

SHORT TERM UPDATE

4-09

Quarterly Newsletter
December 2009

Headlines Belgian Economy

Special Topic in this issue
Uncertainty surrounding the
output gap: The Belgian case

Quarterly Newsletter of the Federal Planning Bureau

Short Term Update (STU) is the quarterly newsletter of the Belgian Federal Planning Bureau. It contains, in English, the main conclusions from the publications of the FPB, as well as information on new publications, together with an analysis of the most recent economic indicators.

HEADLINES BELGIAN ECONOMY

In view of the new round of stability and convergence programmes (SCP) by the EMU member states, the FPB transmitted a medium-term outlook for the Belgian economy to the federal government. In this outlook, the short-term international assumptions are based on the November forecasts of the EC. These assumptions result in a gradual recovery of Belgian GDP in 2010 (0.8%) and 2011 (1.6%), after a decline of 3.1% in 2009. More information on this simulation can be found on pages 5-6.

As world trade appears to recover at a faster pace than expected in the EC outlook, the FPB produced a technical update of the SCP-simulation. This second simulation results in relatively stronger Belgian economic growth in 2010 and 2011 (1.1% and 1.7% respectively). From 2012 to 2014 economic growth is expected to be 2.1% on average, which might not be sufficient to close the output gap by 2014. Comments in the next paragraphs are based on this exercise.

Private demand was heavily affected by the financial and economic crisis. Private consumption suffered from a lack of confidence which brought an important increase along in the savings rate in 2009. In the medium term, consumption growth should gradually recover but remain below 2%. Gross fixed capital formation plummeted in 2009 and is unlikely to recover soon as idle production capacity is still abundant. From 2011 to 2014, average investment growth should amount to 2.1%. Exports declined by more than 10% in 2009, but should recover from 2010 onwards and reach an average growth rate of 4.4% from 2011 to 2014.

As employment typically reacts with a lag to the business cycle, the decrease in employment should even be stronger in 2010 than in 2009, before increasing gradually from 2011 onwards. The (broad administrative) unemployment rate should increase by 2.5 percentage points in 3 years and reach 14.3% in 2011. From 2012 onwards the unemployment rate should diminish somewhat, but total administrative unemployment should still amount to more than 730 000 persons in 2014 (130 000 persons more than in 2008).

Due to the recession the public deficit increased to 5.8% of GDP in 2009. Under an unchanged policy assumption the net public financing requirement should decline by 0.6% of GDP in 2010 and roughly stabilise somewhat below 5.5% in the medium term.

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*FPS Economy, S.M.E.s,
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STU 04-09 was finalised on 21 December 2009.

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



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Uncertainty surrounding the output gap: The Belgian case

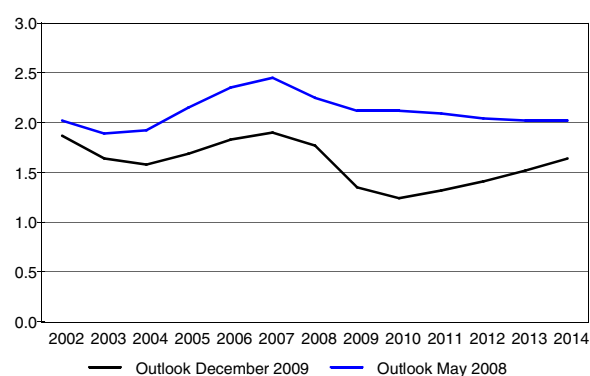
Because they allow the medium-term non-inflationary growth path of the economy to be determined and the cyclical component of the budget balance to be identified, the concepts of potential growth and output gap have become essential ingredients in the European fiscal surveillance process. The estimation of these is, however, surrounded by a degree of uncertainty that can be substantial when the economy is exposed to large shocks. Consequently, the ongoing financial and economic crisis has led international organisations and many national authorities to revise their *ex post* measurement of the output gap. The current uncertainty regarding output gap estimates can be illustrated in various ways. One approach consists of comparing the estimates produced by a particular institution before and after the outbreak of the crisis. The comparison between estimates from different organisations constitutes another way of illustrating the uncertainty.

Potential output is an aggregate indicator of the supply-side capacity of an economy, whilst the output gap, defined as the percentage deviation of the actual level of output from the potential level, is an indicator of the state of the business cycle. Estimating the output gap is not straightforward since potential output is not directly observable. It may be computed through a variety of methods. Most international organisations rely on a method based upon a macroeconomic production function that allows potential output to be broken down into contributions from input factors and total factor productivity. In order to identify the underlying trends, this methodology uses statistical filters to smooth some of the input series. Due to the well-known end-point problem (difficulty of disentangling the cycle from the trend at the end of the sample) a widespread approach consists of applying a filter to a historical series that is supplemented by projected values. Following this approach, the Federal Planning Bureau uses its medium-term scenario for the Belgian economy, produced with the HERMES model, to compute potential GDP.

The FPB's potential growth estimates based upon, respectively, the May 2008 and December 2009 medium-term economic outlooks (see pages 5-6), are given in Graph 1. This comparison reveals important downward revisions as potential growth is reduced by 0.75%-point in 2009 and close to 1%-point in 2010. It is notable that potential growth estimates for the years prior to the crisis have also been reduced significantly. These revisions reflect the view that the economic growth recorded dur-

ing the years preceding the burst of the financial bubble was in fact unsustainable and fuelled by an excessive expansion of credit. This view has been challenged by some economists, claiming that a large positive output gap prior to the crisis would be in contradiction with the absence of substantial upward pressure on core inflation. However, others argue that central banks were actually lulled by global disinflation and that in fact inflationary pressures materialised in the form of credit and asset market bubbles and tensions that reflected in commodity prices.

Graph 1 - FPB potential GDP estimates
growth rates in %

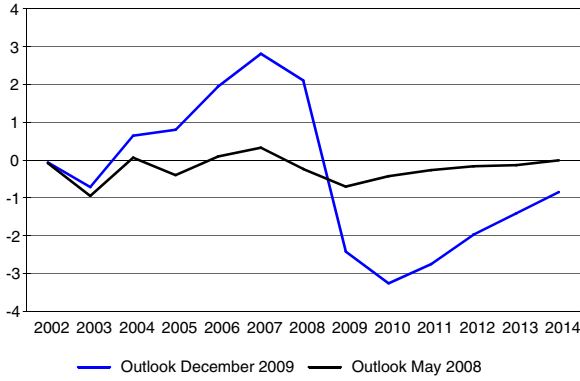


The level of potential output in 2014, as estimated in the medium-term economic outlook of December 2009, is about 6% lower than that computed in May 2008. The most important factor behind this revision, especially for the period preceding the crisis, is total factor productivity which accounts for 3.8%-points. The contribution of labour has been revised downwards by 1.7%-points while the revision of the contribution of capital accounts for a mere 0.4%-point. In the methodology used here to compute potential GDP, the contribution of total factor productivity and labour input are cyclically adjusted through the use of statistical filters. In contrast, capital input is not adjusted because it is assumed that it already represents its potential contribution to output. This explains why the contribution of capital has not been revised for the past.

The downward revisions of potential GDP suggest, for the period between 2004 and 2008, a much more positive output gap than previously estimated. Business cycle conditions now appear to have been very favourable during this period, while in May 2008 they were still considered to be relatively neutral with an output gap close to zero. This tendency to underestimate cyclical

conditions in “good times” is not a novelty: a similar episode of revising the output gap upwards happened at the beginning of this decade after the burst of the ICT bubble and the subdued economic performance that followed.

Graph 2 - FPB output gap estimates
in % of potential GDP



The output gap estimated by the FPB is in line with that published by the European Commission in the Autumn 2009 release of its economic forecasts. The EC methodology uses univariate time series models to construct projections beyond the forecasting horizon, which suggest a progressive re-emergence of long-run historical patterns for capital accumulation and total factor productivity.

The OECD has a different approach. Firstly, considering that a sizeable positive output gap before the outbreak of the crisis would be inconsistent with the recorded core inflation, it uses a set of projections made prior to the crisis to compute historical values of potential output. Secondly, it considers only the consequences of the shock, i.e. a reduction in the equilibrium level of the capital stock and an increase in the structural unemployment rate, although it assumes that some of that increase will be reversed over time.

Table 1 compares potential growth estimates and factor input contributions, as computed by the FPB¹ and the OECD for the Belgian economy. The methodology used by the OECD and described above suggests significantly higher potential growth estimates for the period 2006-2008, with potential productivity being the main factor behind the differences. More surprisingly, the OECD potential growth estimates are also clearly higher for the period 2009-2011, again mainly due to higher productivity growth. Beyond 2011 the picture changes completely as the FPB estimates become much more optimistic. This is primarily explained by a different view on potential productivity growth and by very different

assumptions regarding the evolution of the working age population, the latter having little to do with the financial crisis.

Table 1 - Potential growth and contributions

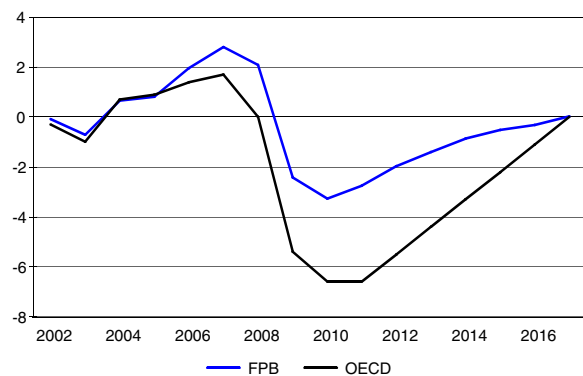
	2006-2008		2009-2011		2012-2017	
	(1)	(2)	(1)	(2)	(1)	(2)
Potential GDP (growth rate in %)	2.5	1.9	2.0	1.4	0.6	1.7
Contributions to potential growth :						
Potential productivity per worker	1.4	0.7	1.2	0.7	0.7	1.1
Potential employment	1.1	1.1	0.8	0.6	-0.1	0.6
Of which :						
Working age population	0.9	0.9	0.8	0.5	-0.1	0.3
Trend participation rate	0.2	0.2	0.1	0.1	0.0	0.2
Structural unemployment (NAIRU)	0.0	0.0	-0.1	0.0	0.0	0.1

(1) OECD, Medium-term Reference Scenario, EO86, November 2009

(2) Federal Planning Bureau, Medium-term Economic Outlook, December 2009

These differences in potential growth estimates have, of course, important implications for the output gap. While both institutions have comparable values until 2005, the OECD has a much smaller excess demand gap in 2008 and consequently a much more negative output gap in 2009-2011. Despite this much lower starting point, the collapse in potential output assumed by the OECD beyond 2011 implies that, in order to close the output gap by 2017, there will be a lower average actual GDP growth rate (1.8%) than that projected by the FPB (2.1%).

Graph 3 - Output gap estimates: comparison between FPB and OECD estimates
in % of potential GDP



These differences in diagnosis concerning the state of the business cycle and the medium-term non-inflationary growth path of the Belgian economy make any evaluation of the current and future fiscal position very uncertain.

1. The FPB's medium-term outlook traditionally covers a period of 6 years, but unpublished results up to 2017 produced by the HERMES model are used in Table 1.

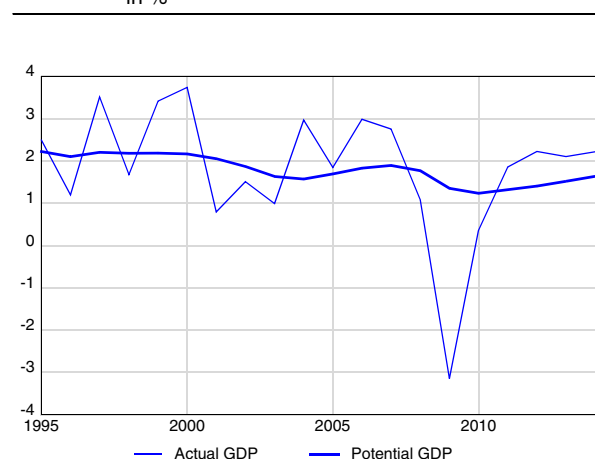
Economic outlook for 2009-2014, dated December 2009

In view of the new round of stability and convergence programmes by the EMU Member States, the FPB transmitted a medium-term economic outlook for the Belgian economy to the Belgian federal government. As in May 2009, this December outlook considers a gradual emergence from the crisis for Europe and the return, for the Belgian economy, to the average growth rates that have been observed over the last twenty years. However, this recovery would not be sufficient to reduce significantly the unemployment rate and the public deficit.

The Belgian economy emerging from recession in the short term

The EU economy is gradually emerging from the worst recession in the post WWII period: after a decline of about 4% of the volume of its GDP, on average, during the year 2009, the Euro area should experience a gradual recovery over 2010 and 2011. For the Belgian economy, the gradual end to the crisis would amount to a modest 0.8% growth rate in 2010 (after a decline of -3.1% in 2009). The growth of our economy should then accelerate from 2011 onwards and progressively come back to the average pace that was observed over the last twenty years (average growth rate of 2.2% for the period 2012-2014), although higher than that calculated over the last six years. The GDP growth rate is thus expected to largely exceed the potential GDP growth during this period. However, a negative output gap would still persist until the end of the projection period.

Graph 1 - Actual and potential GDP growth in %



In the context of the economic recession, which is bearing heavily on private consumer confidence, households have significantly raised their saving rate in 2009, although the rise in real disposable income (largely explained by the lagged wage indexation) would help to limit the fall of private consumption (-1.3% in 2009). In

2010, private consumption is expected to rise at a modest pace, in the context of lower employment and limited wage growth. From 2011 onwards, thanks to a recovery of employment and an acceleration of wage growth, household demand growth should gradually increase and stabilise at a rate near to 2%. Weak demand prospects, a sharp cut in profits and a toughening of financing conditions explain the fall in business investment in 2009. Private investments should still decline in 2010 but then gradually recover. All in all, the growth of domestic demand, after a serious fall in 2009, should start to rise again: slightly in 2010 and at a stronger pace thereafter.

Exports have markedly decreased in 2009, owing to the very unfavourable international environment this year. At the same time, the fall in imports, guided by the decline in final demand, has been less marked, so that the contribution of net exports to GDP growth should be largely negative in 2009. Exports should gradually recover after then (they should increase by 4.4% on average during the period 2011-2014) and the contribution of net exports to GDP growth is expected to become slightly positive during this period. The current external balance, which turned into a deficit in 2008, has remained largely negative in 2009, despite the fall in energy prices on the international market. The external balance should improve in the medium term, but a deficit should still be registered at the end of the projection.

Inflation equal to 0% in 2009 and below 2% in the medium term

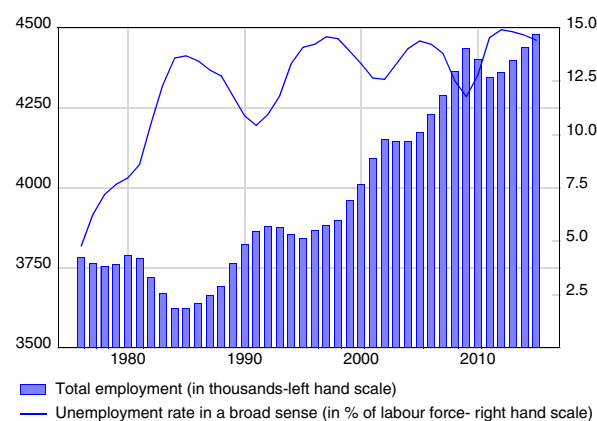
After reaching a peak in 2008, the inflation rate, as measured by the national consumer price index, should be equal to 0% on average in 2009, partly as a result of the strong decrease in energy prices. In the medium term, inflation should start rising while remaining under the 2% threshold.

Large increase in the unemployment rate

The effects of the fall in activity on employment should materialise progressively: domestic employment is expected to decrease much more strongly in 2010 than in 2009: over the two years, about 80 000 jobs are expected to be lost. In the medium term, however, employment is expected to grow again at a yearly rate of 0.9% from 2012 onwards. The labour supply is expected to increase by more than 200 000 people over the 2009-2014 period as a result of demographic evolutions and structural rises in female activity rates and in both male and female activity rates at the top of the age scale. The evolution of employment combined with the increase in the labour

force should lead to a rise in unemployment of 156 000 units over 2009-2011; the unemployment rate (broad administrative concept) should attain 14.5% in 2011 (against only 11.8% in 2008). From 2012 onwards, the unemployment rate should slowly decrease to reach 14.1% in 2014.

Graph 2 - Employment and unemployment



Kyoto objectives reached for the period 2008-2012

The GHG emissions target set by the Kyoto Protocol should be widely reached, notably because of the severe contraction in industry branches (i.e., the ETS sector) from 2009 to 2011, as well as a reduction of emissions in the other branches (the non-ETS sector). During the 2008-2012 period, GHG emissions should amount to 126.5 million tons of CO₂ equivalent on average, i.e. a level under the maximum, set at 134.8 million tons. Even so, the objectives for the reduction in energy consumption and GHG emissions by 2020 that are set in the new European Climate-Energy Plan constitute a new challenge.

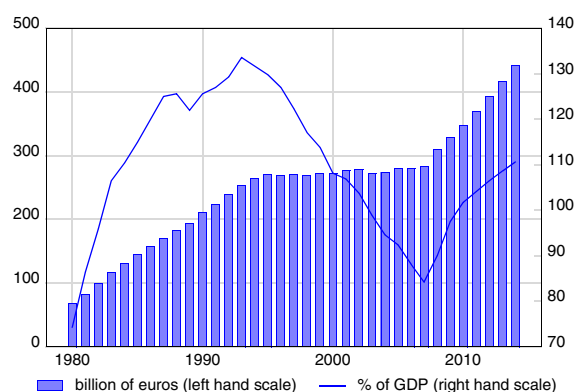
Deficit for the public finances in the medium term

The public deficit, still moderate in 2008, widened sharply in 2009 as a result of the cyclical downturn and recovery measures decided on by the authorities. In the macroeconomic context of this projection, the deficit should remain almost stable over the 2011-2014 period, at about 5.5-5.7% of GDP, despite the measures decided on at the autumn 2009 budget councils.

These measures, mainly providing for an increase in tax and non tax revenue in 2010 and 2011, will only prevent the deficit from further widening. The medium term target of the Government as part of the Stability Program - a general government budget balance in 2015 - is thus not expected to be reached without additional measures. The deficit is mainly located in Entity I (the federal authority and social security).

The deficit level is far above the threshold preventing the snowball effect of public debt: therefore, the public debt, crossing 100% of GDP this year, is projected to approach 110% of GDP within five years, assuming constant policy.

Graph 3 - Public debt



Key figures for the updated medium-term economic outlook in December 2009
period averages - changes in volume unless otherwise stated

	1997	2003	2009
	2002	2008	2014
Potential export market	6.9	6.6	2.3
Private consumption	2.1	1.4	1.0
Public consumption	2.2	1.9	1.8
Gross fixed capital formation	2.9	4.9	0.7
Stock building (contribution to GDP growth)	-0.1	0.2	-0.1
Final domestic demand	2.1	2.4	1.0
Exports	4.6	3.6	1.1
Imports	4.3	4.1	1.2
Net exports (contribution to GDP growth)	0.4	-0.2	-0.0
GDP	2.4	2.1	0.9
Private consumption prices	1.6	2.8	1.4
Real disposable income households	1.5	0.8	1.6
Domestic employment (annual changes in '000)	43.9	48.7	9.2
Unemployment, FPB definition ^a			
thousands	643.8	600.5	748.6
% of labour force	13.3	11.8	14.1
Current account balance (% of GDP) ^a	5.0	-0.8	-0.5
General Government financing capacity (% of GDP) ^a	-0.2	-1.2	-5.7

a. end of period

Economic forecasts for Belgium by different institutions

	GDP-growth		Inflation		Government Balance		Date of Update
	2009	2010	2009	2010	2009	2010	
Federal Planning Bureau [1]	-3.1	1.1 ^a	0.0	1.5	-5.8	-5.2	12/09
INR/ICN [1]	-3.1	0.4	0.0	1.5	.	.	09/09
National Bank of Belgium [2]	-3.1	1.0	0.0	1.6	-6.1	-5.4	12/09
European Commission [2]	-2.9	0.6	0.0	1.3	-5.9	-5.8	11/09
OECD [2]	-3.1	0.8	-0.1	1.0	-5.7	-5.6	11/09
IMF [2]	-3.2	0.0	0.2	1.0	-5.9	-6.3	10/09
ING [1]	-3.2	1.3	-0.1	1.2	-6.0	-6.0	12/09
BNP Paribas [2]	-3.1	1.2	0.0	1.2	-5.0	-6.5	11/09
Dexia [1]	-2.9	1.5	-0.1	1.1	.	.	12/09
KBC Bank [1]	-3.0	1.7	0.2	1.8	-6.2	-5.4	12/09
Deutsche Bank	-3.1	1.6	0.0	1.3	-6.2	-5.9	12/09
IRES [1]	-3.1	0.7	0.0	1.5	-5.6	-6.1	10/09
Consensus Belgian Prime News [2]	-3.0	1.1	0.1	1.1	-4.7	-5.4	09/09
Consensus Economics [2]	-3.4	0.6	0.2	0.9	.	.	11/09
Consensus The Economist [2]	-3.0	1.4	0.1	1.1	.	.	12/09
Consensus Wirtschaftsinstitute [2]	-3.0	0.8	0.1	1.0	-5.4	-5.8	10/09
Averages							
All institutions	-3.1	1.0	0.0	1.3	-5.7	-5.8	
International public institutions	-3.1	0.5	0.0	1.1	-5.8	-5.9	
Credit institutions	-3.0	1.4	0.0	1.3	-5.6	-5.8	

a. See page 1 for more information

[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

Economic forecasts for the euro area by different institutions

	GDP-growth		Inflation		Government Balance		Date of update
	2009	2010	2009	2010	2009	2010	
European Commission	-4.0	0.7	0.1	1.1	-6.4	-6.9	11/09
OECD	-4.0	0.9	0.2	0.9	-6.1	-6.7	11/09
IMF	-4.2	0.3	0.3	0.8	-6.2	-6.6	10/09
ING	-3.9	1.4	0.3	1.4	-6.5	-7.2	12/09
BNP Paribas	-3.8	1.3	0.3	1.3	-6.4	-6.7	11/09
Dexia	-3.9	1.5	0.2	1.1	-6.4	-6.9	12/09
KBC Bank	-3.9	1.5	0.2	1.1			12/09
Goldman Sachs	-3.9	1.5	0.3	1.1	-6.0	-6.5	12/09
Deutsche Bank	-3.9	1.5	0.3	1.2	-6.4	-6.9	12/09
Morgan Stanley	-3.7	1.2	0.4	1.3	-5.7	-7.7	11/09
Consensus AIECE	-4.8	-0.3					10/09
Consensus Economics	-3.8	1.2	0.3	1.1			11/09
Consensus Wirtschaftsforschungsinstitute	-3.9	0.7	0.3	0.8	-5.7	-6.6	10/09
Consensus The Economist	-3.8	1.2	0.4	1.2	.	.	12/09
Averages							
All institutions	-3.9	1.0	0.3	1.1	-6.2	-6.9	
International public institutions	-4.1	0.6	0.2	0.9	-6.2	-6.7	
Credit institutions	-3.8	1.4	0.3	1.2	-6.2	-7.0	

Pursuing the Lisbon Strategy in Belgium

When compared to other developed countries, Belgium is characterised by a relatively high level of labour productivity, but a relatively low employment rate. A factor behind these two observations may be the relatively high cost of labour, 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, venture capital and market regulation, Belgium's performance is close to the EU average. At both the European and the Belgian levels, the evolution of performance in these areas shows a mixed picture. 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, as is long-term unemployment.

In most other areas discussed in this section, performance is improving at both the Belgian and EU levels, but

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

targets are still far from being met. For Belgium, the improvements have been strong in environmental issues, the information society and market regulation. Improvements have also been made in labour taxation, education and the creation of the internal market. The performance of network industries produced mixed observations: positive for telecommunications, railways and postal services; negative for energy. In some areas, performance is stable or worsening. A stable performance is found in overall fiscal pressure and youth unemployment; a worsening performance in innovation, life-long learning, poverty risk and entrepreneurship. The following table indicates to what extent the targets set by the EU for specific indicators have been met.

Performance with respect to EU targets*

Indicator	Target	Belgium	EU average	Best pract.
Total employment rate	70%	62%	66%	DK NL
Employment of older workers	50%	35%	46%	SE EE
Emission of greenhouse gases**	-7.5%	-9.9%	-5.0%	DE UK
R&D expenditure as % of GDP	3%	1.9%	1.9%	SE FI
Transposition deficit	1%	1.2%	1.0%	DK MT
Participation in life-long learning	12.5%	6.8%	9.6%	SE DK

Source: Eurostat (Structural indicators) and European Commission (DG Internal Market)

(*) Data for the most recent year available (2006/2007/2008). For further definitions and explanations, see the respective indicators on the following pages.

(**) EU15 only, since performance in NMS is also related to serious cutbacks in manufacturing activity caused by the economic transition. The average EU15 target is -8%.

Background to the benchmarking

The FPB annual benchmarking of structural economic performance puts Belgian efforts to pursue the Lisbon Strategy into perspective by comparing them with the performance of its neighbouring countries and with the EU averages.

Economic and political triggers

The Lisbon Strategy 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 of 2005, 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) for structural measures. The Member States make annual progress reports on their implementation. The present set of these reports was submitted to the EU in October 2008 and was peer reviewed in November.

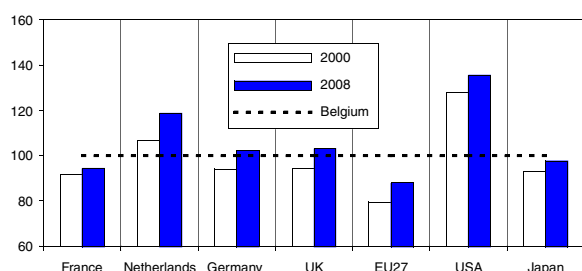
Overview of this issue

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 microeconomic indicators and labour market indicators of structural reform, respectively. Note that openness is considered an objective since it is expected to 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 monitor the progress of the implementation of the IG and to detect best practices. Comparisons with the EU average generally refer to the EU27, but in certain cases reference is still to the EU25 or EU15. Where sufficient data is available, reference is also made to the US and Japan.

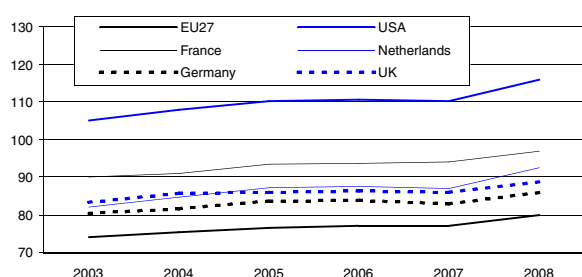
Policy objectives: productivity and employment

Graph 1 - GDP per capita, in PPS (Belgium=100)



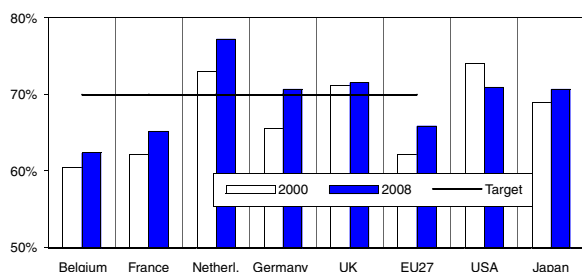
Source: FPB, based on Eurostat (Structural Indicators)

Graph 2 - GDP per hour worked (Belgium=100)*



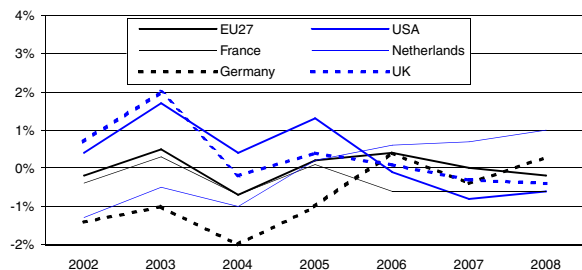
Source: FPB, based on Eurostat (Structural Indicators)
 (*) Measured in PPS

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 Eurostat (Structural Indicators)

As shown by the comparison of GDP per capita in PPS, Belgium is one of the European countries with the highest annual rates of wealth creation per person. However, the Belgian relative position deteriorated against all the countries shown in Graph 1 between 2000 and 2008. If this deterioration is to be expected against those European countries that are catching up, it is more alarming when advanced countries are taken into consideration. In 2008, GDP per capita in Belgium was 19% below the Dutch level and 36% below the US level.

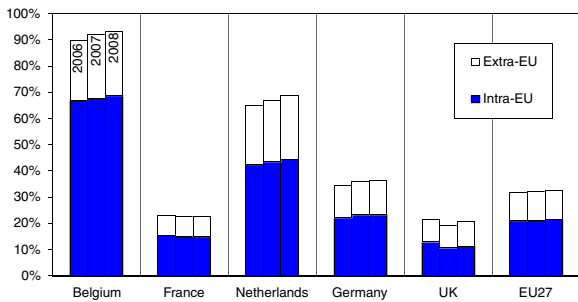
Per capita GDP growth can be due to growth in labour utilisation and to growth in productivity. The GDP per person employed in Belgium is one of the highest in the world, illustrating the well-known high level of Belgian productivity. Only the US productivity level is higher than the Belgian one in Graph 2. However, a deterioration in Belgium's relative performance can be observed, especially for the most recent years. In 2008, Belgian GDP per person employed was 20% higher than the EU27 average, as against 26% in 2003. Some other European countries succeeded in improving their relative position over this period. This is clearly the case for the three neighbouring countries: France, the Netherlands and Germany.

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 2008, it reached 62.4%, one of the highest levels in many years, but still 3.5%-points below the European average and slightly less than 8%-points below the EU target line. Moreover, this improvement was one of the smallest among all the countries in Graph 3. Between 2000 and 2008, a clear increase in the employment rate was registered in Germany, the Netherlands and in France, as it was in the EU27 as a whole. The United Kingdom stabilised its employment rate at the high level of 71.5%, which is higher than the US level (70.7%).

In 2008, all countries recorded a severe deceleration in their growth caused by the turbulence of the financial markets during the last months of that year. However, on an annual basis, the average real GDP growth rate remained positive. With a real GDP growth rate of 1.0% in 2008, the Belgian performance was slightly above that of all the countries in Graph 4 except Germany and the Netherlands. This development foreshadowed a less marked economic downturn in 2009 in Belgium than in most other countries.

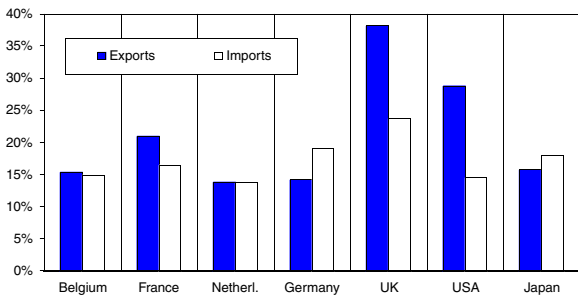
Policy objectives: openness and FDI

Graph 5 - Degree of openness, in % of GDP (2006-2008)*



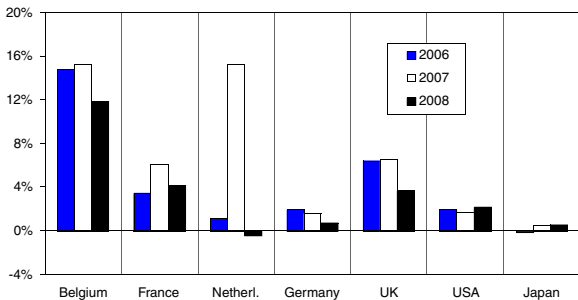
Source: Eurostat (Comext)
 (*) Average value of exports and imports of goods, valued in current prices

Graph 6 - Share of commercial services in trade, 2008*



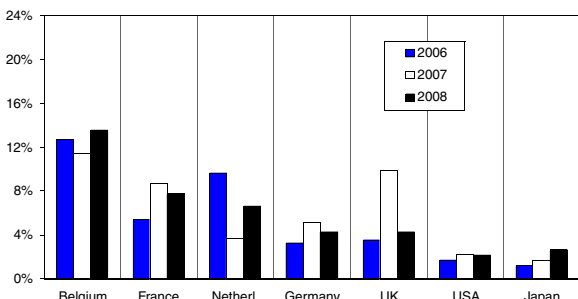
Source: WTO
 (*) Trade is derived from balance of payments statistics and does not correspond to the merchandise trade statistics given elsewhere. It is likely that for most economies trade in commercial services is understated.

Graph 7 - Inward FDI, in % of GDP



Source: Eurostat and UNCTAD

Graph 8 - Outward FDI, in % of GDP



Source: Eurostat and UNCTAD

The current economic and financial crisis has severely affected worldwide trade flows since mid-2008. According to OECD and WTO figures, growth in world trade in goods and services, in volume and value, came to a halt during 2008Q3. This was followed by a substantial fall in world trade in 2008Q4 and 2009Q1. The fall was stopped in 2009Q2 and a very slow recovery seems to be under way. However, it remains to be seen whether the trough has really been reached and whether world trade growth can gather pace again. The downturn in trade flows originated in North America and Europe, but quickly spread to developing countries. Several arguments are put forward to explain the magnitude of this global downturn: first and foremost the size of the demand shock affecting all parts of the world, but also the spread of global value chains that create deeper trade links between countries, the shortage of trade finance and increasing protectionism.

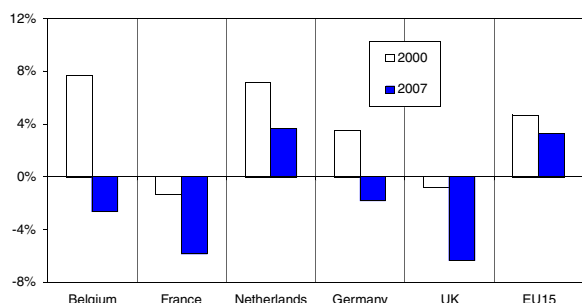
Belgium has followed the global trend as regards trade growth: figures on merchandise trade in value for Belgium show that there has been a substantial reduction in exports and imports of goods since 2008Q3. In terms of the geographical breakdown, Belgian trade with all parts of the world has been falling. In terms of the product breakdown, exports for the categories iron, steel and other metals, machinery and electrical appliances, and transport material have been hit most severely, whereas exports of chemical and pharmaceutical products have not been affected.

Nevertheless, the structural trade indicators shown in the graphs did not change very much in 2008 compared to previous years despite the crisis. Belgium remains the country with the highest degree of openness to merchandise trade among its neighbours and its share of services trade is still relatively low compared to big services traders such as the UK or the US.

Finally, the economic and financial crisis has also affected world FDI flows. They had already fallen sharply in 2008 - by 14% according to UNCTAD figures - after having reached a historic peak in 2007. A further substantial decline is expected for 2009. In 2008, it was essentially FDI inflows into developed countries that plummeted. This is reflected in the ratio of inward FDI to GDP, which has fallen quite substantially in Belgium and all its neighbouring countries. Nonetheless, Belgium remains the frontrunner in terms of this ratio. The 2008 figures for the share of outward FDI were not affected by the crisis as FDI continued to flow to developing countries. But by early 2009 the decline in FDI inflows had become global.

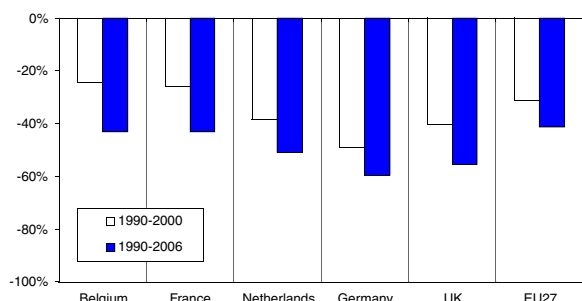
Policy objectives: environment

Graph 9 - Greenhouse gas emission deviations from 2010 target



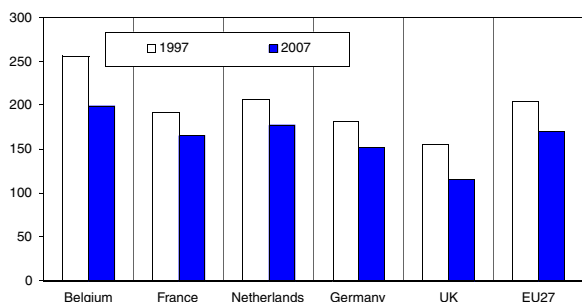
Source: Eurostat (Structural Indicators)

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



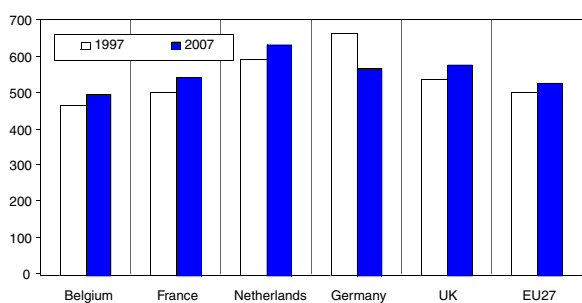
Source: Eurostat (Environment and Energy)
 (*) Tropospheric Ozone Formation Potential (TOFP) equivalents

Graph 11 - Energy intensity*



Source: Eurostat (Structural Indicators & Environment and Energy)
 (*) Consumption of energy, measured of kilograms of oil equivalents per EUR 1,000 of GDP at constant 2000 prices

Graph 12 - Municipal waste collected, in kg/person



Source: Eurostat (Structural Indicators & Environment and Energy)

As regards air emissions, Belgium performed quite well in comparison with its neighbouring countries and the EU27. Belgium achieved a 9%-point decrease in urban population exposure to particulate matter between 2001 and 2007, while urban population exposure in the EU27 increased by 1%-point. Belgium also achieved a decrease of 35% in acidifying emissions, and of 27% in tropospheric ozone precursors, while the corresponding average decreases in its neighbouring countries equalled 32% and 35% respectively. To meet its Kyoto protocol obligations, Belgium needs to obtain an average decrease in its greenhouse gas emissions over the period 2008-2012 of 7.5 % of the 1990 level. Belgium has outperformed its neighbouring countries over more recent years. Between 2000 and 2007, Belgian greenhouse gas emissions dropped by 10% - a decrease twice as large as the average in its neighbouring countries. As a result, emissions in 2007 had already dropped below the target level. This result was obtained, among other reasons, thanks to a fall of 22% in the energy intensity of its economy between 1997 and 2007. This decrease was considerably larger than the corresponding decrease for the EU27.

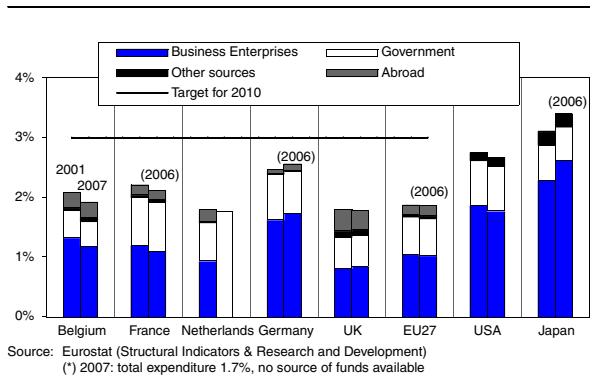
Due to the low rate of connection of the population to waste water treatment, water pollution was higher in Belgium than in its neighbouring countries. In 2007, 24% of the groundwater sampling sites contained over 50 milligrams of nitrates per litre, whereas this was the case for only 10% of sites, on average, in the neighbouring countries. Furthermore, only 44% of inland bathing waters in Belgium met the guidance levels of the bathing waters directive in 2006, compared to 56% of inland bathing waters in its neighbouring countries.

As concerns municipal waste collected per person, Belgium has been outperforming its neighbours for years. However, between 1997 and 2007 it increased by 6% in Belgium, while the average increase in its neighbouring countries was limited to 2%, due to a sharp drop in Germany. As a consequence, municipal waste collected per person in Belgium in 2007 rose to just over 94% of the EU27 average, up from just below 93% in 1997.

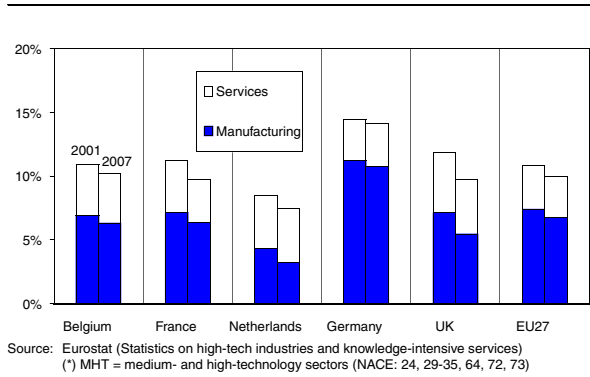
Regarding biodiversity, in 2008 a full 100% of the species and habitats listed in Annexes I and II to the habitats directive were covered by the protection sites proposed by Belgium. This is higher than all its neighbouring countries, except the Netherlands. The population of farmland birds decreased by 38%, however, between 1991 and 2005, more than double the rate of decrease in the EU25.

Micro-economic: R&D and innovation

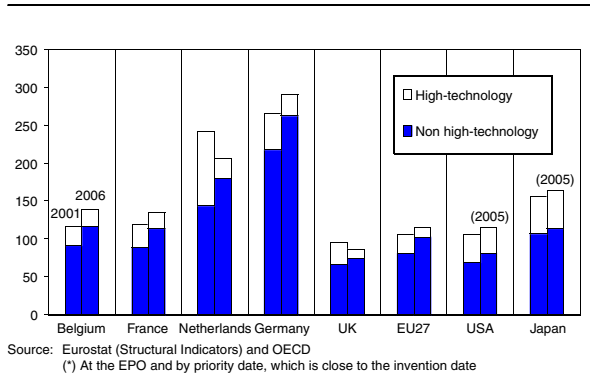
Graph 13 - R&D expenditure by source of funds, as % of GDP



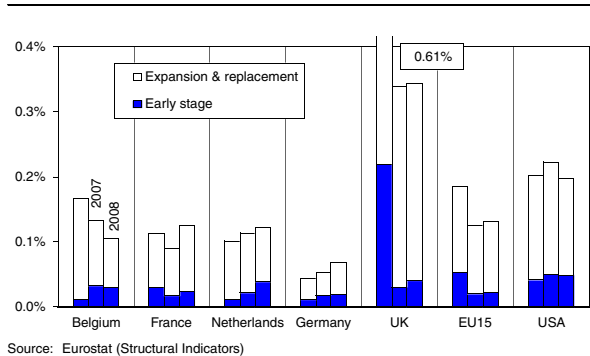
Graph 14 - Share of MHT sectors in total employment*



Graph 15 - Patent applications per million inhabitants*



Graph 16 - Venture capital investment as % of GDP



Innovation is a major source of productivity growth in the long term and consequently plays an important role in economic growth. Reinforcing R&D activity can improve the innovation capacity and competitiveness of Europe and allows it to become a more dynamic knowledge-based economy. R&D also helps to face up social challenges, such as health problems and environmental degradation. In 2007, R&D intensity in Belgium (1.90% of GDP) was slightly above the EU27 average (1.85% of GDP), but was largely lower than the performances of France, Germany, USA and Japan. After a fall in Belgian R&D intensity since 2001, a slight increase was observed in 2006 and 2007.

Belgian firms financed R&D at a level of 1.17% of GDP in 2007, which was above the EU27 average. Companies have played an important role in the fall in Belgian R&D expenditure since 2001 and in the recent slight rise. R&D intensity financed by the public authorities reached 0.42% of GDP, which was significantly below the European average for 2006 (0.62%) and equivalent to the level achieved by Belgium last year. Finally, funds from abroad constitute an important source of financing of R&D activities in Belgium (0.25% of GDP, against 0.16% on average in the EU27).

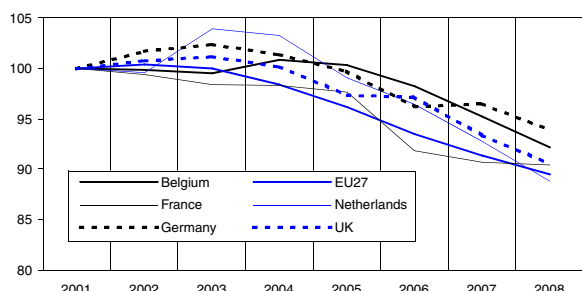
R&D activities and innovation are concentrated in the medium- and high-technology sectors (MHT). In 2007, the MHT sectors represented 10.2% of total employment in Belgium, which was equivalent to the European average (10.0%) and slightly below the level achieved in 2001.

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 to the European Patent Office from Belgium increased and was above the European average. Belgium was also largely above the European average in terms of the number of high-tech patent applications.

Easy access to venture capital promotes the dissemination of innovation. In Belgium, the decrease observed in 2007 in investment in venture capital continued in 2008, while a stabilisation was observed on average in Europe. In 2008, investment in Belgium amounted to 0.10% of GDP, a percentage slightly below the EU15 average (0.13%). A stabilisation of early stage investment was recorded in Belgium in 2008, while investment in expansion and replacement continued to decrease.

Micro-economic: communications

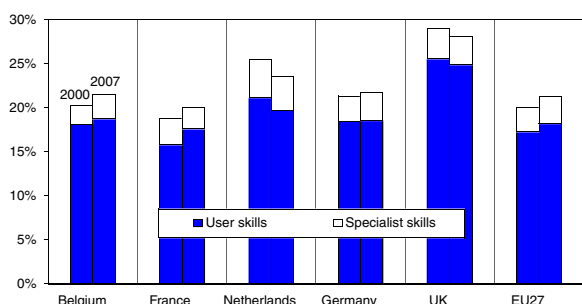
Graph 17 - Price index of telecommunications (2001=100)*



Source: Eurostat (Harmonised Index of Consumer Prices)
 (*) Annual average index of telephone and telefax equipment and services

In the Belgian electronic communications market, dominant positions are held by the fixed and mobile incumbents and by the largest mobile competitor. In November 2008, the federal government decided to strengthen the market regulator (BIPT/IBPT) and to increase the number of mobile licences. During 2009, several implementation measures were taken. Furthermore, an on-line tariff simulator was launched.

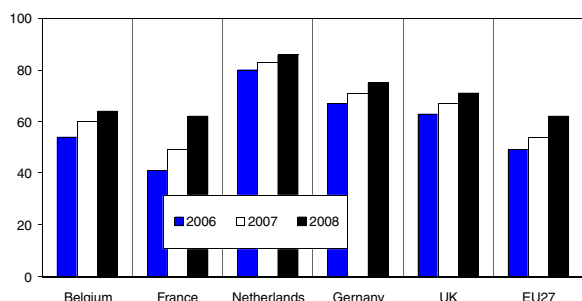
Graph 18 - Persons employed with ICT skills*



Source: Eurostat (Information Society Statistics)
 (*) percentage of total employment

Despite the incumbents' dominance, the Harmonised Index of Consumer Prices (HICP) for telecommunications shows a downward trend since the market opening in 1998. Until 2001, prices had already fallen by about 15%, which was close to the EU average. After a short period of stagnation, the downward trend continued. In 2008, Belgian prices were about 8% below their 2001 levels. They had fallen at the same rate as the EU average, except for 2004 when there was a 1.4% rise. The HICP, however, only shows price evolutions, and does not give comparative price levels. The last available data at Eurostat concerning the latter refer to 2006. Belgian local calls were then among the most expensive in the EU, whereas for national and international call charges, Belgium occupied a midway position.

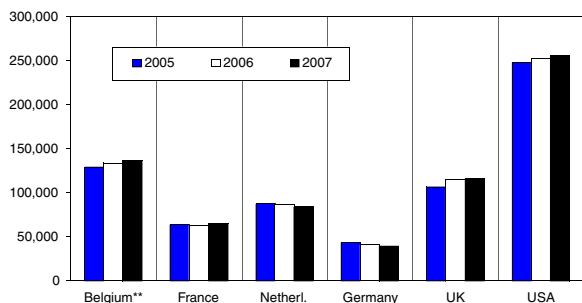
Graph 19 - Internet connections per 100 households



Source: Eurostat (Structural Indicators)

The number of persons employed with ICT skills gives an indication of the investment that has been made in ICT. In Belgium, as in other European countries, it amounts to about 20% of total employment. Among the neighbouring countries, the Netherlands and the UK perform better. They reached 24% and 28%, respectively, in 2007. For all countries shown, the numbers have been relatively stable since 2000, so no trends can be drawn from the graph.

Graph 20 - Number of domestic letters per worker*



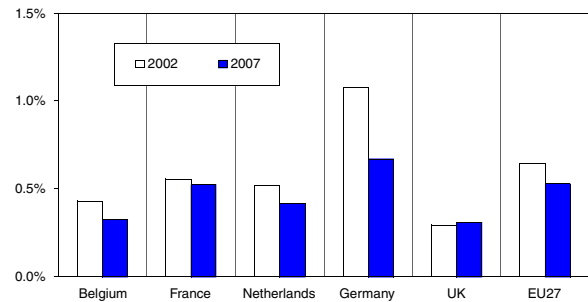
Source: FPB/BIP, own calculations based on data from UPU
 (*) Because of different data definitions, country-by-country comparisons may not be reliable.
 (**) Calculated from data issued by DePost/LaPoste

The rate of internet access among households is rising, along with the penetration of computer equipment. At the EU27 level, the former surpassed 50% in 2007, and reached 60% in 2008. Belgium did somewhat better and reached 64% in 2008. For both households and businesses, broadband access in Belgium progressed to 95% during 2008. 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 was opened. This may have been a trigger for the productivity increase from 128 000 to 136 000 items per FTE of the incumbent's mail division between 2005 and 2007. Nevertheless, Belgium and the other EU countries are far behind the productivity achieved in the US, although the comparability between countries is restricted owing to geographical and statistical differences.

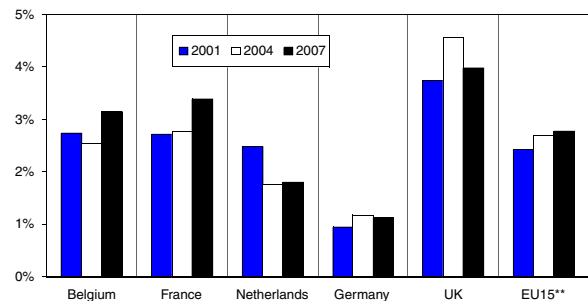
Micro-economic: internal market and competition

Graph 21 - State aid, as % of GDP*



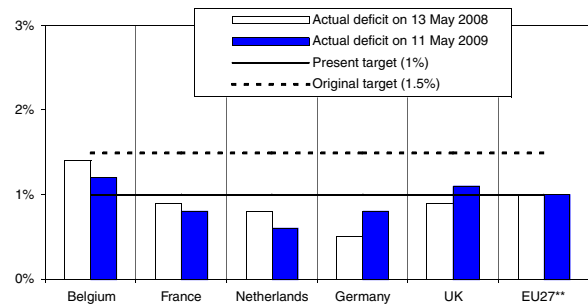
Source: Eurostat (Structural Indicators)
 (*) Total state aid, excluding support for railways, but including support for agriculture and fisheries

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



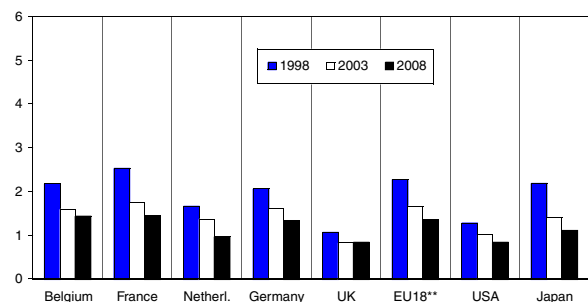
Source: Eurostat (Structural Indicators)
 (*) Advertised in the Official Journal of the European Communities
 (**) 2007: EU27 is 0.16%-point higher than EU15

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)

In the EU27, state aid gradually fell from 0.68% of GDP in 2002 to 0.53% in 2007. Since 2003, Belgium has ranked among the countries giving the lowest amount of state aid per euro of GDP. After having been at around 0.4% for four years, a fall to 0.33% was observed in 2007. Only Estonia, Spain, Luxembourg and the UK gave less. For every year since 1997, Belgium has achieved or been close to the 100% horizontal objective set by the European Council. The only other countries that have achieved this objective are Luxembourg, Sweden, the Czech Republic and the Baltic states. 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.

Openly-advertised public procurement can show strong fluctuations over time. Still, it has risen in the EU15 from less than 2% of GDP in the late 1990s to around 3% in recent years. In Belgium it had been stable at around 2.4% between 1999 and 2006, but reached a peak at 3.2% in 2007. The country now ranks 19th in the EU27. Of the former EU15, Spain had the highest percentage (4.1%), but all but two of the New Member States achieved even higher percentages.

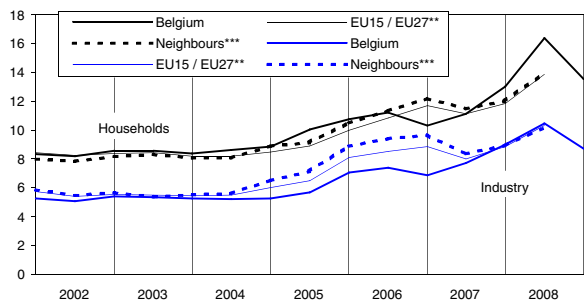
By mid-2009 the EU27 average transposition deficit of internal market directives reached the 1% target that the European Council had set for 2009. Belgium has not achieved that yet, but has made a good step forward. Its deficit fell from 1.4% in May 2008 to 1.2% in May 2009. Eight other Member States have still to achieve the 1% target too, six of which did not even reach the old 1.5% target. Among the eight are only three New Member States.

In early 2009, the OECD released its third issue of the index of product-market regulation. It includes data on state control, barriers to entrepreneurship and barriers to trade and investment.¹ The new index confirms the progress that had already been observed between 1998 and 2003. In Belgium this progress has been very close to the average of the EU15 plus the three largest New Member States. The UK, the US and Canada maintain a leading position, although the opportunities for reform seem to have bottomed out in the former.

1. See Wölfel, A., I. Wanner, T. Kozluk & G. Nicoletti, 2009, Ten Years of Product Market Reform in the OECD Countries: Insight from a Revised PMR Indicator. *Economics Department Working Papers* No.695. OECD, Paris

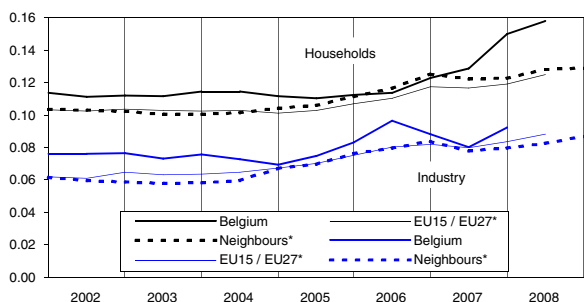
Micro-economic: network industries

Graph 25 - Gas prices in EUR/GJ, net of taxes*



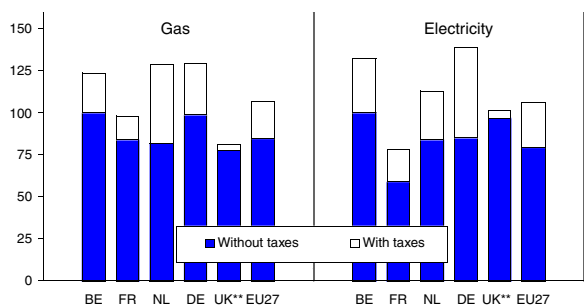
Source: Eurostat (Structural Indicators & Environment and Energy)
 (*) There is a break in series: from July 2007 the standard consumer groups have been re-defined. For households, 83.7 GJ/year became 20-200 GJ/year. For industry, 41,860 GJ/year became 10,000-100,000 GJ/year
 (**) Up to 2005 for EU15
 (***) Unweighted average of French, Dutch, German and UK prices, the latter converted by Eurostat from GBP to EUR

Graph 26 - Electricity prices, in EUR/kWh, net of taxes*



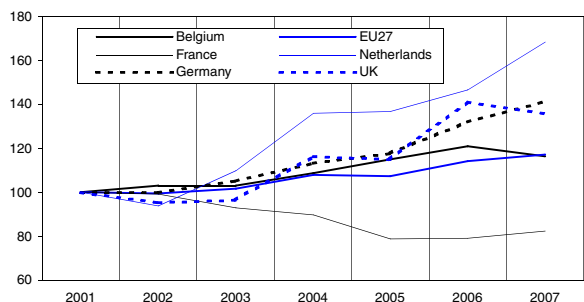
Source: Eurostat (Structural Indicators & Environment and Energy)
 (*) The same notes as given in Graph 25 apply. For households, 3,500 kWh/year became 2,500-5,000 kWh/year. For industry, the categories 500-2,000 and 2,000-20,000 MWh/year were introduced instead of 2,000 MWh/year. The graph gives the average between both categories

Graph 27 - Energy prices for households (1 January 2008; Belgium=100)*



Source: Eurostat (Environment and Energy)
 (*) Standard consumer group for gas 20-200 GJ/year, for electricity 2,500-5,000 kWh/year
 (**) Converted by Eurostat from GBP to EUR

Graph 28 - Freight transport by rail (tkm, 2000=100)



Source: FPB/BfP, own calculations based on European Commission (DGET)

The evolution of gas prices is mainly driven by oil prices. Until the end of 2006, price increases for industry (see Graph 25 for a definition) were less pronounced than in other countries. Although the 2007 evolutions might be disguised by a break in the data series, the price advantage seems to have been removed. When taxes are included, there has been hardly any change in ranking over the last few years. Electricity prices for industry (see Graph 26 for a definition) have been above those of other countries for years. Although the 2007 evolutions might again be disguised by a break in the data series, the prices seem to have started to diverge after a strong convergence during the year before. 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.

For households, the prices of gas and electricity basically followed the same trend as for industry and for other countries. The 2007 and 2008 price increases, however, made the prices rise well above those of the neighbouring countries. For electricity, the incumbent imposed strong price increases in 2007, which is remarkable since prices stabilised in the neighbouring countries. For gas, the recent fall has also been observed in other countries, which could not be shown in the graph as the update for Germany was not yet available.

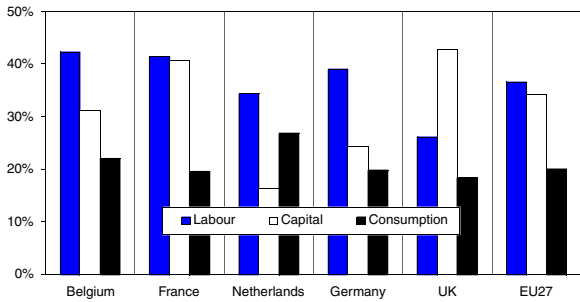
When taxes are included for households, notable differences appear. Taxes on gas in the Netherlands and on electricity in Germany are very high, raising prices above those of other countries. Taxes in the UK are very low, strengthening its position among the cheapest of the analysed countries. Taxes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

Between 2001 and 2007, freight traffic by rail increased significantly in Germany, the Netherlands and the UK, while it increased less markedly in Belgium and fell in France. According to the Rail Liberalisation Index 2007, the former three countries, together with Sweden, make up the top four most liberalised countries in the EU27, whereas Belgium and France were ranked 18th and 23rd, respectively.¹ From the 1970s to the 1990s there has been a downward trend in the market share of rail traffic. At the EU27 level, that market share has been stable at 17% since 2002.

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

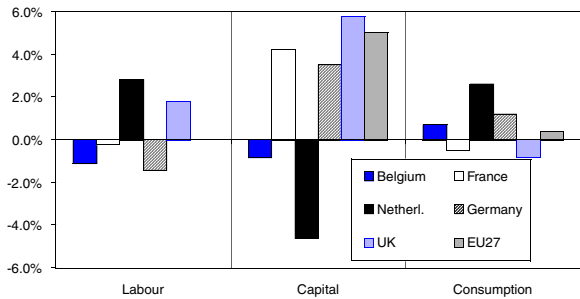
Micro-economic: taxation and business climate

Graph 29 - Implicit tax rates (2007)*



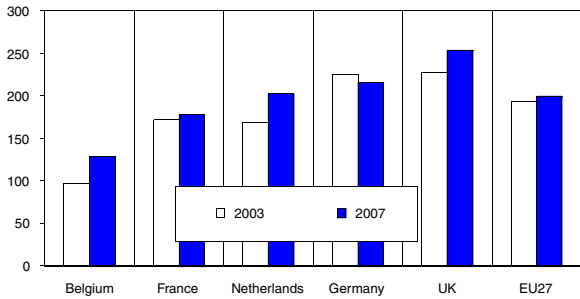
Source: European Commission, Taxation trends in the EU (2009)
 (*) Ratio of total tax revenues of the category (labour, capital, consumption) to a proxy of the potential tax base defined using the production and income accounts of national accounts.

Graph 30 - Changes in implicit tax rates, %-points (2003-2007)*



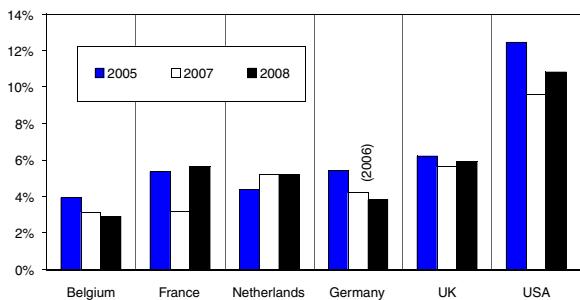
Source: European Commission, Taxation trends in the EU (2009)
 (*) For a definition, see note on Graph 29

Graph 31 - Implicit tax rate on energy*



Source: European Commission, Taxation trends in the EU (2009)
 (*) Energy taxes in Euro per tons of oil equivalent (TOE)

Graph 32 - 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

In 2007, the implicit tax rates on labour, capital and consumption diminished with respect to 2006. The implicit tax rate on labour stands at 42.3%, which is the lowest value for the past 13 years. It has mainly decreased since 2004 under the influence of a major tax reform aimed at personal income taxes which started in 2000, and several reductions of employers' contributions to social security. These measures took several years to take full effect. In 2007, further cuts in labour costs for researchers and for overtime work were introduced. Wage subsidies are not taken into account in the implicit tax rate, but they also have an influence on the total tax burden. Even though the reductions in this implicit rate are significant, the level of labour taxation remains high in comparison with other EU Member States. Only Italy and Sweden have higher tax rates.

The tax rate on capital income was influenced by the 2006 "notional interest on corporate capital" measure, which aims at stimulating the self-financing capacity of businesses. The rate dropped from 32.9% in 2004 to 31.1% in 2007.

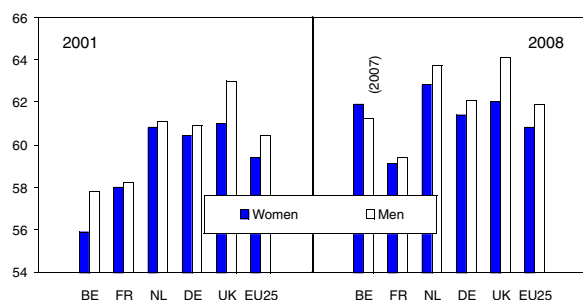
Consumption taxation has been relatively constant for the past 10 years in the absence of major measures. The rate stands at 22%, which is somewhat higher than the EU27 weighted average of 20%. As part of the recovery plan, the 6% VAT rate on housing investment has been extended. Not only can 20 year old houses benefit from it, but also newly constructed dwellings, up to a maximum amount of 50 000 euro.

The implicit tax rate on energy has gradually increased in Belgium but remains lower than the EU average. Of the old EU Member States, only Greece and Finland have lower tax rates. This tax rate is calculated as the energy taxes (in euros) per tons of oil equivalent. Energy taxes include taxes on energy products used for both transport and stationary purposes (mainly fuel oils, natural gas, coals and electricity).

Entrepreneurial activity (defined as the percentage of the adult population involved as owner or manager in nascent or new firms) is traditionally low in Belgium and this situation has not improved in 2008. Detailed figures for nascent (i.e. younger than three months) and new firms show that entrepreneurial activity remains significantly below the EU average and the activity in neighbouring countries.

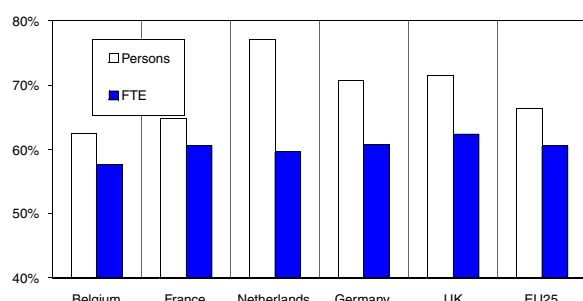
Labour market: participation

Graph 33 - Average exit age from the labour force



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

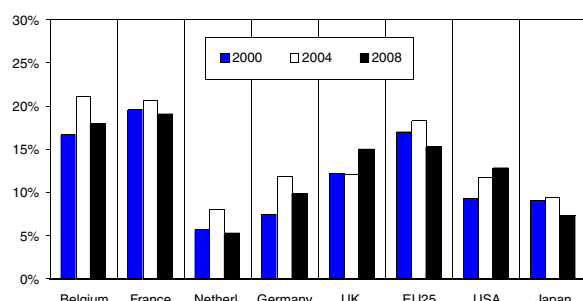
Graph 34 - Employment rate of persons versus FTE (2008)* **



Source: Eurostat (Labour Force Survey)

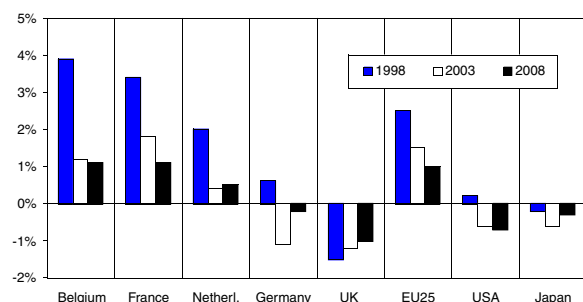
(*) FTE = full-time equivalents. (**) Males and females aged 15-64

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 2008, it amounted to 56.2%, which is still 3%-points under the European average.¹ The Belgian employment rate for older workers is one of the lowest in Europe (34.5% in 2008, as against 45.7% in the EU25). It has been rising since the mid-nineties and catching up 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 61.6 years in 2007, is no longer the lowest in the EU and has caught up with the European average (61.2 years). The 'Generation Pact' drawn up by the federal government intends to raise the legal age of conventional early retirement to 60 in 2008 (the average exit age for men was already at 61.2 years in 2007). It also contains measures aimed at keeping older workers in work.

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 77.2%, when calculated per person, to 59.6%, 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 2008, the full-time-equivalent employment rate amounted to 57.5%, which is 3%-points under the European average (EU25).

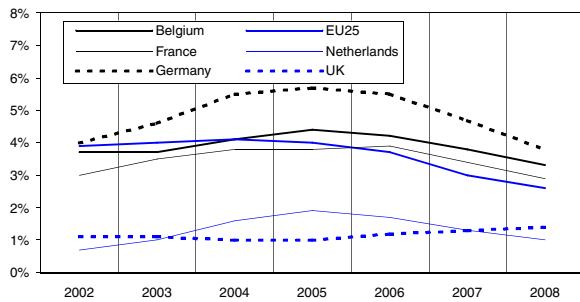
At the beginning of the decade, youth unemployment increased in many European countries as well as in the US. This increase can be explained by weak economic growth. In Belgium this factor countered efforts to improve young people's inclusion, notably through the measures of the Generation Pact. Although it has diminished since 2004, the youth unemployment rate still remains high in Belgium (18%), at 2.7%-points above the EU25 average in 2008. Note that youth unemployment rates in the UK and USA increased in 2008; this should be the same in many European countries in 2009.

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 2008, it decreased to 1.1%, which was almost the European average (1.0%).

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

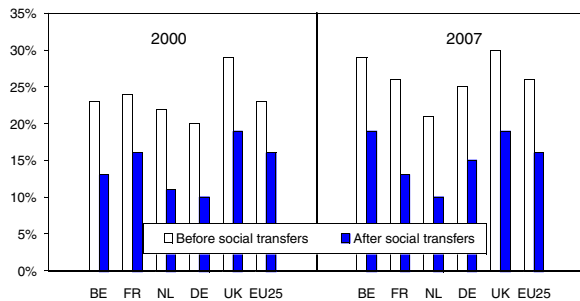
Labour market: social cohesion

Graph 37 - Long-term unemployment rate*



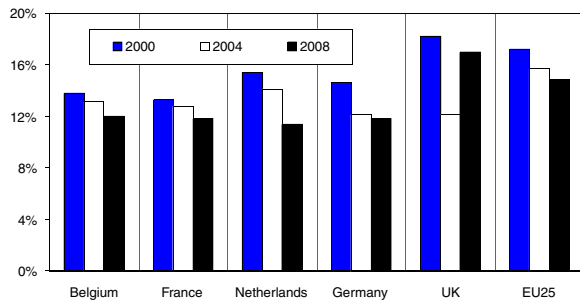
Source: Eurostat (Structural Indicators)
 (*) 12 months and more, as % of the active population

Graph 38 - At risk of poverty rate*



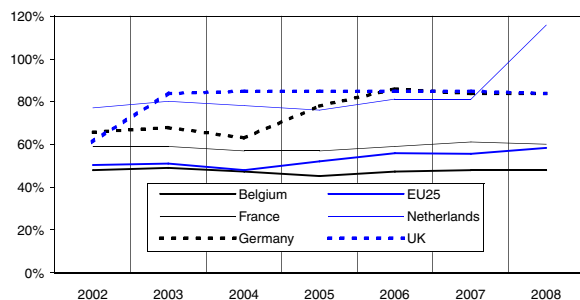
Source: Eurostat (Structural Indicators)
 (*) Share of persons with an equivalised disposable income below the risk-of-poverty threshold, which is set at 60% of the national median equivalised disposable income (after social transfers).

Graph 39 - Early school-leavers*



Source: Eurostat (Labour Force Survey)
 (*) Percentage of the population aged 18-24 with at most lower secondary education and not in further education or training

Graph 40 - Low wage trap*



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 indicator²of the effectiveness of active and preventive measures for stimulating the inclusion of disadvantaged people in the labour market. The position of Belgium improved at the beginning of the decade and then worsened. Since 2005, the Belgian rate has exceeded that of the EU (for the first time since 1999). The German rate clearly got worse until 2005. Since 2006, the situation has improved in European countries, except for the UK.

Between 2000 and 2007 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 was strongest in Germany and Belgium, whereas the rate in the Netherlands slightly decreased. 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 2007, it was relatively large in Belgium, France and the UK, which still has the highest risk of poverty.

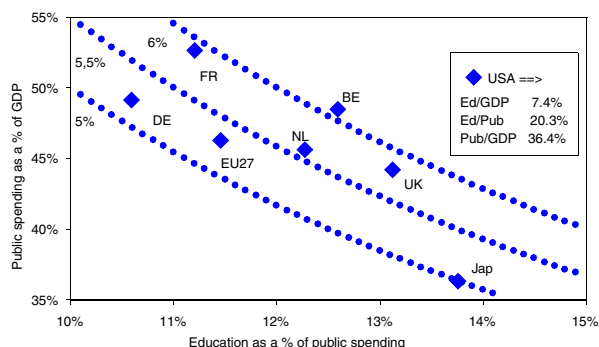
Reducing the number of early school leavers ensures that no one is left behind in the age of globalisation. This structural indicator of social cohesion improved in Europe over this decade, except in the UK in 2008. With early school leavers at 12%, Belgium is 2.8%-points under the European average (EU25).

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

The Low Wage Trap measures what percentage of the gross earnings is "taxed away" by the combined effects of higher taxes and reduced or lost benefits. This structural indicator covers an earner in a one-earner couple with two children (aged 4 and 6) and moves from 33% to 67% of the average earnings. Belgium has one of the highest Low Wage Traps. Even if it seems to have improved since 2006, its relative position in Europe is worsening. The question is to know the occurrence of this indicator (how many people are concerned) in each country.

Labour market: education

Graph 41 - Public spending on education (2006)*

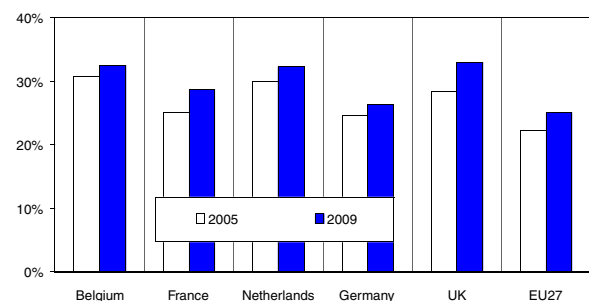


Source: Eurostat (Education) and European Commission (AMECO)
 (*) On both public and private institutions, and for all levels of education combined

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 2006, 6.1% of GDP (shown along the curved dotted lines in Graph 41) or 12.6% of total public expenditure was devoted to education, which is, in both cases, above the European average (5.3% of GDP spent on education in 2006) and the level in Japan (5.0% of GDP spent on education in 2006) but below the level in the USA where, in 2006, expenditures on education amounted to 7.4% of GDP.

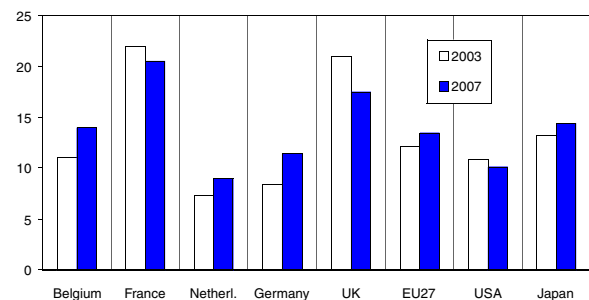
Graph 42 - People with higher education*



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

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 (32.43% in 2009) than the EU27 average (24.97%) 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 Japan, but higher than in the EU27, the Netherlands and the US.

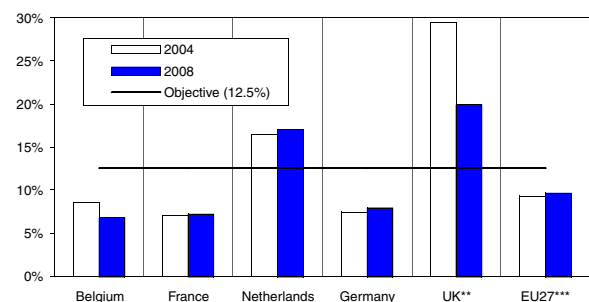
Graph 43 - Graduates in science & technology, in %*



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

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 up to 2004, dropped again, from 7.2 % in 2007 to 6.8% in 2008. Moreover, the participation rate is still below the EU27 average (9.6%) and the Lisbon objective (12.5% by 2010).

Graph 44 - Participation in life-long learning*



Source: Eurostat, (Structural Indicators)
 (*) % of people aged 25-64, in annual averages of quarterly data
 (***) Provisional values for 2007
 (****) Provisional values for 2008

The economic impact of the Services directive

By the end of 2009, all Member States of the EU must have transposed the Services directive into national law. This will constitute a major step forward in the completion of the legal framework for the internal market, but its economic impact is expected to be relatively small. It may lead to double-digit export growth for certain services branches. The small scale of these exports, however, gives rise to a weak impact on turnover, value added and employment.

The Services directive is considered by the European Parliament and the European Council as an essential step in the creation of the internal market. After implementation of the directive it will be easier to supply services in other Member States or to set up a foreign subsidiary. The directive requires strongly simplified administrative procedures and bans discrimination between domestic and foreign service providers. Despite its importance for the internal market, however, the directive is not expected to have a significant impact upon the economy.

Starting from the empirical literature, this study confirms that the implementation of the directive should have a weakly positive impact on the Belgian economy. As concerns the macroeconomic impact, two leading European studies have been consulted. Both studies started from the obstacles that service providers have to surmount to sell or invest in foreign markets. The Services directive would lead to a significant decrease in these obstacles, the economic impact of which has been simulated by Computable General Equilibrium (CGE) models, viz. the CETM of Copenhagen Economics and WorldScan of the CPB Netherlands Bureau for Economic Policy Analysis. Since the studies refer to 2004 and the (then) proposal for the directive, a tentative update of the outcomes for Belgium has been made. As for the services within the scope of the directive, Belgian intra-EU trade could grow by, at most, about 37%, and the capital stock owned by foreigners by, at most, about 24%. As services represent only a small share of foreign trade and the net impact on the capital stock is also relatively small, the directive may lead to an impact upon Belgian GDP of between only 0.5% and 1.0%, and the creation of about 6 000 to 9 000 jobs.

The study proceeds with an econometric analysis of the factors that have an impact on the decisions to export, to import or to establish a foreign subsidiary. The analysis builds on a database of Belgian businesses. The estimations revealed that the regulation affected by the directive has a significant impact only on the decision to export, but not on either other type of decision (except for the import of construction services). Other factors that play a role are the size and efficiency of the company and obstacles that are not affected by the directive. From the outcomes of the estimations, a simulation of the directive's impact at branch level has been made. Depending on the branch and the size of the company, exports may increase by some tens of percents or even double or triple. In particular, this would be the case for the real estate, construction, rental, automation and business services industries, and more so for small than for large enterprises. In no case, however, would the impact upon turnover be more than a few percent. The latter result again indicates that exports are relatively small for service providers. These microeconomic outcomes thus correspond to the outcomes of the CGE simulations.

As a case study, the impact upon wholesale and retail trade has been considered. This branch is hardly at all involved in international services trade. Yet the administrative simplification that springs from the directive may have an impact upon its performance, in particular for retail trade. There was, however, insufficient suitable data for a quantitative estimation. A qualitative analysis instead revealed that the deregulation of the past ten years has coincided with increasing productivity growth, and there is some indication that competition has also increased. After the implementation of the Services directive these trends might continue.

The study thus confirms the expectation that, although the cross-border activities of certain services branches may strongly grow, the aggregate impact should be relatively weak and concentrated on a limited number of enterprises. Nevertheless, the directive fits in with the European objective of creating an internal market with no distinction between domestic and foreign producers.

*"De economische gevolgen van de Dienstenrichtlijn in België: een verkenning - Les effets économiques de la directive Services en Belgique: une évaluation ex ante",
Ch. Piette (NBB/BNB), J. van der Linden (FPB/BFP),
December 2009.*

Economic impacts of tax-shifting operations

This study is devoted to the analysis of the main effects on the Belgian economy, for the period 2010-2020, of various forms of tax-shifting aimed at increasing taxes on energy and, simultaneously, decreasing other forms of taxation. All these variants have been simulated using the FPB's medium-term model for Belgian economy (HERMES).

As far as the increase in energy taxes is concerned, five modalities have been considered: the first one involves setting Belgian energy prices (all taxes included) at equal to the average of energy prices observed in the neighbouring countries (Germany, France and the Netherlands); in the second one the Belgian level of taxes on energy is set at equal to the average level of taxes on energy of our three neighbours. In the third modality, Belgian energy prices reach, progressively (in 2 years' time), the average prices of three Nordic countries (Denmark, Finland and Sweden), which are amongst the countries that levy the heaviest taxes on energy. The fourth, very ambitious, modality supposes that Belgian energy prices are progressively aligned to the level of Danish energy prices. The fifth modality considers the implementation of a carbon tax.

All in all, in 2012, the average energy price would increase by a minimum of 3.5% to a maximum of 27.6%, depending on the modalities that are considered. These energy price increases imply additional public revenue, which would reach, in 2012, a minimum of 0.24% of GDP and a maximum of 2.24% of GDP.

The additional public revenue is entirely used to reduce other taxes. Budgetary neutrality is indeed respected *ex ante* in the present study, but not necessarily *ex post* because of the feedback effects of the recycling measures. Four recycling measures are considered: a general reduction in employers' social security contributions, a cut in employers' social security contributions targeted on low-wage jobs, a reduction in both employers' and

employees' contributions and, finally, a decrease in personal income tax paid by households and in corporate tax paid by firms.

Tax-shifting operations tested in this study generally have little or no impact on GDP growth: the negative impacts resulting from the energy tax increases are balanced by the positive impacts from the decrease in other taxes. On the other hand, all the tax-shifting operations considered allow a decrease in energy consumption and in CO₂ emissions.

Results are, however, more contrasted as far as employment is concerned: some tax-shifting operations - mainly those involving a reduction in (targeted) employers' social security contributions - allow the creation of additional jobs; while some others result in fewer jobs than in the baseline scenario.

Regarding public finances, budgetary surpluses generally emerge *ex post* when the recycling mode consists of lowering employers' and employees' social security contributions (due to job creations and to the positive impact of this recycling mode on public costs). When the additional taxes are recycled in a decrease in personal income tax and in corporate tax, however, the situation of the public balance is generally worse than in the baseline scenario, mainly because of job destructions and the higher inflation resulting from this recycling mode.

A so-called "double dividend" (increase in employment and decrease in CO₂ emissions) could therefore be reached in several cases, particularly when higher energy taxation is combined with a cut in taxes on labour.

*"Hausse de la fiscalité sur l'énergie et baisse d'autres formes de prélèvement : résultats macroéconomiques",
D. Bassilière, F. Bossier, F. Verschueren,
Working Paper 11-09, November 2009.*

Understanding wage determination in a multi-level bargaining system

This study attempts to measure the impact of industry-level wage bargaining on individual wages in Belgium. The results indicate that industry wage bargaining increases decided collectively at the industry level are, on average, fully passed on to actual wages. Moreover, industry wage bargaining seems to coexist along with a wage drift affected by company size, the economic performance of the industry and labour market tensions.

Belgium is characterised by a relatively centralised wage bargaining system with the industry level playing the most important role. In this paper, we attempt to quantify empirically the importance of industry level bargaining on actual wages at the individual level. In order to better understand wage determination in Belgium, our analysis is microeconomic and takes into account the variability in actual wages existing between workers within firms or sectors. In addition to industry

level bargaining, we are interested in the supplementary wage increases granted at the firm level, referred to as wage drift or the wage cushion in the literature. Because we do not have data on individual contractual wages, we cannot directly measure the difference between actual and contractual wages. Instead, we use the index of contractual wage increases by sectoral committee published by the Belgian Federal Public Service of Employment.

To measure the impact of industry level bargaining and the existence of wage drift, we use panel data analysis techniques. Our data are from the National Social Security Office (RSZ/ONSS) and cover the population of full-time wage earners for the period 1998-2006. Contrary to most studies on wage determination in Belgium, which use cross sectional data, the longitudinal dimension of our data allows us to take into account unobserved individual characteristics that have an impact on actual wages. These time invariant characteristics could represent the workers' education level (not available in the RSZ/ONSS database) or their motivation, which is generally difficult to measure. Concretely, we estimate wage equations by gender and status (blue/white collar), where the nominal gross individual wage is explained by individual (observed and unobserved), company and industry characteristics, the index of conventional wage increases and the unemployment rate of the worker's county of residence. To better un-

derstand the impact of the industry level bargaining, we estimate two models: with and without the index of conventional wage increases.

Our results show that the elasticity of wages to industry level bargaining is significant and close to unity for all worker categories. This means that wage increases decided collectively at the industry level are, on average, fully passed on to actual wages. Furthermore, we find that industry level bargaining partially integrates most of the characteristics taken into account in our model. Conversely, in the presence of industry level bargaining, these characteristics remain significant, indicating additional increases at the firm level (wage drift). Our results allow us to better understand wage drift in Belgium: it depends on company size, the economic performance of the industry and labour market tensions. Another interesting result concerns the impact of cuts in employers' and employees' social security contributions (SSC). Although this policy aims at promoting employment, our results indicate a slight effect on actual wages: cuts in employers' SSC have a downward effect on white collar wages and cuts in employees' SSC an upward effect.

"Salaires et négociation collective en Belgique : une analyse microéconomique en panel",

M. López Novella, S. Sissoko,

Working Paper 12-09, November 2009.

Prospective mortality tables

The Law of 28 April 2003 on supplementary old-age pensions and on tax regulations applicable to such pensions and to some additional social security benefits stipulates : "... *the actualisation rules applied [to convert capital into interest] must lead to a result at least equal to that obtained when applying the Belgian prospective mortality tables fixed by the CBFA on the basis of the most recent demographic studies by Statistics Belgium and the Federal Planning Bureau*".

In view of this legal obligation, projections of prospective mortality rates were published in 2004. The observations have since been extended by six supplementary years.

Moreover, it became necessary to project mortality rates not only by gender, but also for the two gender groups combined ("unisex"). Both elements are at the origin of this study.

The model used in the 2004¹ exercise consists of 2 parts.

One part deals with ages for which a clear trend was outlined in the observations, a second part relates to older ages which have fewer observations and a more erratic evolution. By applying this model to the new data, we have found that the mortality rates could again, at some very old ages, increase in time, which is contradictory to the exponential baseline model. This model requires a fall in, or at least a time-constant value for the mortality rates at each age. The method for the older ages has been adjusted to correspond to the exponential baseline model and, at the same time, maintain a quasi-stability of the mortality rates at the oldest ages.

However, it should be noted that an increase in mortality rates at the oldest ages seems to be becoming a reality: this is clearly shown by a simple trend analysis. If this trend is confirmed, it needs to be modelled in a future study.

The new calculation method for the prospective mortality rates has then been applied to the observations available. The sensitivity of the results to new observations and to various parameters has been examined in terms of generational life expectancies.

1. FPB: "Quotients de mortalité prospectifs", Working Paper 20-04, 2004

This analysis shows a different evolution among the prospective mortality rates for each gender, compared to the 2004 study. Although the addition of new observations has little influence on the generational life expectancy of males, the impact on the female life expectancy is obviously more serious: the generational life expectancy for females is reduced by almost a year in 2050 after taking into account the observations from 2002 until 2007. This reduction is almost exclusively concentrated at the oldest ages. The same conclusion can be drawn for the choice of another parameter, the last estimated age: the higher this age, the lower the generational life expectancy. This may lead to a gap of many years in 2050 for females.

The explanation can probably be found in the slowdown at the end of the period in the fall in mortality rates at the oldest ages, or even in their growth. The more the estimation takes into account older ages and recent data, the more this slowdown can be observed in the projections' results.

The classical method applied to unisex data does not provide satisfactory results in the very long run: the es-

timated curve of the unisex generational life expectancies approaches and even exceeds the female curve. To deal with this specific problem, a calculation method for unisex prospective mortality rates has thus been developed. First, it is shown that the unisex mortality rates are the weighted averages of those of each gender. Next, a theoretical population has been built up for each gender in order to obtain the weightings necessary to the projections of unisex rates.

The results of the "unisex" projection obtained with this new method are presented and compared to those obtained with the classical method.

The results obtained by applying the new methods on the most recent data are published in extenso on the website of the Federal Planning Bureau. They can be consulted and downloaded at <http://demo.plan.be>.

*"Quotients de mortalité prospectifs - Hommes, femmes et unisexes",
J.M. Paul,
Working Paper 18-09, December 2009*

Other Recent Publications

Sustainable development report, September 2009

"Indicateurs, objectifs et visions de développement durable, 5ème Rapport fédéral sur le développement durable - Indicatoren, doelstellingen en visies van duurzame ontwikkeling, 5de Federaal Rapport inzake duurzame ontwikkeling"
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"Langetermijnvooruitzichten voor transport in België: referentiescenario - Perspectives à long terme de l'évolution des transports en Belgique: projection de référence"
B. Hertveldt, B. Hoornaert, I. Mayeres

Recent history of major economic policy measures

October 2009

The federal October budget conclave established a budget for 2010 and a tentative budget for 2011. These were based on assumptions of GDP growth rate of 0.4/1.9% and of inflation rates of 1.5/1.6%, respectively in 2010/2011.

The Government expects a deficit for entity I (the federal authority and social security) in 2010 of 4.2% of GDP. This represents, according to government figures, an improvement of 0.7% of GDP as compared to the 2009 deficit (4.9% of GDP) and a 0.5% of GDP adjustment as compared to the expected 2010 deficit with unchanged policy (4.7% of GDP). The deficit in entity I breaks down into a 3.7% of GDP deficit for the federal authority and 0.5% of GDP deficit for social security (taking into account an exceptional 0.7% of GDP transfer from the former to the latter). Assuming that entity II (the regions, communities and local authorities) meets its objectives in the September 2009 Stability program (1.5% of GDP deficit), the general government deficit for 2010 should stabilise, as compared to 2009, at 5.7% of GDP.

The 2010 budget relies on structural new tax and non-tax receipts, among which are increased excise duties on diesel, increased taxation of company cars, selective adjustments in the corporate tax system (regarding the interest rate for the risk capital deduction and the conditions for the deduction of definitief belaste inkomsten/revenus définitivement taxés), a contribution from the nuclear sector (in the context of extending the lifetime of nuclear plants), new fees from the financial sector for the state guarantee on deposits, and the fight against tax fraud.

On the other hand, a 12% reduced VAT rate will be introduced for the catering sector (on meals only) and the reduced VAT rate for the building sector in 2009 decided in the December 2008 stimulus package will be extended to 2010Q1. Other minor tax reliefs have also been decided, notably for environmental purposes.

Savings measures on the expenditure side mainly concern public employment, particularly in the Defence department. The 4.5% real growth rate norm for the health care budget has been maintained, but effective expenditure is expected to grow at a slightly slower pace. New health care initiatives have been decided (a wage increase for nurses and developments in preventive medicine, notably), but also savings (reduced prices of generic and older drugs, and others). Pensions in the self-employed scheme will be raised by an additional EUR 20/month (singles and survivors) or EUR 25/month (household rate) as from August 2010. Welfare increases in social allowances granted under the 2005 Generation Pact are confirmed for 2010 and 2011.

The October conclave also includes crisis measures to support employment. In 2010 and 2011, different groups of young workers (the low-skilled, "allochthonous", disabled and aged under 19) will be fully exempt from social security contributions, and "activation" wage subsidies for young and older workers will be increased. Wage subsidies will also be increased for the non-profit sector. The additional employers' SSC cuts for temporary reductions in working time are likely to be extended to June 2010.

The sub-federal Governments also defined their 2010 budgets and medium-term targets. The Flemish Region plans to restore budgetary balance by 2011, while the non-Flemish entities are aiming at a 2015 horizon. Operating costs will be strictly controlled in all Regions. The tax rebate for working Flemish residents, increased in 2009, will be strongly reduced as from 2010.

September 2009

Complementing the 2009-2013 Stability Programme, the Belgian authorities reaffirmed their commitment to balancing the general government budget by 2015, which requires a (now revised) adjustment of 6.7% of GDP as compared to a constant policy scenario. As an interim target, the 2012 deficit should be limited to 4.4% of GDP, of which 3.7% is a GDP deficit at the federal level (central government and social security) and 0.7% is a GDP deficit for the other public entities (Regions, Communities and local authorities all together).

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