly reduced between 2002 and 2005, should grow again and attain 3.1% of GDP in 2012. The level of the external surplus also reflects a high level of domestic savings, compared to the European standards.

Inflation will not exceed 2% on average

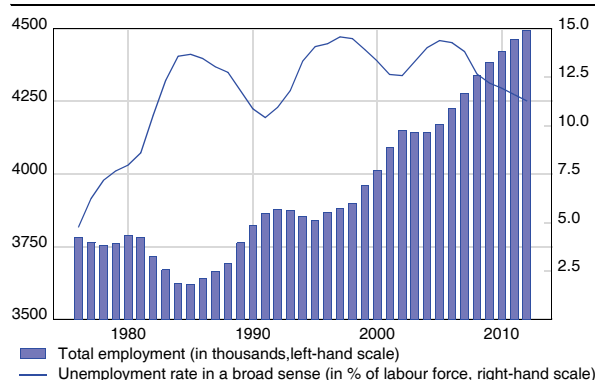
Limited wage increases (lower than productivity gains), the increase in interest rates, a negative output gap (until 2012) and a moderate increase in imported costs are the main factors accounting for an inflation rate that will not exceed 2% on average and will remain below this level in the medium term.

Significant fall in the unemployment rate

In a context of a favourable macroeconomic environment (GDP growth equalling 2.1% per year on average) and persistently modest labour productivity growth (1.4% per year), employment will increase substantially (0.9% growth per year on average; 247,000 extra jobs between 2006 and 2012). This increase is accompanied by ongoing structural shifts in the sectoral composition of employment, with manufacturing incurring a further loss of 36,000 jobs and market services gaining 273,000 jobs, bringing its share in total employment to 61.6% in 2012 (43.2% in 1980 and 58.8% in 2006).

With value added growth slightly falling and productivity growth slightly increasing over the coming years, employment growth will gradually level off (from 1.1% in 2007 to 0.7% in 2012). However, based on current official population forecasts, the growth in the working-age population will diminish even faster (from 0.5% in 2007 to -0.1% in 2012). Hence, the employment rate will increase from 62.6% in 2006 to 65.4% in 2012, at an accelerating pace.

Graph 2 - Employment and unemployment



Because the age structure of the population of working age is shifting in favour of the older age groups - whose participation rates tend to be lower than average - the overall contribution of demographic factors to labour force growth is turning negative. On the other hand, labour force growth will be supported by the structural rise in the female participation rate and by policy meas-

ures designed to boost activity at the top of the age scale. On balance, the labour force will still grow in the medium run (0.5% on average per year; increase of 117,000 persons), but by far less than employment, with unemployment hence diminishing substantially over the period (130,000 persons) and the unemployment rate falling from 13.8% in 2006 to 11.0% in 2012. This labour market scenario implies a considerable decrease in the structural unemployment rate. The underlying assumption is that the upward pressure on the latter from an ageing and regionally unevenly growing labour supply will be sufficiently countered by the various measures in place that are aimed at enhancing active labour market search and increasing the pay-off of job searching.

Slight surplus for the public finances in the medium term

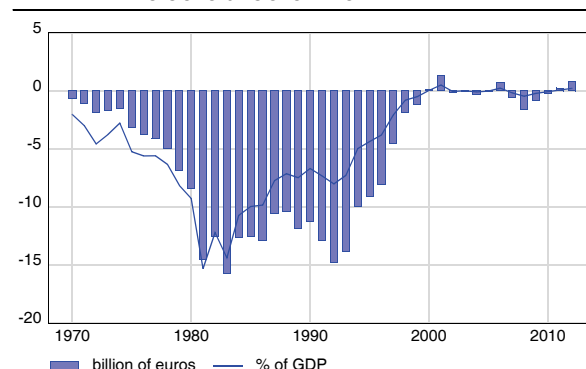
As usual, the exercise assumes that policy will be unchanged.

A slight net financing requirement appears in 2007, widening to 0.5% of GDP in 2008. The deficit should then reduce gradually and finally turn into a slight surplus by 2012 (0.2% of GDP). The objectives set out in the Stability Program (a financing capacity of 0.3% of GDP in 2007, increasing thereafter by 0.2% yearly until reaching 0.9% of GDP in 2010) will not be reached without additional measures. Nevertheless, the total public debt to GDP ratio will continue to decline, from 84.1% in 2007 to 70.2% in 2012.

Since 2000, one-shot measures have contributed to balancing the budget. However, the primary surplus has constantly been deteriorating (-2.4% of GDP in total between 2000 and 2006), but this was compensated by an equivalent drop in interest charges (-0.4% of GDP on av-

erage each year). In 2007 and 2008, the primary surplus will deteriorate further and the budget will turn to deficit if no new measures are taken. As from 2009, the primary surplus should finally stabilise at 3.2 or 3.3% of GDP, but the fall in interest charges, limited to -0.2% of GDP a year, will not leave as much room for manoeuvre as in the past.

Graph 3 - Net lending (+) or net borrowing (-) of the General Government



Kyoto objectives not yet completely fulfilled in 2012

Due to high energy prices (which stimulate the penetration of energy-efficient technologies) and the reorganisation of the industrial sector, final energy consumption should grow moderately by 0.6% per year on average, whereas the energy-intensity of GDP should decrease yearly by 1.6% on average. Total greenhouse gas emissions (CO₂, CH₄, N₂O, HFC, PFC, SF₆) should be stabilised and even slightly reduced in 2012, compared to 1990. However, in 2012 total emissions are expected to still be 3% higher than the objective. Further efforts should be made in order to reach the target defined by the Kyoto Protocol.

Table 1 - Key figures for the updated medium-term economic outlook of October 2007
period averages - changes in volume unless otherwise stated

	1991-2000	2001-2006	2007-2012
Potential export market	6.7	5.5	6.8
Private consumption	2.0	1.2	1.8
Public consumption	1.8	1.6	2.0
Gross fixed capital formation	1.8	2.2	3.1
Stock building (contribution to GDP growth)	0.1	0.2	0.0
Final domestic demand	2.0	1.6	2.1
Exports	4.9	2.7	5.4
Imports	4.6	2.6	5.5
Net exports (contribution to GDP growth)	0.3	0.2	0.1
GDP	2.1	1.7	2.1
Private consumption prices	1.8	2.2	1.9
Real disposable income - households	1.6	0.7	1.9
Domestic Employment (annual changes in 000s)	22.6	31.1	41.1
Unemployment, FPB definition ^a			
- thousands	599.5	695.4	565.1
- % of labour force	12.6	13.8	11.0
Current account balance (% of GDP) ^a	4.2	2.8	3.1
General Government financing capacity (% of GDP) ^a	0.0	0.2	0.2

a. end of period

Economic forecasts for Belgium by different institutions

	GDP-growth		Inflation		Government Balance		Date of Update
	2007	2008	2007	2008	2007	2008	
Federal Planning Bureau [1]	2.7	2.1	1.7*	2.2*	.	.	09/07
INR/ICN [1]	2.7	2.1	1.7	2.2	.	.	09/07
National Bank of Belgium [2]	2.5	2.2	1.6	1.8	-0.1	-0.2	06/07
European Commission [2]	2.7	2.1	1.7	2.1	-0.3	-0.4	11/07
OECD [2]	2.6	1.9	1.7	2.3	-0.2	-0.4	12/07
IMF [2]	2.6	1.9	1.8	1.8	-0.2	-0.2	10/07
ING [1]	2.6	1.8	1.8	2.2	-0.2	-0.7	11/07
Fortis Bank [2]	2.6	1.9	1.8	2.2	0.0	-0.4	11/07
Dexia [1]	2.6	2.1	1.5	2.3	.	.	11/07
KBC Bank [1]	2.6	1.7	1.9	2.2	-0.3	-0.3	12/07
Petercam [1]	2.5	1.75	2.0	1.75	-0.2	-0.5	11/07
IRES [1]	2.7	1.9	1.6	2.0	0.0	-0.5	10/07
Consensus Belgian Prime News [2]	2.6	2.0	1.7	1.9	-0.1	-0.2	09/07
Consensus Economics [2]	2.3	2.1	1.8	1.8	.	.	11/07
Consensus The Economist [2]	2.6	2.0	1.8	2.0	.	.	12/07
Consensus Wirtschaftsinstitute [2]	2.7	2.2	1.5	1.8	-0.1	-0.1	10/07
Averages							
All institutions	2.6	2.0	1.7	2.0	-0.2	-0.4	
International public institutions	2.6	2.0	1.7	2.1	-0.2	-0.3	
Credit institutions	2.6	1.9	1.8	2.1	-0.2	-0.4	

[1] Inflation forecasts based on the evolution of the national index of consumer prices

[2] Inflation forecasts based on the evolution of the harmonised index of consumer prices

* Inflation forecasts were recently revised upwards to 1.8% in 2007 and 2.5% in 2008

Economic forecasts for the euro area by different institutions

	GDP-growth		Inflation		Government Balance		Date of update
	2007	2008	2007	2008	2007	2008	
European Commission	2.6	2.2	2.0	2.1	-0.8	-0.9	11/07
OECD	2.6	1.9	2.1	2.5	-0.7	-0.7	12/07
IMF	2.5	2.1	2.0	2.0	-0.9	-1.1	10/07
ING	2.6	1.7	2.1	2.2	-1.0	-0.8	11/07
Fortis Bank	2.6	2.0	2.1	2.2	-1.0	-0.9	11/07
Dexia	2.7	2.1	2.1	2.1	.	.	11/07
KBC Bank	2.6	2.0	2.1	2.1	-1.0	-0.8	11/07
Deutsche Bank	2.6	1.7	2.1	2.2	-1.0	-0.9	11/07
Goldman Sachs	2.6	1.7	2.1	2.3	-1.2	-1.1	11/07
Morgan Stanley	2.6	2.0	2.1	2.2	-1.3	-1.1	11/07
Consensus AIECE	2.6	2.2	1.9	2.0	.	.	10/07
Consensus Economics	2.6	2.0	2.0	2.1	.	.	11/07
Consensus Wirtschaftsforschungsinstitute	2.6	2.1	1.9	2.1	-0.8	-0.8	10/07
Consensus The Economist	2.6	1.9	2.2	2.2	.	.	12/07
Averages							
All institutions	2.6	2.0	2.1	2.2	-1.0	-0.9	
International public institutions	2.6	2.1	2.0	2.2	-0.8	-0.9	
Credit institutions	2.6	1.9	2.1	2.2	-1.1	-0.9	

Introduction

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

Economic and political triggers

The mid-term review of Lisbon Strategy, launched in 2005, aims to strengthen the economic structure of the EU in order to create jobs and growth. One of the key ways of achieving this is to further reform product, labour and capital markets. The functioning of these markets is assumed to have an impact on the levels of economic growth and employment in the medium and long term. Good performance in these areas is expected to have a positive impact on competitiveness and on the allocation of labour and capital.

Since the mid-term review, each Member State has drawn up clear policy objectives in three-year National Reform Programmes (NRP). These objectives are based on a set of Integrated Guidelines (IG), covering both BEPG and EG. The Member States make annual progress reports on their implementation. The present set of these reports has been submitted to the EU in October 2007 and was peer reviewed in November.

Overview of the issue

This issue gives an international benchmarking of structural reform in Belgium. Like the NRP, it follows the new IG as closely as possible, but is limited to the micro-economic and labour market guidelines. No macroeconomic guidelines are covered. The overview starts with the ultimate policy objectives: productivity, employment openness and environment. It is followed by the micro-economic indicators and labour market indicators of structural reform, respectively. Note that openness is considered an objective since it should have a positive impact on the cross-border allocation of labour and capital.

Half of the indicators are drawn from the Structural Indicators database of Eurostat. This database covers many issues related to economic structure and has been built to follow up the progress of implementation of the IG and to detect best practices. Comparisons with the EU average generally refer to the EU27, but in certain cases the reference is still to the EU25 or EU15. Where sufficient data was available, reference is also made to the US and Japan.

Summary of Belgium's performance

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

At both the Belgian level and the average EU level, performance is improving in most areas, but targets are still far from being met. For Belgium, the improvements have been strong in education, the information society, market regulation, foreign direct investment and creation of the internal market. Improvements have also been made in employment for specific target groups and environmental issues. Minor improvements have been made in the fiscal pressure on labour and the performance of network industries. In a few areas performance is worsening: these are innovation, poverty risk and the fiscal pressure on capital. The following table indicates to what extent the targets set by the EU for specific indicators have been met.

Table - Performance with respect to EU targets*

Indicator	Target	Belgium	EU average	Best practice
Total employment rate	70%	61%	64%	DK NL
Employment rate for older workers	50%	32%	44%	SE DK
Emission of greenhouse gases	-7.5%**	-2.1%	-2.0%	SE UK
R&D expenditures as % of GDP	3%	1.9%	1.8%	SE FI
Transposition deficit	1%	1.5%	1.6%	LT LV
Participation in life-long learning	12.5%	7.5%	9.6%	SE DK

Source: Eurostat (Structural Indicators)

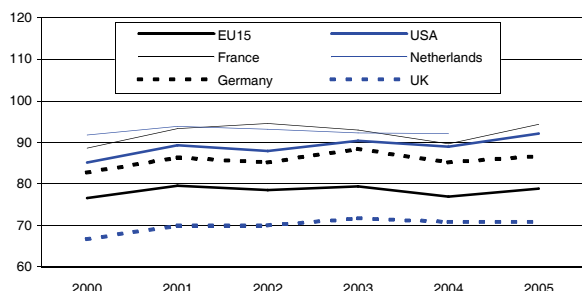
(*) Data for the most recent year available (2005/2006/2007). For further definitions and explanations, see the respective indicators on the following pages.

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

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

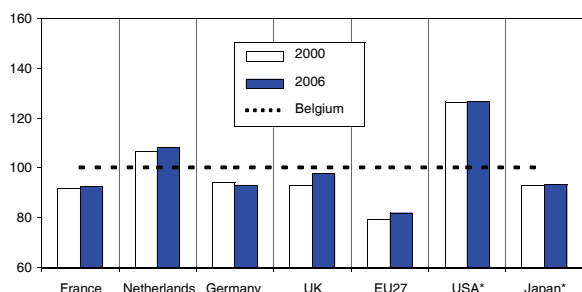
Policy objectives: productivity and employment

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



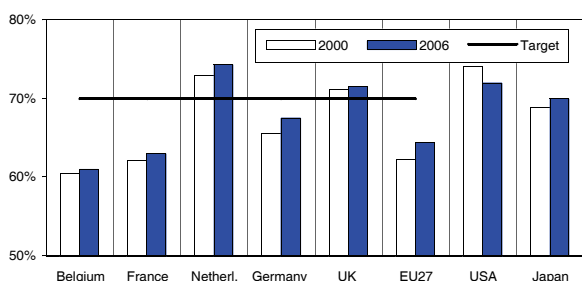
Source: FPB, based on Eurostat (Structural Indicators)
(*) Measured in PPS

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



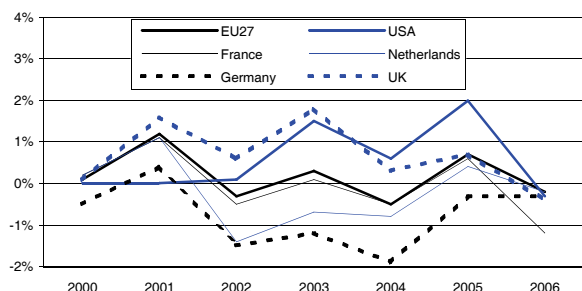
Source: FPB, based on Eurostat (Structural Indicators)
(*) Forecasts for 2005

Graph 3 - Total employment rate*



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

Graph 4 - Real GDP growth differential with Belgium



Source: FPB, based on AMECO-database

GDP per hour worked in Belgium is among the highest in the world. Between 2000 and 2005, Luxembourg was the only EU country that exceeded the Belgian figures. However, a slight decrease in Belgian relative performance can be observed for the most recent year: the Belgian GDP per hour worked for 2005 was 26.8% higher than the EU15 average, after 29.9% for 2004. This relative decrease was also observed for Germany and the UK, which had the lowest GDP per hour worked among the countries shown in Graph 1. By contrast, France and the United States were able to increase their positive gap against the EU15 average, which in 2005 reached 19.7% and 16.7% respectively.

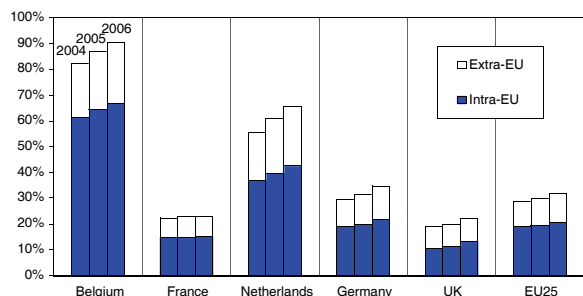
In 2006, Belgian GDP per capita was 22.2% higher than the EU27 average. In comparison to the neighbouring countries, this performance was better than the French and German score but lower than the Dutch one, with a GDP per capita 32.1% higher than the EU27 average. The positive Belgian GDP per capita gap has declined since 2004. This has been also the case in Germany and the United Kingdom.

In spite of the clear progress in the employment rate over the last two decades, the situation of the Belgian labour market remains unsatisfactory. After rising sharply during the second half of the nineties, the Belgian employment rate remained stable at around 60% until 2004. In 2006, it reached 61%, one of the highest levels in many years, but still 3.3%-points below the European average and some 9%-points below the EU target line. Between 2000 and 2006, a clear increase in the employment rate was registered in France, Germany, the Netherlands and in the EU27 as a whole. The United Kingdom stabilised its employment rate at the high level of 71.5%, which is close to the American level (72%).

In 2006, economic growth in Belgium was strong and exceeded the growth rates of all countries presented in Graph 4. Potential GDP, which excludes business-cycle influences, gives a measure of the supply capacity of an economy. As it is an unobserved variable, different methods may lead to different results. According to the European Commission's calculations, Belgian potential GDP grew on average by 2.2% per year over the period 2001-2005, which is close to France and the Netherlands. Over the same period, German potential growth was around 1.4%, whereas the United Kingdom reached 2.8%.

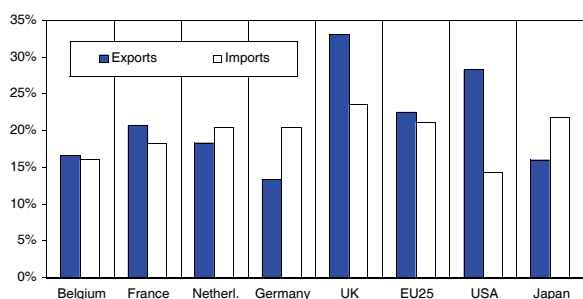
Policy objectives: openness and FDI

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



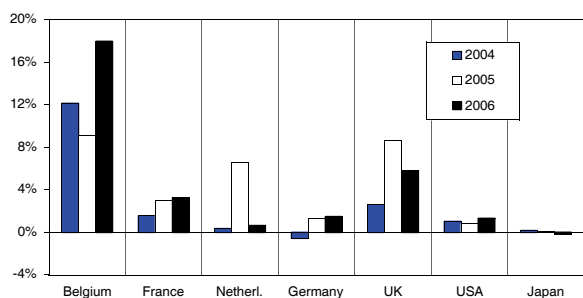
Source: Eurostat (Comext)
 (*) Average value of exports and imports of goods, valued in current prices

Graph 6 - Share of commercial services in trade, 2005*



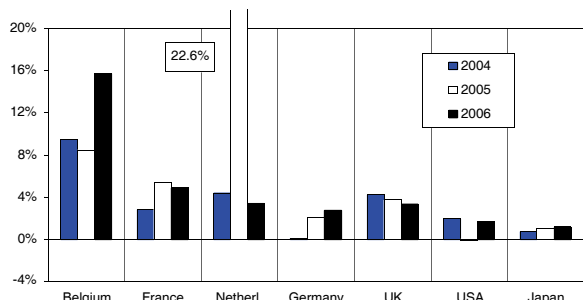
Source: WTO
 (*) Trade is derived from balance of payments statistics and does not correspond to the merchandise trade statistics given elsewhere. It is likely that for most economies trade in commercial services is understated.

Graph 7 - Inward FDI, in % of GDP*



Source: UNCTAD and Eurostat

Graph 8 - Outward FDI, in % of GDP*



Source: UNCTAD and Eurostat

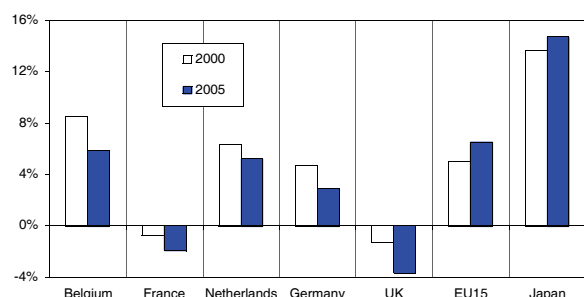
Belgian domestic markets are traditionally very open to international competition both through trade and foreign investment. This competition should foster efficiency and bring prices down. The degree of openness to trade in goods – calculated as the average share of imports and exports of goods in a country’s GDP – is particularly high for Belgium, as shown on Graph 5. It reached 90% in 2006. No other member state of the EU is as open to trade in goods as Belgium. Nonetheless, the degree of openness has increased quite substantially in recent years for several of the new Eastern European Member States, which thereby come closer to the level of Belgium. Outstanding examples are Slovakia (79% in 2006), Estonia (68%), the Czech Republic (66%) and Slovenia (62%). The bigger member states tend to have a lower degree of openness: 35% in 2006 for Germany, 23% for France, and 22% for the UK. Note that it is even lower for countries such as Japan (14%) or the US (11%).

Although internal trade of the EU makes up a substantial part of world trade in goods, it is also important to take a look at trade with non-member countries as this is where most of the future competition on product markets is likely to come from. In 2006, extra-EU imports accounted for 29% of Belgium’s total imports and extra-EU exports accounted for 24% of Belgium’s total exports. These shares are below the EU25 average of 37% for imports and 33% for exports, which implies that compared to other Member States, Belgium’s trade is more focused on the EU. But the importance of extra-EU trade is growing for Belgium and for a majority of EU Member States.

Countries try to attract foreign investment not only to enhance competition, but also in the hope for positive effects such as technology spillovers, improvements in productivity and job creation. When measured in terms of inward FDI as a percentage of GDP, it turns out that Belgium has been quite successful in attracting foreign investment. Graph 7 shows that this indicator is higher for Belgium than for its neighbours. Although FDI flows are generally quite volatile and sensitive to large individual transactions, this good performance should be seen in the light of Belgium’s very good score for the 2005 edition of the OECD’s FDI Regulatory Restrictiveness Index. In a panel of 30 OECD and 13 non-OECD countries, Belgium is ranked second. Only Latvia obtains a better score, i.e. is less restrictive for inward FDI.

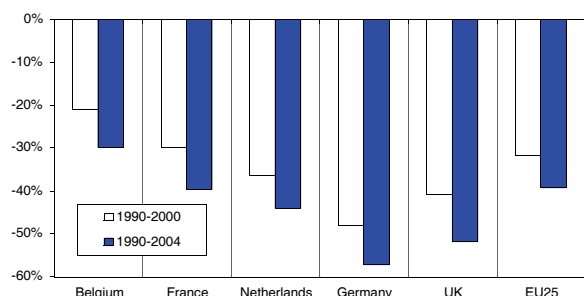
Policy objectives: environment

Graph 9 - Greenhouse gas emission deviations from 2010 target



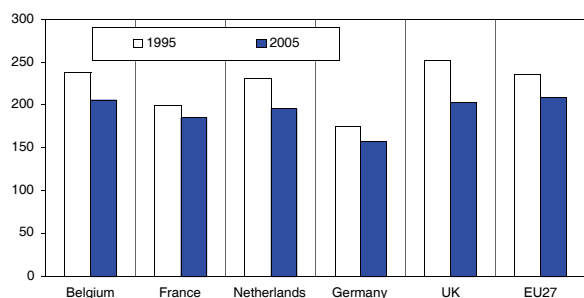
Source: Eurostat (Structural Indicators)

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



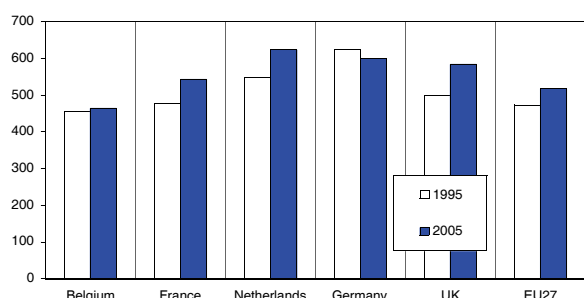
Source: Eurostat (Environment and Energy)
 (*) Tropospheric ozone formation potential (TOFP) equivalent

Graph 11 - Energy intensity*



Source: Eurostat (Structural Indicators & Environment and Energy)
 (*) Consumption of energy, measured in kilograms of oil equivalents per EUR 1,000 of GDP at constant 1995 prices

Graph 12 - Municipal waste collected, in kg/person



Source: Eurostat (Structural Indicators & Environment and Energy)

As regards air pollution, Belgium has performed worse than its neighbouring countries and the EU25. Although decreases in acidifying substances, tropospheric ozone precursors and fine particles were achieved, these were less pronounced in Belgium than, on average, in the rest of Europe. Between 1990 and 2004 Belgium achieved a decrease of 39% in acidifying emissions, and of 30% in tropospheric ozone precursors, while the corresponding decreases in the EU25 were of 50% and 39%. As concerns fine particles, Belgium achieved a decrease of 31% during that period, while the corresponding decrease in the EU15 was equal to 45%. To meet its Kyoto protocol obligations, Belgium needs to obtain an average decrease in its greenhouse gas emissions over the 2008-2012 period of 7.5% of the 1990 level. Belgium still has a somewhat longer way to go to fulfil its commitments than its neighbouring countries, although the effort will be slightly less than for the EU15 as a whole. The lacklustre performance of Belgium in the field of air pollution can partly be explained by the high energy intensity of its economy. However, the decrease in this energy intensity of 14% between 1995 and 2005 was higher than the corresponding decrease for the EU27.

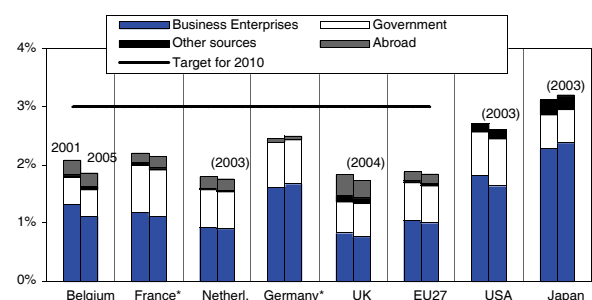
Due to the low rate of connection of the population to waste water treatment plants and a relatively high surplus of nitrogen per hectare, water pollution was also higher in Belgium than in its neighbouring countries. There were problems not only with the quantity of freshwater abstracted in order to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

As concerns waste generation, Belgium outperformed its neighbours. While municipal waste collected per person in the EU27 increased by 9% between 1995 and 2005, in Belgium it increased by a mere 2%. As a consequence, municipal waste collected per person in Belgium in 2005 was only 90% of the EU27 average, whereas in 1995 it was still 96% of the EU27 average.

Regarding biodiversity, in 2006 10% of Belgian territory was designated as an area for protection. This was higher than in its neighbouring countries, although still below the percentage for the EU25 as a whole.

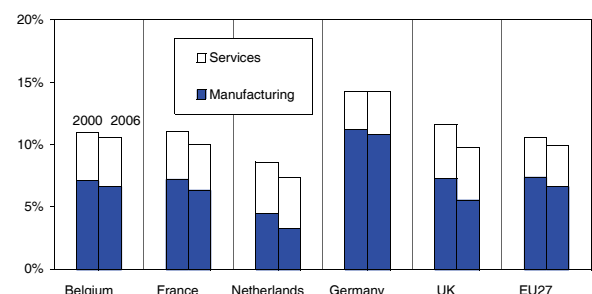
Micro-economic: R&D and innovation

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



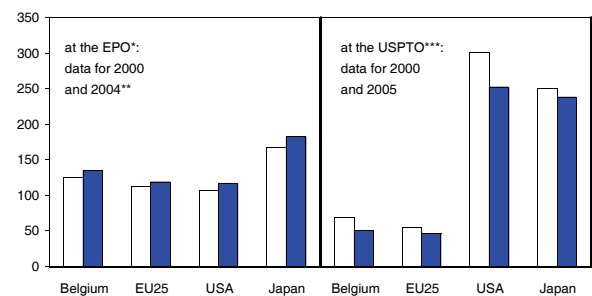
Source: Eurostat (Structural Indicators & Research and Development)
 (*) Sources of funds as in 2004, but total unchanged in 2005

Graph 14 - Share of MHT sectors in total employment*



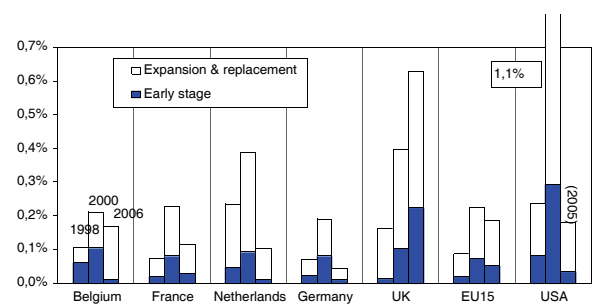
Source: Eurostat (Statistics on high-tech industries and knowledge-intensive services)
 (*) MHT = medium- and high-technology sectors (NACE: 24, 29-35, 64, 72, 73)

Graph 15 - Patent applications per million inhabitants



Source: Eurostat (Structural Indicators) and OECD
 (*) Priority date, close to invention date
 (**) Estimates
 (***) Date of grant, on average 3 years after the priority application is filed.

Graph 16 - Venture capital investment as % of GDP



Source: Eurostat (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 foster competitiveness and become a more dynamic knowledge-based economy. After a few years of figures above the European average, R&D intensity in Belgium has been situated below the average of the EU15 since 2002. However, it remains equivalent to the average of the EU27 in 2005 (1.86% of GDP in Belgium, against 1.91% in the EU15 and 1.84% in the EU27). This is the result of a larger decrease of the R&D intensity in Belgium than in the other countries since 2001.

Belgian firms financed R&D at a level of 1.11% of GDP in 2005, which was above the European average. Large firms are responsible for the majority of R&D activity and have played an important role in the recent fall of Belgian R&D expenditure. R&D intensity financed by the public authorities reached 0.46% of GDP, which was significantly below the European average for 2005 (0.64%) and equivalent to the level achieved in Belgium in 2001.

R&D activities and innovation are concentrated in the medium- and high-technology sectors (MHT). In 2006, the MHT sectors represented 10.6% of total employment in Belgium, which is slightly above the European average and more or less equivalent to the level achieved in 2000 (10.9%).

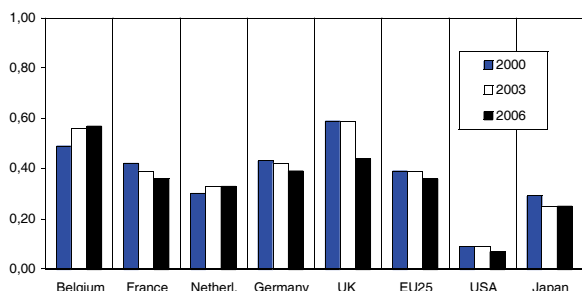
The number of patent applications is an indicator of the exploitation of R&D activities. In the last available year, the number of patent applications from Belgium filed with the European¹ and US² Patent Offices was slightly above the European average.

Easy access to venture capital promotes the dissemination of innovation. In 2006, investment in Belgium in venture capital amounted to 0.17% of GDP, which was very close to the European average (0.19%) and the US (0.18%) and above the levels achieved by its neighbours, with the exception of UK. The decreasing trend in the early stage investment observed in Belgium over recent years continued, while a strong increase was recorded on average in the European Union in 2006. On the other hand, investment in expansion and replacement underwent a strong increase in Belgium in 2006, allowing Belgium to do better than the European average.

1. By priority date.
 2. By date of grant.

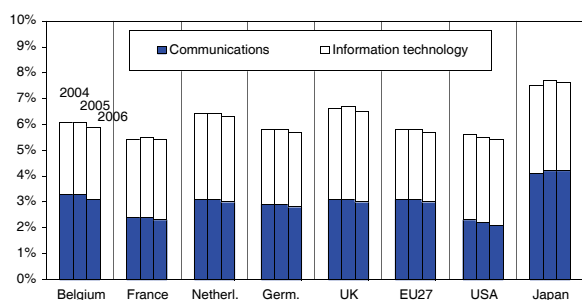
Micro-economic: communications

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



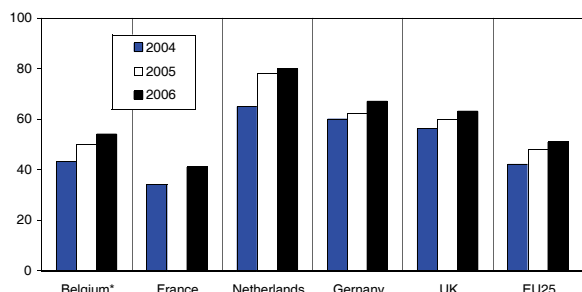
Source: Eurostat (Structural Indicators)

Graph 18 - Expenditures on ICT as % of GDP



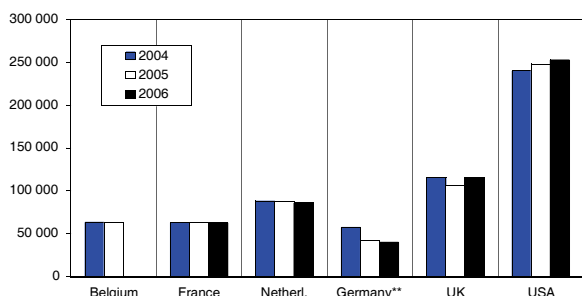
Source: Eurostat (Structural Indicators)

Graph 19 - Internet connections per 100 households



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

Graph 20 - Number of domestic letters per worker*



Source: FPB/BIP, own calculations based on data from De Post/La Poste and UPU
 (*) Because of different data definitions, country-by-country comparisons may not be reliable. (**) Break in data series for employment

In the Belgian electronic communications market, dominant positions are held by the fixed and mobile incumbents and by the largest mobile entrant. All three are subject to price control. Unbundling of DSL lines seems to have taken off at last. The number of unbundled lines rose from less than 1% of the total number of lines at the beginning of 2006 to 3.7% at the end of the year. The number of active mobile subscriptions reached the equivalent of 89% of the population by the end of 2006. As concerns further market reform, in November 2006 a start was made on reducing mobile termination charges. Only in May 2007 did the incumbent pass the reduced termination charges on to its retail tariffs. The planned market opening for telephone subscriptions has been delayed.

The rising trend for prices for telephone calls in Belgium has levelled off in recent years. The fixed incumbent's nominal prices have not changed since 2004, but prices still fell in neighbouring countries. Belgian local calls were the second most expensive of the EU25 Member States in 2006 (after Slovakia). With regard to national and international call charges, however, Belgium occupies a midway position.

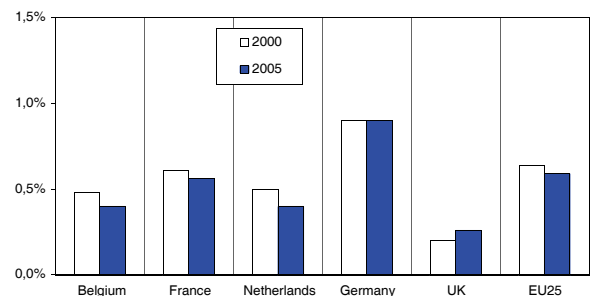
ICT expenditure covers both equipment and services, and amounts to about 6% of GDP in Belgium, which is slightly higher than the EU27 average. Among the neighbouring countries, the Netherlands and the UK perform better but do not attain the Japanese level of 7.6%. It should be noted that US expenditure has fallen below the EU27 average, which is due to lower communications expenditure.

The rate of internet access among households is rising with the penetration of computer equipment. At the end of 2006, the latter reached 60% at EU27 level, whereas the former was about to surpass 50%. For Belgium these numbers were 57% and 54% respectively. Broadband access in Belgium moved forward to 91% of household connections during 2006. The number of broadband business connections remained stable at 96%. The low-speed ADSL charges are about the same as in neighbouring countries, but standard ADSL (8 Mbps and more) is significantly more expensive.

During 2006 and 2007 a new network of postal sorting centres has been opened. This may lead to an increase in productivity, but no data are available yet. 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.

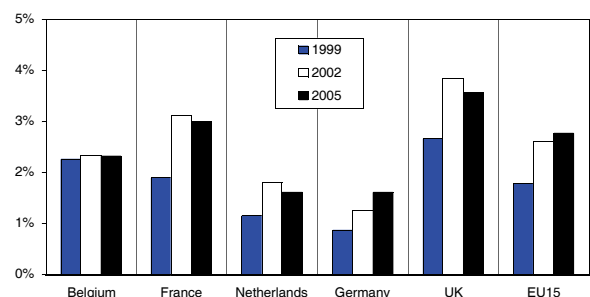
Micro-economic: internal market and competition

Graph 21 - State aid, as % of GDP*



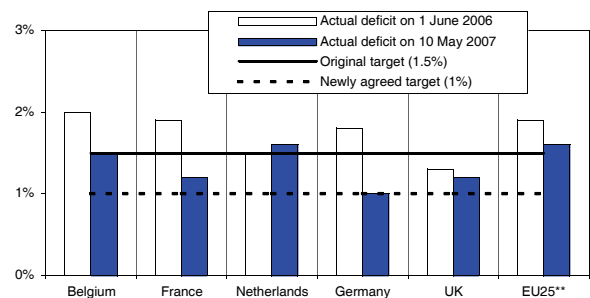
Source: Eurostat (Structural Indicators)
 (*) Total state aid, excluding support for railways, but including support for agriculture and fisheries

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



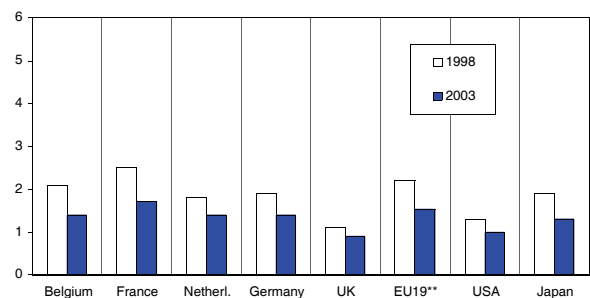
Source: Eurostat (Structural Indicators)
 (*) Advertised in the Official Journal of the European Communities

Graph 23 - Transposition deficit of internal market directives*



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

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



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

Since 2003 Belgium has ranked among the countries giving the lowest state aid per euro of GDP. During the years before, Belgium's level was around the 0.5% mark, but in 2003 a fall to 0.4% was observed. In 2005 only Greece, Luxembourg, the UK and the Netherlands gave less. In the EU25 state aid fell from 0.64% of GDP in 2000 to 0.59% in 2005.

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

After a period of steady growth during the 1990s, openly-advertised public procurement in the EU15, as a percentage of GDP, has stabilised. On average, 2003 was a peak year but this was partly caused by a one-off very high performance for the UK (7.3%). Belgium had a relatively high performance in 1999, but did not improve further. It thus fell from 5th position in 1999, to 10th in 2005 (19th of the EU25). Of the former EU15 countries, Spain had the best performance in 2005 with 4.3%, but many of the New Member States performed better.

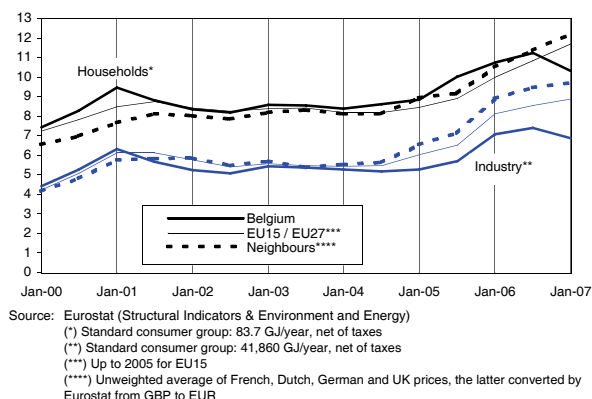
After the EU25 average transposition deficit of internal market directives fell for the first time below the 1.5% target in December 2006, the European Council set a new 1% target to be reached in 2009. Belgium is well on its way to achieving that target. The actual deficit was 1.5% in May 2007, down from 2.4% two years before. The twelve New Member States are performing well. Seven of them have already achieved the new 1% target, whereas only two EU15 Member States did so (Denmark and Germany).

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

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

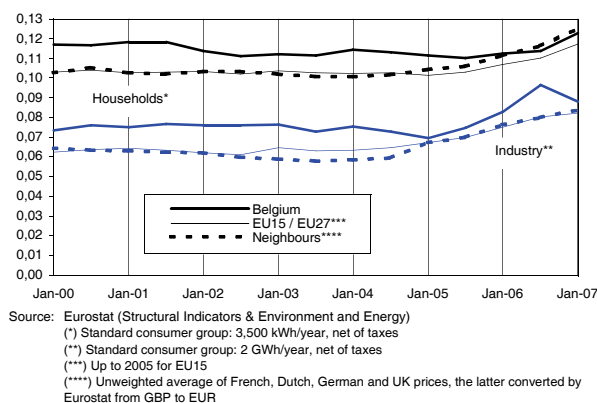
Micro-economic: network industries

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



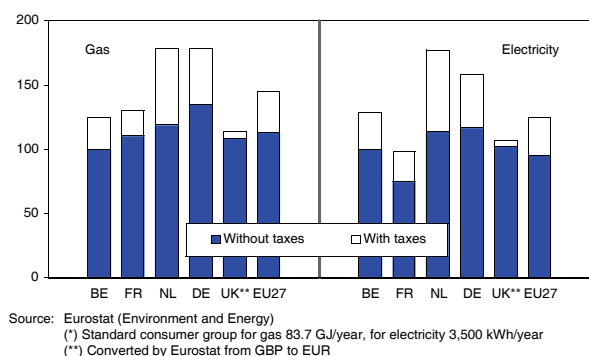
The evolution of gas prices is mainly driven by oil prices. Until mid-2004, gas prices for industry (see Graph 25 for a definition) were moving close to the EU15 average. The 2004-2005 price increase started with a lag of half a year and was less pronounced than in other countries. This made Belgian prices fall below the EU27 average and the neighbouring countries. When taxes are included, there has been hardly any change in ranking over the last few years. From 2000 to 2003 electricity prices for industry (see Graph 26 for a definition) were above those of the neighbouring countries and the EU15 average. Just as for gas, the recent price increase started later than in other countries. A decrease of 8% was observed during 2004, to be followed by a 25% increase up to mid-2007. With taxes included, Belgium's position did not change, but a divergence from the EU27 average was observed during 2005-2006 because of tax increases.

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



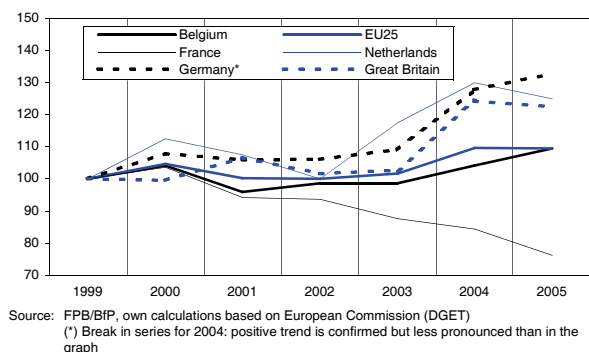
For households, based on a four-person family, the recent trends are different to those for industry. Gas prices stayed very close to the EU averages until mid-2006, and then fell remarkably. Electricity prices did not diverge from the EU27 average during 2005. Rather, they converged to become almost equal to the EU15 average from early 2006. Based on the limited data already available for the first half of 2007, gas prices seem to have fallen to their 2005/2006 levels, while electricity prices have been stable. This also holds for industry.

Graph 27 - Energy prices for households (1 January 2007; Belgium=100)*



When taxes are included, remarkable differences appear. Taxes in the Netherlands are very high, raising prices up to those of Germany for gas and even higher for electricity. Taxes in the UK are very low, strengthening its position among the cheapest of the analysed countries. Taxes on electricity in Belgium increased significantly during 2004.

Graph 28 - Freight transport by rail (tkm, 1999=100)

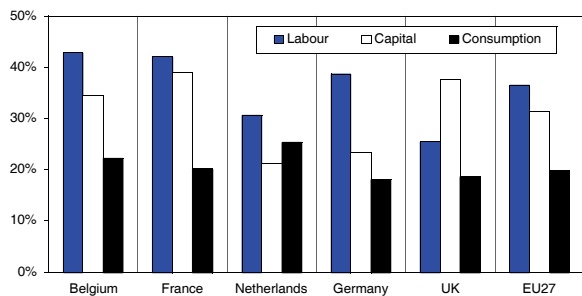


Between 1999 and 2005, freight traffic by rail increased significantly in Germany, Great Britain and the Netherlands, while it increased only moderately in Belgium and fell dramatically in France. According to the Rail Liberalisation Index 2007, the former three countries then ranked in the top four most liberalised countries of the EU27, whereas Belgium and France were ranked 18th and 23rd, respectively¹. In a growing transport market, the stability of Belgium's level of rail traffic has translated into a falling market share. Compared to other land transport modes, rail accounted for only 13% of freight in Belgium in 2004, whereas it had accounted for 21% in 1990.

1. Kirchner, C., 2005, *Rail Liberalisation Index 2007*, IBM. Note that Cyprus and Malta have no railways, so France is actually ranked third last.

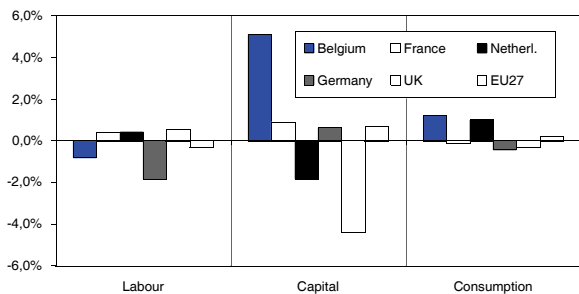
Micro-economic: taxation and business climate

Graph 29 - Implicit tax rates (2005)*



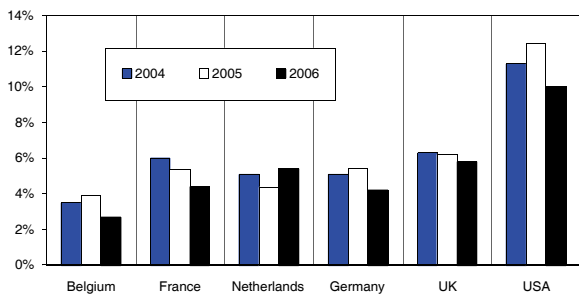
Source: European Commission, The structures of the taxation system in the EU
 (*) Ratio of total tax revenues of the category (labour, capital, consumption) to a proxy of the potential tax base defined using the production and income accounts of national accounts.

Graph 30 - Changes in implicit tax rates, %-points (2001-2005)



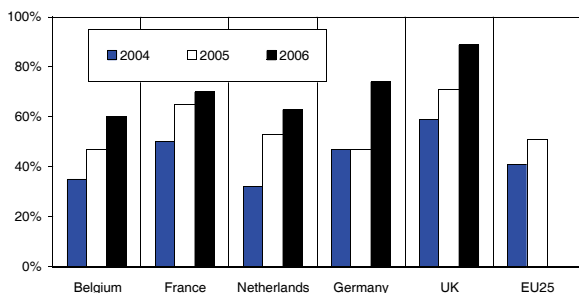
Source: European Commission, The structures of the taxation system in the EU

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 online availability



Source: Eurostat (Structural Indicators)
 (*) Percentage of the 20 basic services which are available online

Specific shifts in taxation have been observed for Belgium. The implicit tax rate on labour was further reduced (by almost 1%-point) while the taxation on capital increased (+ 5.1%-points) between 2001 and 2005. The implicit tax rate on consumption increased (+1.2%-points).

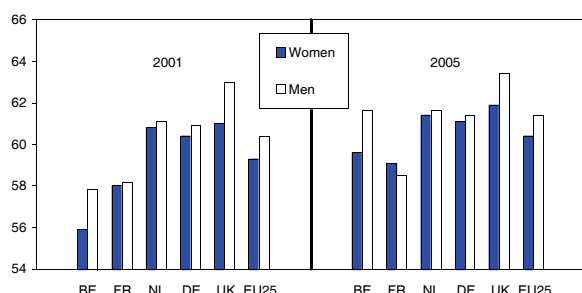
Fiscal reforms, based on targeted reductions in employers' social security contributions and on a reform of direct taxation have led to a drop in the implicit tax rate on labour from 44.3% in 1998 to 42.8% in 2005. The implicit tax rate on labour in Belgium remains, however, the highest among the countries reviewed here. At the same time, the Belgian implicit tax rate on capital increased substantially while no major changes in legislation took place. Since 2005, a system of notional interest rates has been introduced with the aim of removing the fiscal discrimination against financing with own funds, rather than with borrowed capital. During the period 2001-2005, the implicit taxation on labour has decreased in Germany even more than in Belgium, while it increased somewhat in the Netherlands, France and the UK. Taxation on consumption has been remarkably stable in most countries. In all tax domains, fiscal pressure was stronger in Belgium in 2005 than in the (base-weighted) EU27.

The quality of the business climate is closely related to the level of dynamism in entrepreneurship. The Total Entrepreneurial Activity (TEA) Index measures the proportion of the people actively involved in the setting up of a business. The deterioration in Belgium in 2006 is due to a decline in the "nascent entrepreneurship" indicator, which measures start-ups from scratch. Start-ups seem to be concentrated in the "high-potential" category, innovation-based companies.

Developments in e-government reflect the efforts made by public authorities to help firms to evolve in a competitive framework and to stimulate private initiatives. The E-gov online availability indicator measures the percentage of the 20 basic services that are available online. All countries show strong improvements. Usage of these services, however, does not increase in line with availability. This is particularly true for the usage of e-gov services by companies.

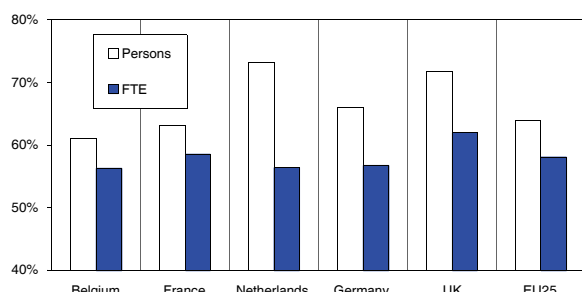
Labour market: participation

Graph 33 - Average exit age from the labour force



Source: Eurostat (Structural Indicators) and European Commission (DG Employment)

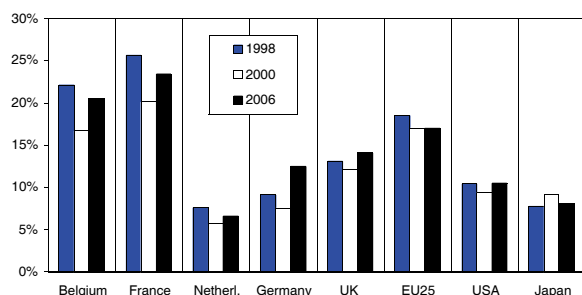
Graph 34 - Employment rate of persons versus FTE (2005)* **



Source: Eurostat (Labour Force Survey)

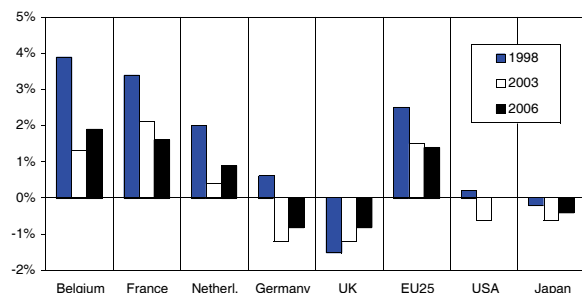
(*) FTE = full-time equivalents. (**) Males and females aged 15-64

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)

The Belgian female employment rate has been going up constantly since the beginning of the nineties and is catching up with the European average. In 2006, it amounted to 54%, which is still 3.4%-points under the European average¹.

The Belgian employment rate of older workers is one of the lowest in Europe (32.0% in 2006 against 43.6% in the EU25). It has been rising since the mid-nineties and catching up strongly with the EU25 average, but not yet sufficiently (European target: 50% by 2010). Because of the strong increase, especially for women, the average exit age from the Belgian labour market, at 60.6 years in 2005, is no longer the lowest in the EU and has almost attained the European average (60.9 years). The 'Generation Pact' intends to raise the legal age of conventional early retirement to 60 in 2008 (the average exit age for men was already at 61.6 years in 2005).

Expressed as full-time equivalents, employment rates at the European level are less dispersed than employment rates per person. It shows the diversity of scope for reduced-time work (part-time, temporary work, etc.) in the Member States. Part-time work is widespread in the Netherlands, where the employment rate decreases from 73.2%, when calculated per person, to 56.4%, when calculated in full-time-equivalent units. Part-time work is also widespread in the UK and in Germany. The scope for reduced-time work in Belgium is close to the European average. In 2005, the full-time-equivalent employment rate amounted to 56.3%, which is 1.8%-points under the EU25 average, as against 3.3% in 2003.

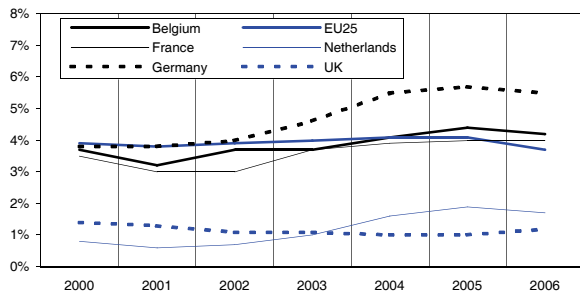
At the beginning of the decade, youth unemployment increased in many European countries as well as in the US. This increase can be explained by weak economic growth. In Belgium this factor countered efforts to improve young people's inclusion, notably through the measures of the Generation Pact. Although it diminished for the first time in 2006, the youth unemployment rate still remains high (20.5%) in Belgium at 3.5%-points above the EU25 average.

As far as the gap between the male and female unemployment rates is concerned, a downward trend can be noted across Europe. The gender-linked difference in Belgian unemployment rates has decreased clearly since the end of the nineties. In 2004, it went up again and stabilised at about 2%; in 2006, it was above the European average (1.4%). The wage gap between men and women in Belgium is amongst the lowest in the European Union.

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

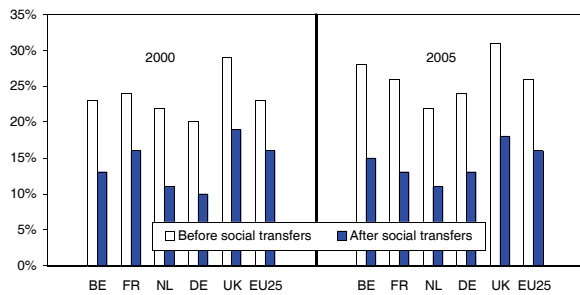
Labour market: social cohesion

Graph 37 - Long-term unemployment rate*



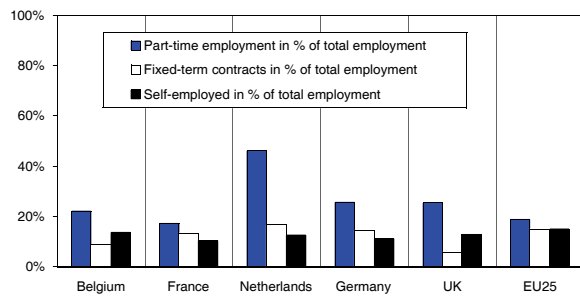
Source: Eurostat (Structural Indicators)
 (*) 12 months and more, as % of the labour force

Graph 38 - At risk of poverty rate*



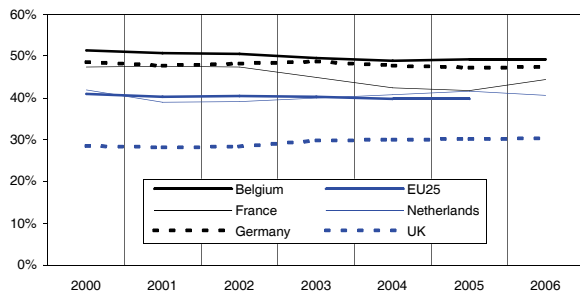
Source: Eurostat (Structural Indicators)
 (*) Share of persons with an equivalised disposable income below the risk-of-poverty threshold, which is set at 60% of the national median equivalised disposable income (after social transfers).

Graph 39 - Diversity of contractual and working time arrangements (2006)



Source: Eurostat (Labour Force Survey)

Graph 40 - Taxation of low-wage earners*



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

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

Between 2000 and 2005 there was a rise in the poverty risk rates. This also indicates weaker inclusion of those most excluded from the labour market. The deterioration in poverty risk rates is strongest in Belgium and Germany, whereas the rate in the Netherlands and in UK has stagnated. Social transfers correct the primary distribution of incomes, thus reducing the risk of poverty. The size of these transfers varies from country to country: in 2005, it was relatively high in Belgium, France and the UK, which still has the highest risk of poverty.

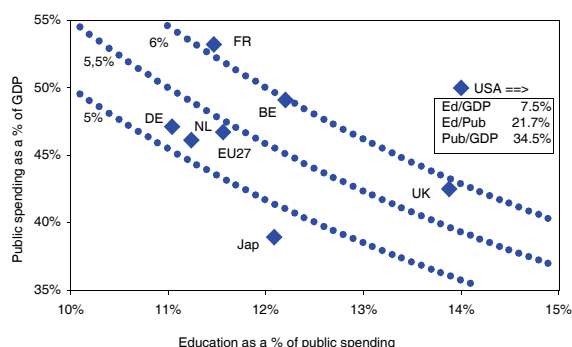
The diversity indicator shows how flexible employment legislation is with respect to the diversity of contractual and working-time arrangements. The Netherlands has the highest indicator as a result of the intensive application of part-time labour, which is on an almost completely voluntary basis (only 6.1% of the Dutch workers report involuntary part-time work). France has the lowest indicator, and, surprisingly, Germany seems to have better results than UK. The flexible working possibilities that result from the Belgian legislation and its increasingly intensive use bring Belgium close to the European average.

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

In Belgium, as in Germany, the tax burden on low-paid workers remains high, even though it has continuously decreased since the end of the nineties due to tax reforms and targeted measures aimed at cutting personal social security contributions. The significant cuts in employers' social security contributions that have already been agreed are not sufficiently targeted at the low-paid.

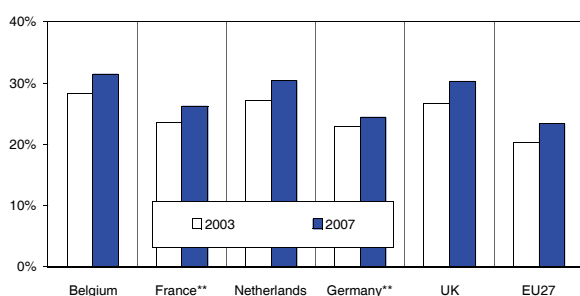
Labour market: education

Graph 41 - Public spending on education (2004)*



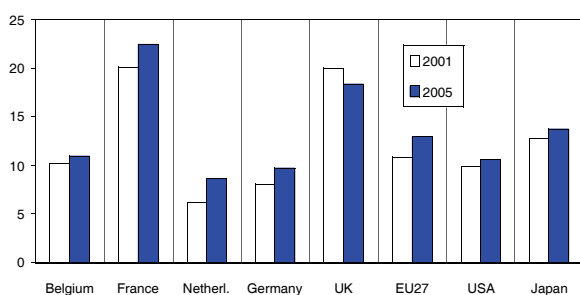
Source: Eurostat (Education)
 (*) On both public and private institutions

Graph 42 - People with higher education*



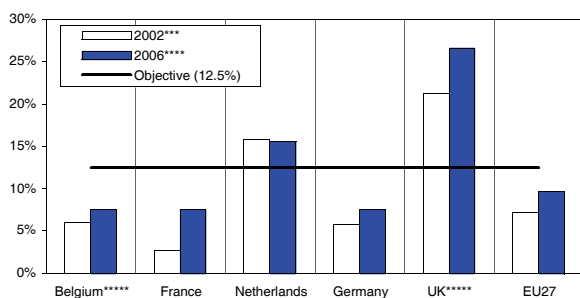
Source: Eurostat (Labour Force Survey)
 (*) Percentage of people aged 25-64 who completed higher education (ISCED 5-6)
 (**) Provisional values for 2007

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



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

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



Source: Eurostat, NewCronos (domain Labour Force)
 (*) % of people aged 25-64, in annual averages of quarterly data
 (**) Break in series for 2003, except Belgium (break in 2004) and Germany (no break)
 (***) Based on one unique reference quarter in spring
 (****) Based on annual averages of quarterly data
 (*****) Provisional values for 2006

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 EU27, 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 2004, about 6.0% of GDP (shown along the curved dotted lines in Graph 41) or 12.2% of total public expenditure was devoted to education, which is, in both cases, above the European average (5.4% of GDP spent on education in 2004) and the level in Japan (4.7%), but below the level in the US where in 2004 expenditure on education amounted to 7.5% of GDP.

With regard to the supply of advanced skills, the percentage of people aged between 25 and 64 with tertiary education is considerably higher in Belgium (31.5% in 2007) than the EU27 average (23.3%) and is still increasing. However, due to large variations in educational systems, differences between countries must be interpreted carefully. Because of their important role in the national innovation system, the supply of new graduates with training in science and engineering is of great interest. Although this share has increased during recent years, it is still significantly lower than in France, the UK and the EU27, but higher than in Germany, the Netherlands and the US.

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, after having improved significantly in Belgium during previous years, dropped again, from 8.3% in 2005 to 7.5% in 2006. Moreover, the participation rate is still below the EU27 average (9.6%) and the Lisbon objective (12.5% by 2010).

Accelerating the transition towards sustainable development

The publication of the fourth Federal Report on sustainable development 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 these policies in Belgium at the federal level. This report proposes two long term (2050) sustainable development scenarios and assesses the existing situation, including the current policy on sustainable development.

The fourth Federal Report is based on a systemic model (called *TransGovern*, presented in the third Report and in STU 4-05) that links changes in the living conditions of society to government policies. It also applies a *backcasting* methodology for developing alternative 2050 scenarios, with the aim of achieving sustainable development objectives (SDO) based on commitments endorsed by the international community. An initial version of these scenarios was built according to a participatory approach combining *scenario workshop* to *expert panel* methods, with a panel of 15 experts from outside the Federal Planning Bureau. These future scenarios are presented for the living conditions in Part 1 and for federal policies in Part 2 of the Report, while the present situation are described for the living conditions in Part 3 and for the federal policies in Part 4.

The analysis of the evolution of living conditions in four sub-systems of the Belgian society (*consumption and society, production and society, energy, food*) identifies current trends concerning driving forces, pressures and capital degradations which can now be anticipated. These are major societal trends linked to demography (such as *individualisation, ageing, changes in family structure and migration*) and consumption and production (such as *tertiarisation, the information society, technologies and the use of raw materials*), having an impact, inter alia, on the *energy* and *food* sub-systems. Some of the negative pressures that these trends exert on the three capitals of development are unsustainable (such as *increased elderly dependency, threats to public health, climate change, scarcity of natural resources, etc.*) and pose, therefore, long term risks to budgetary balances.

The evaluation of the present situation also covers the existing sustainable development policy of the two Federal Sustainable Development Plans (2000-2004 and 2004-2008) as well as of 24 federal thematic plans across all departments. The overall assessment of the implementation of the two Federal Sustainable Development Plans shows that most of their measures have been implemented but that information is missing on the implementation of a significant proportion of them (15% for

the first and 39% for the second). The Report also analyses 24 thematic policy plans developed at the federal level to assess their structure and cross-cutting links from a sustainable development perspective.

Two scenarios of living conditions evolution help to visualise the transition towards a world developing sustainably. The proposed vision of the world by 2050 is marked out with a set of 21 SDO's which relate to the protection and the recovery of the human, environmental and economic capitals. They are named *Pyramid* and *Mosaic* and lead from the existing situation to a world in 2050 that has reached both the SDO's and a pattern of sustainable development. Their paths are described for the four abovementioned sub-systems and largely based on reversals of the above-mentioned unsustainable trends.

One of the main differences between these two scenarios is the degree of international coordination of policies. This coordination is reinforced in *Pyramid*, and remains stable in *Mosaic*. Another difference is the type of technical progress and the balance between technological changes and changes in human consumption and production patterns. The transformation of the economy is more oriented towards *Industrial Ecology* or *Circular Economy* in *Pyramid* and more towards *Service Economy* (or *Economie de la Fonctionnalité*) in *Mosaic*. This implies that the proposed changes in human consumption behaviour are less demanding in *Pyramid*. On the other hand, Energy efficiency is improved by more than a four-fold increase in the two scenarios but grows faster (4.6) in *Mosaic* than in *Pyramid* (4.2), while labour productivity grows faster in *Pyramid* than in *Mosaic*.

Scenarios of federal government policies provide guidance for policies that would support the transition to sustainable development following the paths of *Pyramid* and *Mosaic*. These should relate to at least five key principles of sustainable development. Policy proposals at the Belgian federal level for the above-mentioned sub-systems in the short (2008-2010) and longer (2010-2050) terms concern *support to international policy, coordination of Belgian federal policy, corporate social responsibility* as well as *consumer social responsibility*.

“Accélérer la transition vers un développement durable, 4^{ème} Rapport fédéral sur le développement durable”, “De transitie naar een duurzame ontwikkeling versnellen, 4^{de} Federaal Rapport inzake duurzame ontwikkeling”, *Task Force Sustainable Development FPB, 2007*
The Report comes with a *Synthesis Report* and a *presentation folder*.

The Report exists in French and in Dutch.

Belgium's energy future challenged by climate change

Every three years, the Federal Planning Bureau releases a publication on the long-term energy projections for Belgium, based on the energy model PRIMES. This Planning Paper is the third in the series and puts the emphasis on the link with climate change. Amongst other things, a baseline and a selection of emission reduction scenarios for the period after 2012 are described.

Baseline

Under baseline assumptions, national requirements for coal and natural gas rise between 2000 and 2030, mainly because the nuclear power plants are phased out. The surge in renewable energy sources (RES) is noticeable (4.2% on average per annum): in 2030 they represent 5.2% of the total national energy requirements. The energy intensity of GDP falls every year by 1.9% on average, notwithstanding an economic growth of 1.9% p.a. and a growing population (0.2% p.a.). Final energy demand increases by 10% during the period 2000-2030. During that same period, electricity production expands from 82.6 TWh to 112 TWh and is mainly generated by fossil-fuel-based thermal power units (99 TWh), while RES produce the balance (13 TWh), as the last nuclear plant closes down in 2025. In 2030 the share of RES covers 12% of power production. Between 2000 and 2030, the total installed capacity expands by 50% because of (1) growing electricity demand (+1% p.a.), (2) diminishing net imports, (3) a larger share of (intermittent) RES that necessitate back-up capacity. Translated into energy-related CO₂ emissions, this boils down to an increase of 25.2 Mt (from 114.7 Mt in 2000 to 139.9 Mt in 2030). In 2030, the CO₂ emission level is 32% higher than registered in 1990, the base year of the Kyoto Protocol.

Post 2012 scenarios

Because this CO₂ level is unsustainably high, the baseline analysis is complemented by scenarios in which CO₂ or GHG emissions are reduced. The impact of these reductions on primary and final energy demand and on power production is scrutinised. A selection of reduction scenarios is made according to three methodologies. First, a reduction objective at the European level is determined (reduction of *European* GHG by 30% in 2030 compared to the level obtained in 1990), which translates into a carbon value (200 EUR/t CO₂) that is identical for all economic sectors and countries. The implementation of the carbon value has, through behavioural changes in consumption and technology choice, an impact on the Belgian energy system and its CO₂ and GHG

emissions that differs according to the energy policy context, i.e. whether there is access to nuclear power or not.

Second, a Belgian objective is specified (reduction of *Belgian* energy-related CO₂ emissions by 15% in 2030 compared to 1990). Again, in this case, different energy policy options (access to nuclear power, to carbon capture and storage or to neither) can help to realise this target. The reduction principle stays the same: objective carbon value change in the behaviour of the energy producers and consumers (consumption, technology choice) in such a way that the objective is met.

The third methodology considers the impact of energy efficiency. The Energy Efficiency Green Paper of 2005 stated that with today's technology, it is possible to save around 20% of European energy consumption by an increase in energy efficiency on a cost-effective basis. Several directives have been adopted that, when fully implemented, will help to exploit large parts of this potential. The modelling of this *effi*-scenario assumes the full implementation of these directives.

Main results

Some key results of the three types of scenarios (1 baseline, 5 emission reduction scenarios and 1 energy efficiency scenario) are briefly described. For the emission reduction scenarios, the national requirements for natural gas and the share of RES rise the most when nuclear energy is not part of the energy mix. The non-nuclear emission reduction scenarios also have the lowest energy consumption. When nuclear energy is allowed, the production (and consumption) of electricity augments the most.

The impact of the *effi*-scenario can mainly be seen in the final energy consumption and in the electricity generation (that, in its turn, influences the natural gas' needs). The share of RES in national energy consumption and electricity production changes only slightly compared to the baseline.

“*Energievooruitzichten voor België tegen 2030 in een tijdperk van klimaatverandering, Perspectives énergétiques pour la Belgique à l’horizon 2030 dans un contexte de changement climatique*”,
D. Devogelaer, D. Gusbin,
Planning Paper 102, October 2007.

Qualitative employment multipliers for Belgium, results for 2000 and 2002

This paper introduces the notion of qualitative employment multipliers. For each final demand product, a set of employment multipliers was computed. Each of these gives the use of an employment type characterised by gender, age class, professional status, education level or labour regime. The paper describes a method for compiling qualitative employment multipliers and shows results based on disaggregated employment and input output data for 2000 and 2002.

Employment multipliers give the direct and indirect employment generation of final demand expenditures. The indirect employment is generated by the chain of suppliers to the firms that directly produce goods and services for final consumption, exports or investments. Qualitative employment multipliers provide a link between final demand products and disaggregated employment data at the industry level. This involves homogenising employment data, for which few methods have been put forward in the literature. In the paper, this is done using industry technology. We argue that it is impractical and less appropriate to homogenise disaggregated employment data using commodity technology, but draw no definitive conclusions on this matter.

The paper includes total employment multiplier results for Belgium. An example is the case of manufacturing in 2000. While only 16% of all workers were employed in manufacturing, final demand for manufactured goods was responsible for 24% of cumulated employment. The cumulative employment approach reallocates all indirect employment towards the final demand products that use it. What is allocated to manufactured goods is deducted from other products, since total cumulated employment equals total employment.

The 24% of employment generation is still low compared to the 38% share for manufactured goods in final demand. This is due to the high level of capital intensity of the industrial production process, resulting in a low absolute employment multiplier of manufacturing. A million euro of final demand expenditure on manufactured goods lead to the cumulated employment of 7.7 persons, while for final demand in general this was 12 persons.

In qualitative terms, final demand for manufactured goods generated 30% of (cumulated) male employment and 28% of low-skilled employment, but only 17% of female employment and 14% of part-time cumulative employment. The low share of part-time workers in manufacturing already partly explains its low absolute employment multiplier.

The paper proposes three, more developed, descriptive uses of qualitative employment multipliers. In the first, qualitative employment multipliers are used to identify the final demand products that generate the most low-skilled employment. We found that 10 goods or services, representing only 6.3% of total final demand were responsible for 17.1% of the cumulated low-skilled employment.

The second application is in the context of the technology-skills literature. Qualitative employment multipliers are a good measure for testing the relation between the production of new goods and services (such as ICT) and the use of high-skilled labour. The technology-skills literature expects this relation to be positive. We found that in 2000, 34% of cumulative employment generated by final demand for ICT goods was tertiary schooled. For ICT services this was 40%. For non-ICT goods and services these figures were down to 22% and 35% respectively. Still, a million euro spent on ICT services generates less tertiary schooled employment than does a million spent on non-ICT services.

In the third application, employment multipliers were generated for the major components of final demand based on the product composition of these components. Our results confirm predictions derived from trade theory that Belgian exports use less (cumulative) employment than consumption and investment. Thus the famous Leontief Paradox did not arise for Belgium in 2000. As for the use of high-skilled labour, a new paradox did arise though, because it was government consumption - which faces the least international competition - that made the most intensive use of tertiary schooled workers.

With its final demand share of 16.2%, government consumption was responsible for 26.5% of cumulative employment generation and as much as 40% of tertiary schooled employment in 2000. Most of this 40% was generated by education services (47%), followed by social work services (28%). The low employment multipliers for exports translated their final demand share of 45% into a cumulated employment share of 33% in 2000. Their cumulative employment share of tertiary schooled workers was limited to 28%.

Finally, the paper shows some of these results for 2002 and discusses the updating of qualitative employment multipliers.

“Qualitative Employment Multipliers for Belgium, results for 2000 and 2002”, B. Van den Cruyce, J. Wera, Working paper 15-07, November 2007.

An analysis of recent measures concerning the pension scheme for the self-employed

The Generation Pact and, before that, the Councils of ministers held in Gembloux and Ostend, have led to adjustments in the pension scheme for self-employed workers: an increase in the minimum pension, welfare adjustments (including the “welfare bonus”), a pension bonus and adjustment of pension penalties (“malus”). The MoSES model was used to estimate the budgetary cost of these reforms and to assess their impact on the average pension benefit for the self-employed. The Working Paper first gives a general survey of the model and its new functionalities (some of which have been specially developed in order to model the new measures) and presents the results of the simulations.

MoSES (Model of the Self-Employed Scheme) makes forecasts about the average annual pension of self-employed workers, in co-ordination the long-term modelling system MALTESE. The first version of MoSES took the following parameters into account: sex, type of activity (on which the level of income depends), type of career (homogeneous or mixed), career length, type of pension (retirement pension, survivor’s pension), and the pension tariff (for a household or a single person) chosen by each individual. It then projected the “stock” of pensioners on the basis of the sex, marital status and age of the beneficiaries, as well as the pension tariff and the type of pension. In the new version, an essential variable has been added: the age of retirement (a specific career length is associated with each age and entry category). With the new version, it is now possible to make a double projection at the level of the stock: a projection for the beneficiaries of the minimum pension and a projection for other beneficiaries (each of them receiving a specific average pension benefit). From now on, it will be possible to analyse several characteristics of the evolution of the average pension in the self-employed scheme. It shows, for instance, that the growth rate of the average pension benefit – and, hence, of pension expenditure – depends more on the growth rate of the minimum pension – which is laid down by law – than on other variables such as income growth or the income ceilings of the self-employed.

Due to the new modelling, we can analyse a wide range of measures. Indeed, the model incorporates typical cases and stresses two essential parameters of the scheme: firstly, the minimum pension benefit is preponderant, and, secondly, the majority of beneficiaries receive a

mixed pension benefit (i.e. from both the self-employed and the wage-earner scheme). The model not only assesses the budgetary cost of measures for the short, medium and long term but it can calculate their impact on the average pension benefit for all beneficiaries or for specific categories such as women, beneficiaries of homogeneous pension benefits, beneficiaries of a survivor’s pension and beneficiaries of pensions that started before a particular year, etc.

By analysing the measures that have been adopted recently within the framework of the Council of Ostend and the Generation Pact, MoSES was able to highlight the fact that welfare adaptations – which, in the case of wage-earners, apply to almost all pensions – only have a limited impact on the self-employed, as a great many of them rely on the minimum pension anyway. Indeed, a welfare adaptation of 2% amounts to a mere 0.9% rise in the average pension benefit for self-employed men and a 1.2% rise for self-employed women (the reason being that even after the rise is applied, a great number of pensions remain below the minimum level). The model has also showed that raising the minimum pension has a greater impact on average pensions in the self-employed scheme. However, such a measure leaves several categories of beneficiaries aside. For example, many women who are on a very low pension would not benefit from such a measure, because they have not worked for long enough to get the minimum pension. Still, a 16% rise of the minimum pension over a period of four years leads to an average pension benefit increase of 12.3% for men and 10.1% for women in the self-employed scheme.

The pension scheme for the self-employed is more complex and far less homogeneous than the scheme for wage-earners. Some measures that are worked out with the beneficiaries of the wage-earner scheme in mind – i.e. the vast majority of pensioners – sometimes fail to reach their objective or have a different impact in the self-employed scheme.

“Coût budgétaire et effet sur la pension moyenne des mesures récentes dans le régime des travailleurs indépendants - une analyse réalisée par une version adaptée du modèle MoSES”
B. Scholtus,
Working Paper 16-07, December 2007.

Other Recent Publications

Working Paper 14-07, October 2007

“Market services labour productivity growth in three small European countries: Austria, Belgium and the Netherlands”

B. Biatour, Ch. Kegels

Economic Forecasts 2008, September 2007

(available in Dutch and in French).

Working Paper 13-07, September 2007

“Werkloosheidsuitkeringen en de effectiviteit op lange termijn van verminderingen in de personenbelastingen, werknemers- en werkgeversbijdragen in LABMOD”

P. Stockman

Working Paper 12-07, September 2007

“Wage and age related employers’ SSC cuts and wage subsidies in the 2007 vintage of HERMES”

P. Stockman

Working Paper 11-07, September 2007

“Le programme national de réforme de la Belgique. Effets macroéconomiques de réductions de charges sur le travail”

D. Bassilière, F. Bossier, I. Lebrun, P. Stockman

Working Paper 10-07, September 2007

“Foreign trade in Modtrim”

B. De Ketelbutter, L. Dobbelaere, F. Vanhorebeek

The NIME Outlook for the World Economy, August 2007

“A Medium-Term Outlook for the World Economy 2007-2013”

Working Paper 9-07, April 2007

“Regionalisatie van de energievoorzichten voor België tegen 2030: resoluten voor het Brussels Hoofdstedelijk Gewest - Régionalisation des perspectives énergétiques pour la Belgique à l’horizon 2030: résultats pour la Région de Bruxelles-Capitale”

D. Devolgelaer, D. Gusbin, L. Janssen

Working Paper 8-07, May 2007

“An accuracy assessment of FPB’s medium-term projections”

I. Lebrun

Economic outlook 2007-2012, May 2007

“Perspectives économiques 2007-2012 / Economische vooruitzichten 2007-2012” Economic policy measures

Recent history of major economic policy measures

October 2007

The European Commission adopted a formal decision that makes the market-opening commitments offered by gas trading company Distrigas legally binding. The commitments imply that Distrigas will reduce the gas volumes tied in long-term contracts, which should encourage competition.

September 2007

Conditional upon shareholders’ approval in Spring 2008, Suez and Gaz de France (GdF) will merge to create one of the largest energy groups in the world. The merged company must fulfil the conditions set by the European Commission in November 2006 in order to reduce its dominant position on the Belgian market. Suez will have to sell the gas trading company Distrigas and give up control of the gas transport system operator, Fluxys. GdF will have to sell its share in the Belgian power generation company SPE. Furthermore, the international gas hub at Zeebrugge will be operated independently from Suez, and new network capacity will be developed.

June 2007

The ministers of energy from the Benelux countries, France and Germany signed a memorandum of understanding to analyse, develop and implement an extension of the coupling of their electricity markets to those of Luxembourg and Germany from 2009.

The ECB raised its main refinancing rate by a quarter of a point to 4%.

April 2007

In order to offset a rise in implicit employees’ and employers’ SSC rates on low-wage employment, more generous employees’ and employers’ SSC reduction parameters took effect on April 1st. The rise in the SSC rates follows a raise in the legally guaranteed minimum wage and the pay rises sanctioned by the latest Interprofessional Agreement.

March 2007

The federal government confirms its objective of achieving a budget surplus of 0.3% of GDP in 2007 (for the general administration) as stated in the December 2006 Stability program and in the so-called “ageing law”. The ECB raised its main refinancing rate by a quarter of a point to 3.75%

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