

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 October, the FPB prepared an update of its medium-term economic outlook of May 2010. This new outlook covers a longer period (2010-2020) than usual because it was drawn up in the framework of the macroeconomic surveillance process under the Europe 2020 Strategy, with a view to the preparation of the draft Belgian National Reform Programme.

This new outlook for Belgium is based on an international context that is marked by a recovery that should emerge in 2010-2011 and even gain momentum in the medium term. Nevertheless, the uncertainty surrounding these forecasts continues to be higher than before the financial crisis. Large budget deficits and global imbalances continue to threaten the stability of worldwide economic growth.

Yearly Belgian economic growth should amount to approximately 1.8% in 2010 and 2011 (based on our September forecast described in STU 3-10) and fluctuate around 2% thereafter. After a sharp decline in 2009, domestic demand has been expected to rise again in 2010, despite the on-going fall in business investment. As of 2011, domestic demand should rise at an average yearly rate of 1.8% as its various components regain their trend-based growth. Belgian exports, which fell by 11% in 2009, have recovered significantly in 2010. Thereafter, exports should grow at a rate close to its historical average. The contribution of net exports to GDP growth should be positive for the whole projection period (0.3-0.4 %-points on average for 2012-2020).

Employment seems to have already experienced a moderate recovery in 2010. Employment should increase further in 2011 and 2012, but at a limited pace as employers try to push up labour productivity and average working time from the historically very low levels that they reached in 2009. From 2013 to 2015, employment growth should become more sustained before gradually dropping again towards the end of the forecast. Employment as a percentage of the population aged between 20 and 64 years should initially fall from 68% in 2008 to 66.9% in 2010, but should recover to 68.2% in 2015 and 69.8% in 2020, a rate still well below the 75% target set by the EU. Unemployment (broad administrative definition) is expected to peak in 2012 at a level that is 103 000 units higher than in 2008. From 2013 onwards, unemployment should slowly decline and reach 591 000 units in 2020.

The general government budget deficit should shrink from 6% of GDP in 2009 to 4.8% of GDP in 2010, 4.6% in 2011 and 4.5% in 2012. Thereafter, the deficit should remain almost constant up to 2020. A further and considerable fiscal adjustment is thus necessary to cut back the deficit to 3% of GDP in 2012 and achieve a balanced budget in 2015 in accordance with the Stability Programme of January 2010.

STU 04-10 was finalised on 22 December 2010.

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

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

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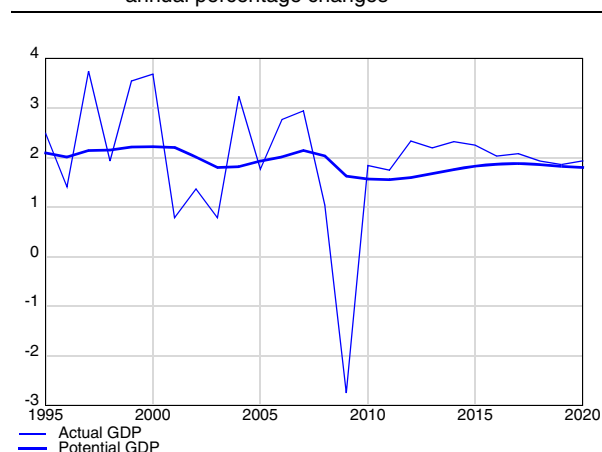
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The Europe 2020 Strategy: economic forecasts 2010-2020

In October, the FPB prepared an update of its medium-term economic outlook of May 2010. This new outlook covers a longer period (2010-2020) than usual because it was drawn up in the framework of the macroeconomic surveillance process under the Europe 2020 Strategy, for the preparation of the draft Belgian National Reform Programme. As in the outlook of May 2010, the starting position for Belgium is a large negative output gap and a severe public deficit as well as a large unemployment rate. Thanks to average GDP growth exceeding the potential growth during the major part of the projection period, the output gap should be gradually reduced and is expected to disappear before 2020. The unemployment rate should also decrease. In the absence of new policy measures, fiscal imbalance is likely to persist until the end of the projection.

International organisations currently assume a recovery of the world economy, which will affirm itself in 2010-2011 and even gain momentum in the medium term, but remain rather modest in the euro area (GDP growth rate of 2.3% per year on average during the period 2012-2015). The recovery implies that the large output gaps observed in 2010 should close in all OECD countries by 2015. In the longer term (2016-2020), the scenario chosen (see OECD Economic outlook of June 2010) assumes a gradual slowing of potential growth, mainly due to a reduced contribution of demography. This should result, for instance, in average GDP growth for the euro area being limited to 1.7% for the period 2016-2025.

Graph 1 - Actual and potential GDP growth
annual percentage changes



In such a scenario, the yearly growth of the Belgian economy should amount to approximately 1.8% in 2010 and 2011¹ and slightly exceed 2% for the years 2012 to

2015, i.e. a similar rate to that observed on average over the last twenty years. After this (period 2016-2020), GDP growth would be limited to 2% per year. This is in accordance with a gradual convergence between real GDP growth and the evolution of the computed potential GDP.

After a drop in 2009, domestic demand has started rising again slightly in 2010, thanks to an increase in private consumption (notably explained by a falling savings rate) and despite a persistent fall in business investments. As of 2011, domestic demand, as its various components regain their trend-based growth, should increase at an average yearly rate of 1.8%.

After a fall in 2009, the volume of Belgian exports has recovered significantly in 2010 (+7.8%) and should grow again in 2011 (+3.9%). From 2012 onwards, Belgian exports should again reach a level close to their historic growth rate (4.7% on average for the years 2012-2015 and 4.4% on average for the period 2016-2020). The discrepancy between the growth of potential export markets (+6.8% on average for the period 2012-2015 and 6.2% on average for the period 2016-2020) and the real growth of exports reflects the persistent loss of significant market shares in the medium term. The contribution of net exports to GDP growth should be positive during the whole projection period (0.3-0.4 %-points on average for 2012-2020). The external balance should improve slightly again in the medium term so that a surplus equivalent to 3.6% of GDP should be registered at the end of the projection.

Despite the evolution of international oil and other commodity prices (which are assumed to rise by 1% per annum in real terms) and wage costs in acceleration (but the latter compensated by higher productivity gains), inflation should be more or less in line, for the medium term, with the target of 2% fixed by the monetary policy.

Domestic employment dropped sharply in 2009, but according to the latest figures seems to have already experienced a moderate recovery in 2010. Employment should increase further in 2011-2012, but at a pace that is expected to still be limited (35 000 extra jobs over these two years) as employers reduce labour hoarding and average working time recovers from the historically very low levels reached in 2009. From 2013 to 2015, employment growth should become more sustained (attaining on average 1.0% per year), before gradually dropping again towards the end of the forecast period (0.5% growth in 2020). Employment as a percentage of the population aged between 20 and 64 years should initial-

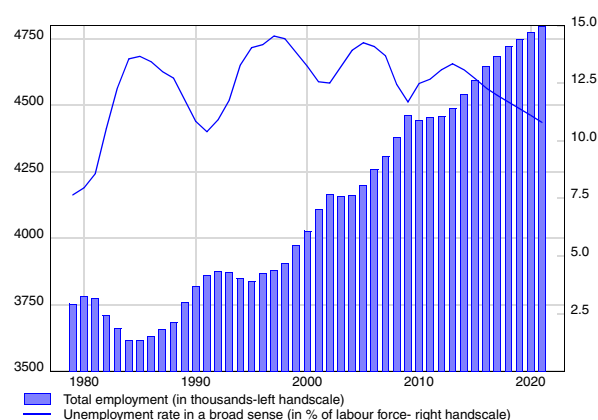
1. Note that forecasts up to 2011 are based on the FPB short term forecasts that are described in STU 3-10.

ly fall from 68% in 2008 to 66.9% in 2010 but should recover to 68.2% in 2015 and 69.8% in 2020, a rate still well below the 75% target set by the EU.

Labour force growth was negatively affected by the crisis, mainly among the lower age groups, but is expected to pick up in the medium run (average growth of 0.8% during the period 2012-2015), boosted by both expansive demographics (notably, large net incoming migration flows) and positive cohort effects in the female age bands above 35. However, because the contribution of these two factors gradually diminishes over time, labour force growth is expected to shrink substantially in the longer run (average growth of 0.4% during the period 2016-2020, but only 0.1% by 2020).

In this scenario, unemployment (as an administrative concept, i.e. including older unemployed benefit receivers exempt from job seeking) should peak in 2012, at a level that is expected to be 103 000 units higher than in 2008, the year the crisis started. From 2013 onwards, unemployment should slowly decline, diminishing to 663 000 units in 2015 (12.3% of the labour force) and levelling off to 591 000 units (10.8% of the labour force) in 2020.

Graph 2 - Employment and the rate of employment

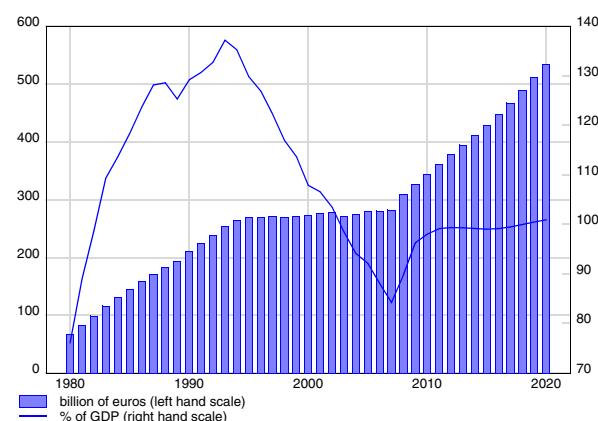


The Kyoto target to cut greenhouse gas (GHG) emissions will be amply met. During the period 2008-2012, annual GHG emissions will amount to an average of 131 million tons of CO₂ equivalents – approximately 4 million tons below the target – thanks to the climate policy and as a result of high energy prices and an activity level that was affected by the 2009 recession. Furthermore, by 2020, the emissions level should be compatible with the target subscribed to by Belgium under the terms of the EU Climate and Energy Package concerning emissions from sectors not covered by the EU Emission Trading System (in order to meet this target the emissions of the non-ETS sectors have to be decreased for 2020 by 15% with respect to 2005). As for the share of renewable energy in final gross energy consumption, substantial efforts are still to be made to meet the target by 2020.

The general government budget deficit should shrink from 6.0% of GDP in 2009 (EUR 20.3 billion) to 4.8% in 2010, 4.6% in 2011 and 4.5% in 2012. Thereafter, the deficit should remain almost constant towards 2020. A further and considerable fiscal adjustment is thus necessary to cut back the deficit to 3% of GDP in 2012 and achieve a balanced budget in 2015 in accordance with the Stability Programme of January 2010.

Without new fiscal measures - thus assuming constant policy and legislation - the primary deficit (i.e. before interest charges) should remain negative in the medium term (it should be equal to about -0.4% of GDP in 2015 and 0% in 2020). Interest charges should grow from 3.6% of GDP in 2009 to 4.0% of GDP in 2015 and 4.5% of GDP in 2020. The snowball effect, which restarted in 2009, should bring the public debt to 97.9% of GDP in 2010 and 99.1% in 2011. The public debt should attain the equivalent of 100.8% in 2020.

Graph 3 - Public indebtedness



Key figures for the medium-term economic outlook

period averages - changes (%) in volume unless otherwise stated

	1998-2003	2004-2009	2010-2015	2016-2020
Potential export market	6.4	3.9	7.1	6.2
Private consumption	1.6	0.9	1.7	1.7
Public consumption	2.3	1.9	1.8	1.9
Gross fixed capital formation	1.3	4.0	2.0	1.7
Stock building (contribution to GDP growth)	-0.1	0.4	0.1	-0.1
Final domestic demand	1.6	2.2	1.8	1.6
Exports	4.6	1.9	5.1	4.4
Imports	4.0	2.3	4.8	4.1
Net exports (contribution to GDP growth)	0.6	-0.2	0.3	0.4
GDP	2.0	1.5	2.1	2.0
Private consumption prices	1.6	2.5	2.1	2.2
Real disposable income – households	1.5	1.5	1.4	1.7
Domestic employment (annual changes in thousands)	42.7	46.2	33.6	30.6
Unemployment, FPB definition ^a				
- thousands	684.6	645.7	662.5	590.9
- % of labour force	13.9	12.5	12.3	10.8
Current account balance (% of GDP) ^a	5.6	2.0	2.5	3.6
General government financing capacity (EDP definition, % of GDP) ^a	-0.1	-6.0	-4.4	-4.6

a. end of period

Economic forecasts for Belgium by different institutions

	GDP-growth		Inflation		Government Balance		Date of Update
	2010	2011	2010	2011	2010	2011	
Federal Planning Bureau [1]	1.8	1.7	2.1	2.1	-4.8	-4.6	10/10
INR/ICN [1]	1.8	1.7	2.1	2.0			09/10
National Bank of Belgium [2]	2.1	1.8	2.3	2.1	-4.8	-4.7	12/10
European Commission [2]	2.0	1.8	2.3	1.9	-4.8	-4.6	11/10
OECD [2]	2.1	1.8	2.1	1.6	-4.9	-4.5	11/10
IMF [2]	1.6	1.7	2	1.9	-4.8	-5.1	10/10
ING [1]	2.0	1.6	2.2	1.9	-4.5	-4.1	12/10
BNP Paribas [2]	2.1	1.7	2.3	2.3	-4.8	-4.2	12/10
Dexia [1]	2.1	1.6	2.1	1.8			11/10
KBC Bank [1]	1.8	1.5	1.9	1.8	-4.6	-4.4	09/10
Deutsche Bank	2.1	1.6	2.3	2.3	-4.7	-3.9	12/10
IRES [1]	1.9	1.9	2.2	2.0	-4.8	-4.4	10/10
Consensus Belgian Prime News [2]	1.7	1.6	1.9	1.8	-4.9	-4.5	09/10
Consensus Economics [2]	1.9	1.5	2.0	1.8			12/10
Consensus The Economist [2]	1.9	1.5	2.1	1.9			12/10
Consensus Wirtschaftsinstitute [2]	1.8	1.5	1.9	1.5	-4.7	-5.1	10/10
Averages							
All institutions	1.9	1.7	2.1	1.9	-4.8	-4.5	
International public institutions	1.9	1.8	2.1	1.8	-4.8	-4.7	
Credit institutions	2.0	1.6	2.1	2.0	-4.7	-4.2	

[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
	2010	2011	2010	2011	2010	2011	
European Commission	1.7	1.5	1.5	1.8	-6.3	-4.6	11/10
OECD	1.7	1.7	1.5	1.3	-6.3	-4.6	11/10
IMF	1.7	1.5	1.6	1.5	-6.5	-5.1	10/10
ING	1.7	1.4	1.6	1.7	-6.0	-4.9	12/10
BNP Paribas	1.7	1.3	1.6	1.6	-6.2	-4.7	12/10
Dexia	1.6	1.4	1.6	1.7			11/10
KBC Bank	1.6	1.3	1.4	1.5			11/10
Goldman Sachs	1.7	2.0	1.5	1.5	-6.4	-4.8	12/10
Deutsche Bank	1.7	1.2	1.6	2.0	-6.0	-4.8	12/10
Morgan Stanley	1.7	1.5	1.7	1.8	-6.3	-4.8	12/10
Consensus AIECE	1.7	1.8	1.9	1.8	-6.2	-4.5	10/10
Consensus Economics	1.7	1.5	1.6	1.6			12/10
Consensus Wirtschaftsforschungsinstitute	1.6	1.3	1.4	1.3	-6.6	-5.2	10/10
Consensus The Economist	1.7	1.4	1.6	1.7			12/10
Averages							
All institutions	1.7	1.5	1.6	1.6	-6.3	-4.8	
International public institutions	1.7	1.6	1.5	1.5	-6.4	-4.8	
Credit institutions	1.7	1.4	1.6	1.7	-6.2	-4.8	

Pursuing the Europe 2020 Strategy in Belgium

In June 2010 the European Council decided on the successor to the Lisbon Strategy, which had been introduced in 2000 to turn the EU into the world's most competitive and dynamic knowledge economy. The new strategy, called 'Europe 2020: A European strategy for smart, sustainable and inclusive growth', sets objectives for structural reforms to be achieved by 2020. The FPB will draw up an annual evaluation of Belgian progress towards the objectives.

Principles of the new strategy

Like the Lisbon Strategy, Europe 2020 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.

The focus is now on five headline targets¹:

- 75% of the population aged 20-64 should be employed;
- 3% of the EU's GDP should be invested in R&D;
- The 20/20/20 climate/energy targets should be met;
- The share of early school leavers should be below 10% and at least 40% of the younger generation should have a tertiary degree;
- 20 million fewer people should be at risk of poverty.

These targets are at the European level. The Member States should translate them into their own national targets or have already done so. They are responsible for the pursuit, while the existing European instruments will also be used. The latter are, in particular, the internal market, the community budget and the external policy instruments. The Council will carry out an annual follow-up during the so-called 'European Semester'. This will be done on the basis of the National Reform Programmes (NRP) and the Stability and Convergence Programmes (SCP), which must be delivered every year on 15 April.

Determination and benchmarking of targets

As before, this FPB issue gives an international benchmarking of structural reform in Belgium, now focussed on the progress in achieving the Europe 2020 targets. The overview starts with the five headline targets and certain other indicators for the policy areas concerned. It is followed by a number of other key elements of the economic framework: growth performance, the digital

agenda, the internal market, competition, the business climate and the environment.

Most Belgian targets still have to be set, but preparatory work is being done. For certain targets, the government has taken an official position by defining an interval in which the target will be set. For other targets, no official position has been taken yet.

Performance at the advent of the strategy

Concerning the headline targets, the initial situation is mixed. Belgium performs better than the EU average on education and social inclusion. The performance on R&D is equal to the EU average, although the 3% objective of the Lisbon Strategy is far from being met. The performance on employment and energy efficiency is worse than the EU average, although good progress has been made. For greenhouse gases and renewable energy, such a comparison would not be relevant because of the burden sharing agreed among Member States. Like any other Member State, Belgium has the freedom to set its targets according to the initial situation. This may give rise to targets for employment and climate/energy that are low but still such that significant efforts are needed to improve performance.

Performance with respect to the EU headline targets*

Indicator	Belgium	EU average	EU target	Best practice**
Total employment rate	67.1%	69.1%	75%	NL SE
R&D expenditure as % of GDP	1.9%	1.9%	3%	SE FI
Emission of greenhouse gases	-7.1%	-11.3%	-20%	
Share of renewable energy	3.3%	10.3%	20%	
Energy efficiency	-6.0%	-8.5%	-20%	DK IE
Early school leavers	11.1%	14.4%	10%	SK PL
Young people with a tertiary degree	42.0%	32.3%	40%	IE DK
People at risk of poverty	20.8%	23.5%	18.6%	NL SE

Sources: Eurostat (Europe 2020 Indicators) and FPB

* Data for the most recent year available (2008/2009). For further definitions and explanations, see the respective indicators on the following pages.

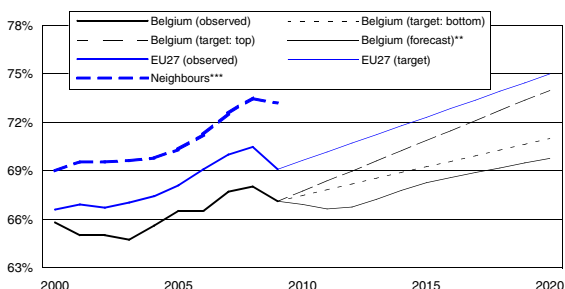
** Not relevant for greenhouse gases and renewable energy.

With regard to other indicators, Belgium performs relatively well on productivity, innovation, broadband, internal market issues, capital prices, pollution and resource efficiency. Although improvements have certainly been made, further efforts are needed on employment for the elderly, the inflow of students into science and technology, ICT investments, market entry, fiscal pressure on labour, entrepreneurship and waste reduction. This holds even more so for youth employment and consumer prices, where performance has worsened in recent years.

1. COM(2010)2020, p.3.

Employment

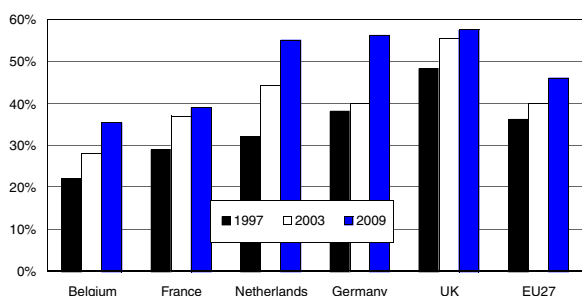
Graph 1 - Total employment rate*



Source: Eurostat (Europe 2020 Indicators)
 * The number of persons aged 20 to 64 in employment, divided by the total population of the same age group
 ** HERMES model, October 2010
 *** Average of Germany, France and the Netherlands, weighted by GDP shares

In spite of the clear increase in the employment rate over the last two decades, the Belgian labour market indicators remain far from the European targets. After rising sharply during the second half of the nineties, the Belgian employment rate remained stable at around 65% until 2004. In 2008, it peaked at 68%, only to slide back to 67.1% in 2009 as a result of the recession. Although Belgium's employment rate rose more than the EU27 rate between 1997 and 2009, it still stood 2 %-points below the European average in 2009. The latest FPB outlook predicts a rise to 70% in 2020 if policies remain unchanged, which is 5 %-points below the target set by the EU.

Graph 2 - Employment rate of older workers*

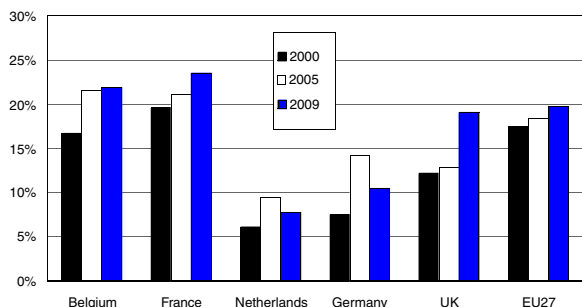


Source: Eurostat (Labour Force Survey)
 * The number of persons aged 55 to 64 in employment, divided by the total population of the same age group

While the Belgian male employment rate has remained stable at around 74% over the last decade, the Belgian female employment rate has been increasing constantly since the beginning of the nineties and is catching up with the European average. In 2009, it amounted to 61%, which is still 1.5 %-points below the European average.

The Belgian employment rate for older workers has been rising constantly since the mid-nineties and converging gradually to the EU27 average. However, at 35.3% in 2009, as against 46% in the EU27, it is still one of the lowest in Europe.

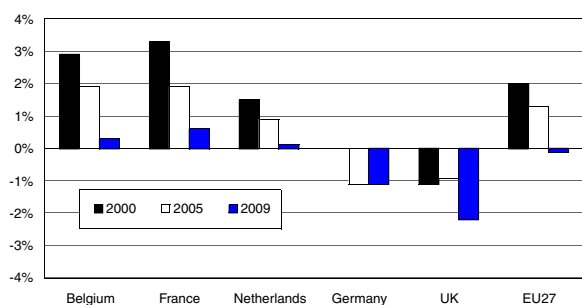
Graph 3 - Youth unemployment rate (-25 years)



Source: Eurostat (Unemployment Harmonised Series)

At the beginning of the last decade, youth unemployment increased in many European countries. 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 the Belgian youth unemployment rate fell between 2004 and 2008 (to 18%), it went up again in 2009 (as in the other European countries). At 21.9% in 2009, it is 2.2 %-points higher than the EU27 average.

Graph 4 - Unemployment rate, gender gap females-males

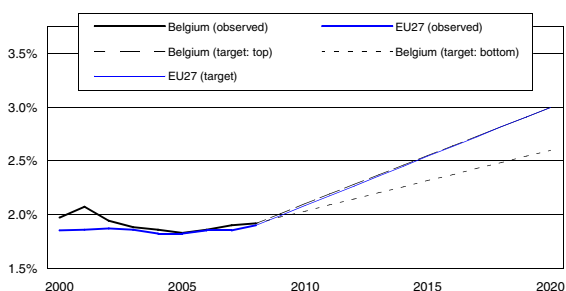


Source: Eurostat (Labour Force Survey)

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%. It decreased to 1.1% in 2008 and to 0.3% in 2009, which was almost the European average (-0.1%).

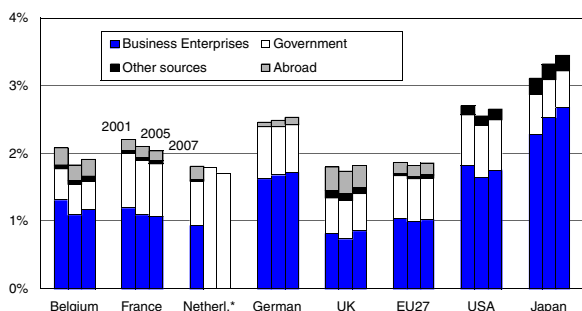
Innovation

Graph 5 - Gross domestic expenditure on R&D as % of GDP



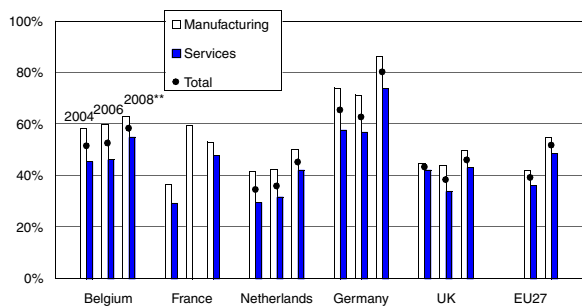
Source: Eurostat (Europe 2020 Indicators)

Graph 6 - R&D expenditure by source of funds as % of GDP



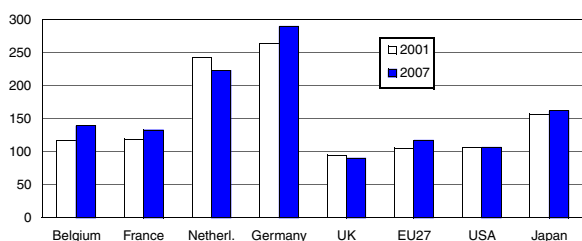
Source: Eurostat (Research and Development) and Belgian Science Policy
* 2005 and 2007: no source of funds available

Graph 7 - Rate of innovation*



Source: Eurostat (Community Innovation Survey)
* Percentage of enterprises responding that they have innovated. Innovation includes product, process, ongoing or abandoned innovation, and for 2008 also organisational and marketing innovation.
** NACE Rev.2: for manufacturing Section C; for services Sections H and K and Divisions G46, J58, J61, J62, J63 and M71; total includes manufacturing, services and Sections B, D and E

Graph 8 - Patent applications at the EPO per million inhabitants



Source: Eurostat (Patent Statistics)

Innovation, as a major source of productivity growth, plays an important role in economic growth. It also helps to address social challenges such as health problems and environmental degradation. Inside the Europe 2020 framework, the quantitative objective assigned to the EU is to reach an R&D intensity of at least 3% at the horizon 2020. Each Member State, given its domestic situation, has to announce an objective compatible with the European Union target. The Belgian authorities have announced that R&D expenditure will reach 2.6% to 3.0% of GDP in 2020, as illustrated in Graph 5.

In 2008, R&D intensity in Belgium (1.92% of GDP) was slightly above the EU27 average (1.90% of GDP), but was much lower than the performances of France, Germany, the USA and Japan. After a fall in Belgian R&D intensity from 2001, a slight increase has been observed since 2006.

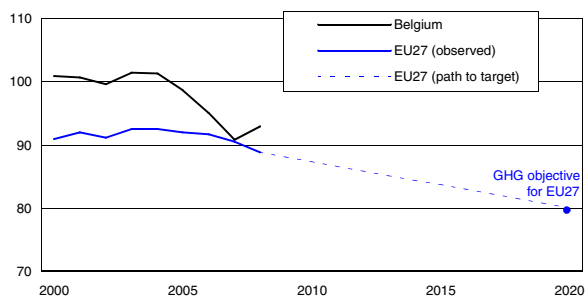
Belgian firms financed R&D at a level of 1.17% of GDP in 2007, which was above the EU27 average. Private companies play a relatively important role in Belgian R&D. R&D intensity financed by the public authorities reached 0.42% of GDP, which was significantly below the European average and has been on a declining trend since 2001. Finally, funds from abroad constitute an important source of financing of R&D activities in Belgium, as illustrated by Graph 6.

Although R&D is an important input, it is far from being the only determinant of innovation. Moreover, innovative activities in terms of product, process, marketing or organisation can be implemented without input from R&D expenditure. To provide a broader picture, every two years the Community Innovation Survey (CIS) publishes the share of firms that conduct innovative activities. As shown in Graph 7, Belgium is relatively well-positioned in terms of the innovation rate in manufacturing as well as in services. In 2008, the innovation rate of Belgian firms (58.1%) was above the EU27 rate (51.6%) and also above the rate of the neighbouring countries, with the main exception of Germany (79.9%).

The number of patent applications is an indicator of the intellectual property protection conferred on innovation. In 2007, the number of patent applications to the European Patent Office from Belgium increased and remained above the European average. With 118.8 patent applications per million inhabitants, Belgium was above France, the United Kingdom and the United States. However, Japan (161.7), the Netherlands (223.5) and particularly Germany (290.7) were largely above the Belgian results.

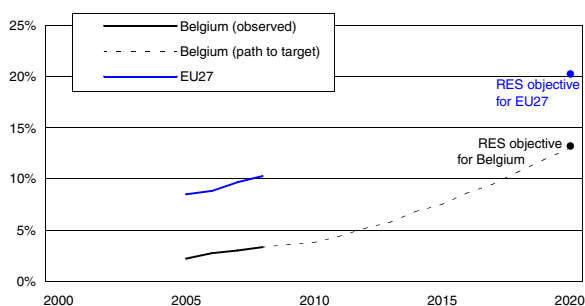
Climate and energy

Graph 9 - Greenhouse gas emissions (GHG, 1990 = 100)



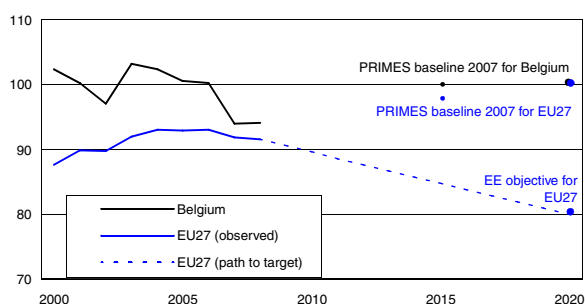
Source: Eurostat (Europe 2020 Indicators)

Graph 10 - Share of renewables (RES) in gross final energy consumption



Source: National renewable energy action plan of Belgium, November 2010

Graph 11 - Primary energy consumption (EE*, 2020 = 100)



Source: Eurostat (Europe 2020 Indicators) and FPB
* Energy efficiency

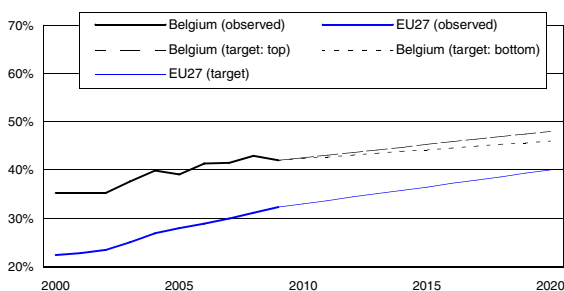
In order to achieve the EU's target of a 20% reduction in greenhouse gas (GHG) emissions by 2020 compared to 1990, the Climate-Energy legislative package includes two main elements: the revised EU Emission Trading System (ETS) Directive and a decision setting a binding GHG emission target for each Member State in sectors not covered by the EU ETS. For ETS sectors, there is no national target but there is a cap on EU GHG emissions so that a reduction of 21% should be achieved by 2020 compared to 2005. For non-ETS sectors, Belgium's target is a 15% reduction of GHG emissions by 2020 compared to 2005. In 2008, total GHG emissions were below the 1990 level by 7% in Belgium and by 11% in the EU. In the graph, the dotted line shows the path towards the 20% EU reduction target.

Directive 2009/28/EC on renewable energy sets targets for each individual Member State such that the EU will reach a share of gross final energy consumption from renewable energy sources of 20% by 2020 and a 10% share from renewable energy specifically in the transport sector. The overall target for the share of energy from renewable energy sources for Belgium is 13% while the target for the share of renewable energy in transport is the same for all Member States (i.e. 10% by 2020). Over the period 2005-2008, the share of gross final energy consumption from renewable energy sources increased steadily: from 8.5% to 10.3% in the EU and from 2.2% to 3.3% in Belgium. The dotted line shows the path towards the target set by Belgium's national renewable energy action plan.

Reducing energy consumption is another main goal of the European Union. In this respect, the EU agreed on the target of saving 20% of its primary energy consumption compared to projections for 2020. The reference projection referred to in the EU 'energy efficiency' objective is the 2007 baseline from the energy model, PRIMES. In the graph, the corresponding projected levels for 2020 are set equal to 100. The dotted line shows the path towards the EU objective in 2020. The evolutions of primary energy consumption in Belgium and in the EU show contrasting trends in the period 2000-2008. However, since 2004, the overall trend has been moderately decreasing. In 2008, the EU was almost halfway to its energy efficiency target while Belgium's level of primary energy consumption was 6% below the projection for 2020 based on PRIMES baseline 2007.

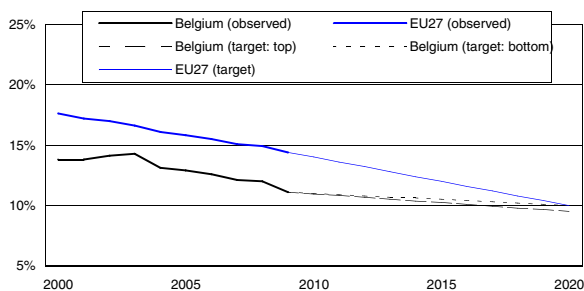
Education

Graph 12 - Tertiary educational attainment*



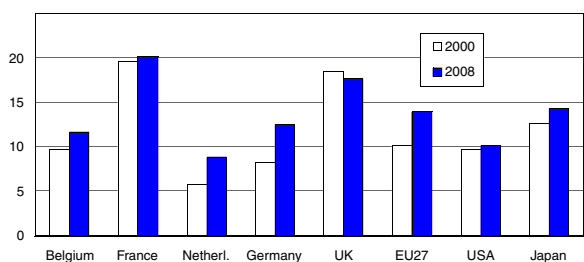
Source: Eurostat (Europe 2020 Indicators)
 * The share of the population aged 30-34 years who have successfully completed tertiary-level education (ISCED 1997: level 5-6)

Graph 13 - Early leavers from education and training*



Source: Eurostat (Europe 2020 Indicators)
 * Share of the respondents aged 18-24 whose highest level of education or training attained is ISCED 0, 1, 2 or 3c-short, and who have declared that they have not received any education or training in the four weeks preceding the survey.

Graph 14 - Graduates in science and technology in %*



Source: Eurostat (Education Statistics)
 * 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

Human capital is generally considered to be an important determinant of innovation, productivity, economic growth and well-being. Investing in education is essential, in view of the rising demand for high-skilled workers, e.g. due to globalization and technological change. Matching the rising demand with an increase in the relative supply of high-skilled workers permits opportunities and challenges to be addressed, employability to be improved and avoidance of the surge in wage inequality witnessed in countries where the number of university graduates has fallen short of the number required by the labour market.

Education takes a prominent position in the Europe 2020 strategy. The European Commission recommends increasing the proportion of young people with a tertiary degree from less than a third to 40% and cutting the school dropout rate from the current 15% to 10%. The targets concern the EU as a whole and Member States have been asked to set their own targets in line with past experience and the overall EU targets.

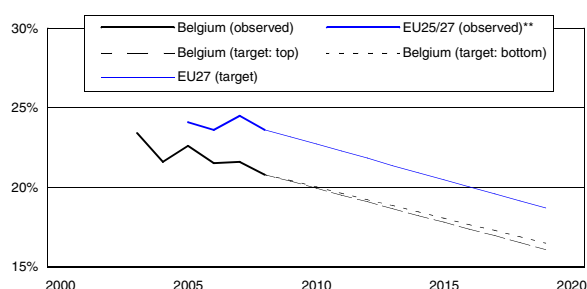
The share of the population aged between 30 and 34 that has completed tertiary or equivalent education has increased considerably in Belgium since 2000, reaching 42% in 2009, i.e. above the EU target for 2020 and well above the EU27 average of 32.3% (see Graph 12). In 2009, Belgium ranked 6th out of all EU Member States. For its 2020 target, the Belgian government has set a range of between 46% and 48%.

The dropout rate, i.e. the share of the population aged between 18 and 24 years leaving school without having finished secondary education was 11.1% in Belgium in 2009 (see Graph 13). Though well below the EU27 average of 14.4% and slightly higher than the EU target for 2020, Belgium only held a joint 11th position in 2009. The 2020 target for Belgium has been set at between 9.5% and 10%.

Because of their important role in R&D and innovation, graduates in science and engineering are of great interest. The availability of qualified researchers is often cited as an important driver for companies in the location of their R&D facilities. Failing to educate a sufficient number of researchers could seriously hamper ambitions to reach the R&D target. The number of graduates in mathematics, science and technology per 1 000 inhabitants aged between 20 and 29 years increased in Belgium from 9.7 in 2000 to 11.6 in 2008 (Graph 14). However, this number is still below the EU27 average of 13.6 and below the number in France, Germany and the UK.

Poverty and exclusion

Graph 15 - Share of the population at risk of poverty and exclusion*

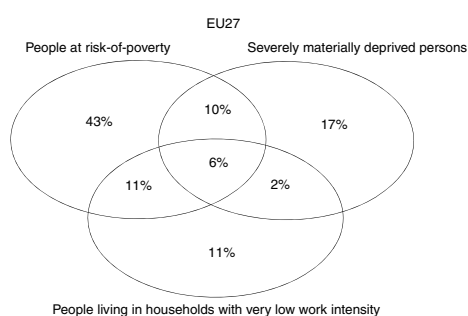


Source: Eurostat (Europe 2020 Indicators)

* For the period 2009-2018, the % is calculated using the population estimates of the Eurostat EuroPOP 2008 convergence scenario.

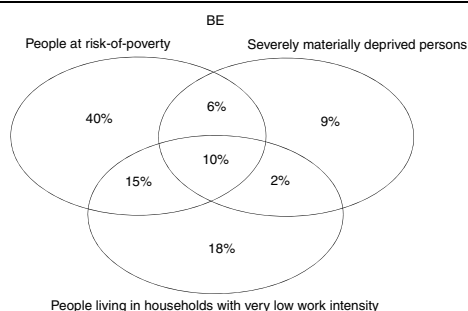
** EU25 for 2005-2006; EU27 for 2007-2008

Graph 16 - Distribution over the different subpopulations of the population living with a risk of poverty or social exclusion in EU in 2008



Source: European Commission (DG Employment)

Graph 17 - Distribution over the different subpopulations of the population living with a risk of poverty or social exclusion in Belgium in 2008



Source: European Commission (DG Employment)

The European target for 2020 promoting social inclusion is to lift at least 20 million people out of the risk of poverty or social exclusion in comparison to the situation of 2008 using three indicators¹:

- At risk of poverty. This is a relative income indicator measuring whether the income of a household is below a certain threshold called the 'poverty threshold'.

- Material deprivation. This is a non-monetary measure of poverty.
- Households with no/very low work intensity. This is an indicator of prolonged exclusion from the labour market.

The target concerns people corresponding to at least one of these indicators, which usually are available with a one- to two-year time lag.

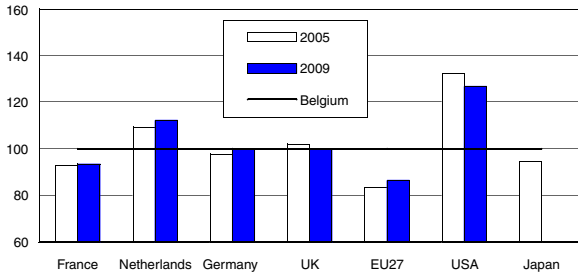
Graph 15 shows the evolution of the share of the targeted population in Belgium and in the EU and a hypothetical path (dashed lines) leading to the agreed objectives. The share of the total Belgian population at risk of poverty or social exclusion declined from 23.4% to 20.2% between 2003 and 2009, which corresponds to an absolute drop from 2.405 to 2.145 million persons. For 2020, Belgium is aiming at a reduction of between 0.33 and 0.38 million persons in comparison to the situation of 2008. Thus, in 2020, based on 2019 data, the Belgian targeted population should lie between 1.864 and 1.814 million persons or 16.5% and 16.1%. Between 2005 and 2008 the share of the total EU population at risk of poverty or social exclusion fluctuated around 24%. This corresponds to a rise in absolute terms from 109.3 to 115.8 million persons. The EU objective for 2020 envisages a reduction to, at most, 95.8 million persons or 18.7% of the total population (based on 2019 data).

The characteristics of the population at risk of poverty or social exclusion differ in the EU and in Belgium. Graphs 16 and 17 give the details for 2008. About 41% of that population has an income under the poverty threshold (at risk of poverty) in both the EU and Belgium. The share of the targeted population only living in very low work intensity households is higher in Belgium than in the EU, 18% and 11%, respectively. For those who are only severely materially deprived the opposite is true: they represent 17% of the targeted population in the EU while they represent 9% in Belgium. In the EU, 6% of the targeted population combine all three aspects of social exclusion whereas in Belgium this is the case for 10%.

1. Persons are at risk of poverty if their equivalised disposable household income for the past year is below a threshold, which is set at 60% of the national median equivalised disposable income after social transfers for the same year. Persons are materially deprived if they cannot afford at least 4 out of the following 9 items: i) pay rent or utility bills, ii) keep their home adequately warm, iii) face unexpected expenses, iv) eat meat, fish or a protein equivalent every second day, v) a week's holiday away from home, vi) a car, vii) a washing machine, viii) a colour TV, or ix) a telephone. Persons (only those younger than 60 are considered) live in a low work intensity household if the adults in that household worked less than 20% of their total work potential during the past year. These indicators are calculated using the Survey on Income and Living Conditions.

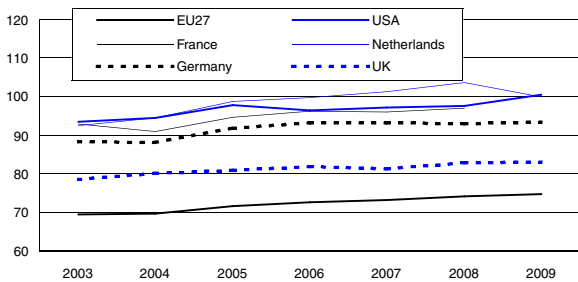
Growth performance

Graph 18 - GDP per capita, in PPS (Belgium=100)



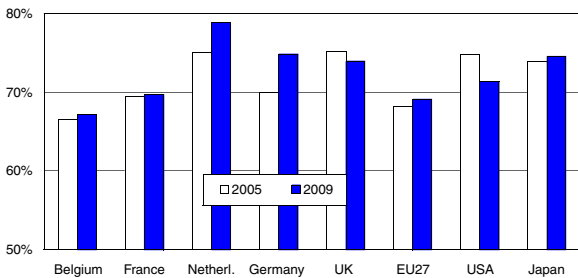
Source: FPB, based on Eurostat (Structural Indicators)

Graph 19 - GDP per hour worked (Belgium=100)*



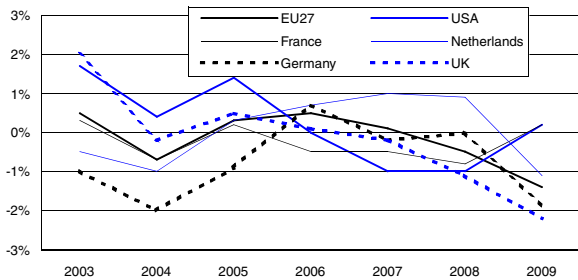
Source: FPB, based on Eurostat (Structural Indicators)
* Measured in PPS

Graph 20 - Total employment rate*



Source: Eurostat (Europe 2020 Indicators)
* The number of persons aged 20 to 64 in employment, divided by the total population of the same age group

Graph 21 - Real GDP growth differential with Belgium



Source: FPB, based on Eurostat (Structural Indicators)

As the crisis affected Belgium less severely than most other Western countries, the Belgian GDP per capita in PPS remains among the highest in Europe. Moreover, the continuous deterioration of the Belgian relative position against all the countries shown in Graph 18 since 2005 ended in 2008. However, in 2009, GDP per capita in Belgium was still 12% below the Dutch level and 27% below the US level.

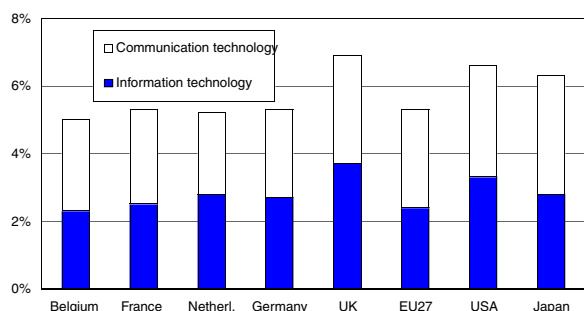
Per capita GDP growth can be due to growth in labour utilisation and growth in productivity. The GDP per hour worked in Belgium is one the highest in the world, illustrating the well-known high level of Belgian productivity. In 2009, only the US productivity level was higher than that of Belgium (see Graph 19). However, deterioration in Belgium's relative performance can be observed over 2003-2009. Some other European countries succeeded in improving their relative position over this period. This was 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 far below the European objectives. In 2009, the employment rate reached 67.1%, decreasing from the 68% reached in 2008. As in other countries, this contraction is due to the effects of the economic crisis on the labour market. The most hurt countries are the United Kingdom and the United States. Moreover, they are the only economies to record employment rates in 2009 below those observed in 2005. However, as illustrated by Graph 20, the Belgian employment rate remains the lowest among the countries shown. Moreover, the improvement recorded between 2005 and 2009 was one of the smallest among all the countries in Graph 20.

Since the end of 2008, many countries have recorded a severe deceleration in their growth, caused by the turbulence on the financial markets. On an annual basis, the average real GDP growth rate remained positive in 2008, except for the United Kingdom (-0.1%). However, in 2009, the contagion of the financial crisis to the real economy led to negative growth rates for all countries presented in Graph 21. With a real GDP growth rate of 1.0% in 2008 and of -2.8% in 2009, the Belgian performance was slightly above that of all the countries compared, with the crisis effects being later and less severe in Belgium than in other European economies.

Digital agenda

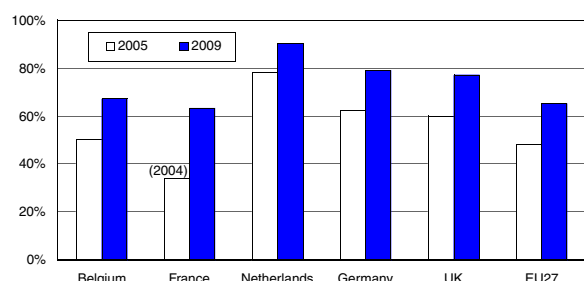
Graph 22 - ICT expenditure as a percentage of GDP (2008)



Source: Eurostat (Information Society)

As general purpose technology, information and communication technologies (ICT) are important for supporting productivity gains allowing better organisations of enterprises and markets and also developing innovative capacities, leading to waves of innovations throughout the economy. The Belgian ICT market is slightly less developed than that of Europe, with ICT expenditure reaching 5.0% of GDP against 5.3% for the EU27 in 2008. The Belgian ICT market is also less important than this market in all the countries presented in Graph 22.

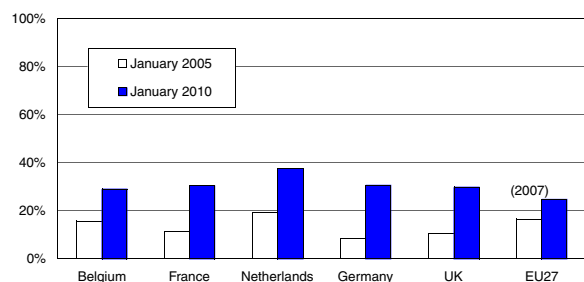
Graph 23 - Level of internet access of households*



Source: Eurostat (Information Society)
* Percentage of households with at least one member in the age group 16-74 years that have internet access at home

A wide-spread diffusion of ICT inside society is a condition for extracting all the economic and social benefits from this innovation. Internet penetration among Belgian households is also in line with the European average. As illustrated by Graph 23, this penetration rate remains, however, below the rate recorded by Germany, the United Kingdom and the Netherlands.

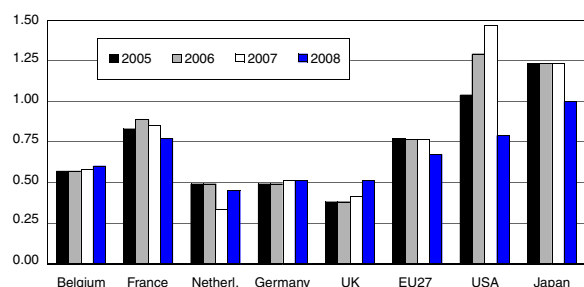
Graph 24 - Broadband penetration rate*



Source: Eurostat (Information Society)
* High-speed connections

The diffusion of ICT depends on the potential uses of these technologies, which in turn depend on the quality of communication infrastructure and, in particular, on the quantity and the speed of information exchanges. The broadband penetration rate gives the number of dedicated, high-speed connections per 100 inhabitants. In the first semester of 2010, the broadband penetration rate reached 28.9% in Belgium, above the EU27 average (24.7%) but below all other countries presented in Graph 24. The comparison between the broadband penetration rates in 2005 and in 2010 shows a deterioration in the Belgian relative position over the last 5 years. Indeed, in 2005, the Belgian penetration rate was the second largest after that of the Netherlands. The same evolution is observable when the percentage of enterprises with broadband access is taken into consideration.

Graph 25 - National call price* in euro

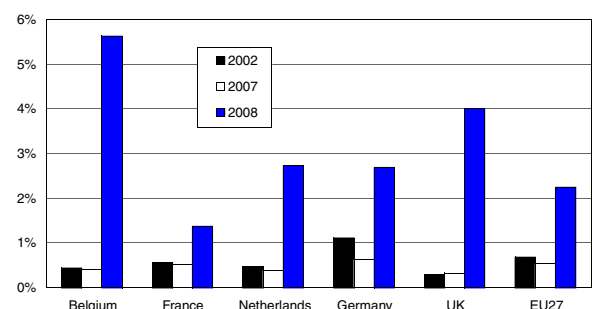


Source: Eurostat (Information Society)
* Refers to a ten-minute national long-distance call.

Another important factor in ICT diffusion is the price paid to exchange information, or in other words to use these technologies. The lack of official harmonised statistics prevents establishing a comparison between Belgium and other European countries on Internet user costs. However, harmonised European statistics on communication costs are available and show that the Belgian cost of communication is slightly below the EU27 average price. In 2008, the Belgian price for a national call of 10 minutes reached 0.60 euro, against 0.67 euro for the EU27. However, as illustrated by Graph 25, this price remains above the German and English prices and, particularly, above that of the Netherlands. Moreover, since 2005, the Belgian price has been on an increasing trend, contrary to that observed for France, the Netherlands, the United Kingdom and the EU27 on average.

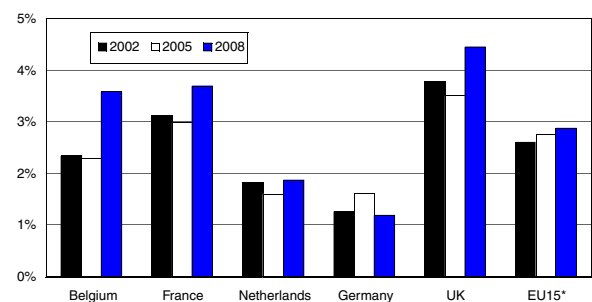
Internal market

Graph 26 - State aid as % of GDP*



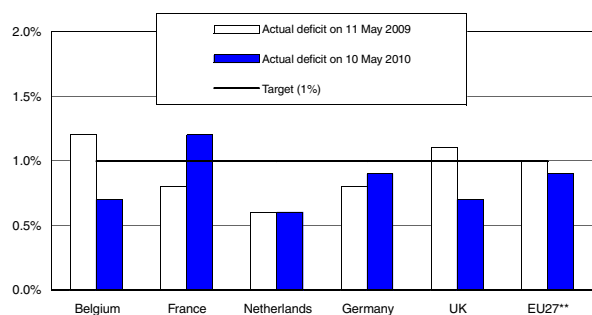
Source: Eurostat (Government Finance Statistics)
 * An advantage in any form whatsoever conferred on a selective basis to undertakings by national public authorities. The data exclude support for railways, but include support for agriculture and fisheries.

Graph 27 - Public procurement advertised in the Official Journal as % of GDP



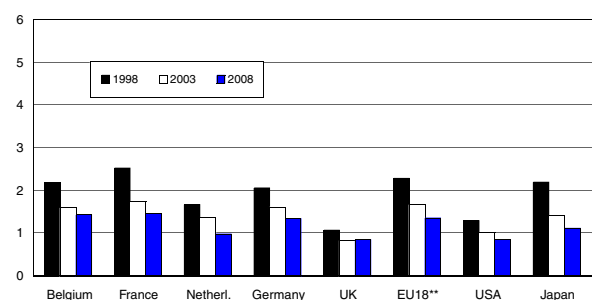
Source: Eurostat (Government Finance Statistics)
 * 2005/2008: The EU25/27 is slightly higher than the EU15 (score of about 3%)

Graph 28 - Transposition deficit of internal market directives*



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

Graph 29 - Index of product market regulation, scale 0-6*



Source: OECD
 * The stronger the regulation, the higher the index
 ** Unweighted average of the EU15 and Poland, the Czech Republic and Hungary; no 1998 index for Luxembourg; preliminary index for Ireland and Greece

The banking crisis of 2008 made many EU governments take exceptional financial measures, part of these being classified as state aid (see Graph 26 for a short definition). This amounted to 212 billion euro, making the total aid more than four times as high as in 2007. When compared to GDP, Belgium was among the countries granting the highest amounts. Only Luxembourg and Ireland granted more. Without considering the crisis measures, structural state aid in 2008 was not very different from that in 2007. In the EU27, it was constant at 0.54% of GDP; in Belgium it had risen slightly from 0.4% to 0.46%. Since 2003, Belgium has ranked among the countries giving the lowest aid per euro of GDP. It almost achieved the EU objective of no sector-specific aid being granted any longer. Only Luxembourg, Sweden and the Baltic states fully achieved that objective. Almost half of the aid went to R&D, and the remainder, for the most part, to SMEs, the environment and regional development. Other countries have other priority mixes for aid allocation.

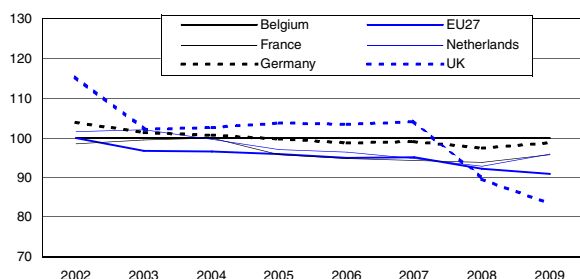
Openly-advertised public procurement has risen in the EU15 from less than 2% of GDP in the late 1990s to around 3% in recent years. In Belgium it had been stable around 2.4% between 1999 and 2006, but moved up to 3.6% in 2008. The country now ranks 16th in the EU27. Four of the former EU15 countries (Spain, France, Finland and the UK) and all but one of the New Member States (Malta) ranked higher.

Between May 2009 and May 2010, the Belgian transposition deficit of internal market directives decreased strongly, thereby surpassing the 1% target set by the European Council (0.7%). Nine countries did better, with Denmark and Malta at the top (0.2% deficit). In strong contrast to this achievement is the number of infringement cases. No less than 111 cases against Belgium were pending, which is the highest number of all of the Member States. The EU27 average is only 46.

In early 2009, the OECD released its third edition of the index of product-market regulation. It includes data on state control, barriers to entrepreneurship and barriers to trade and investment. The released 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.

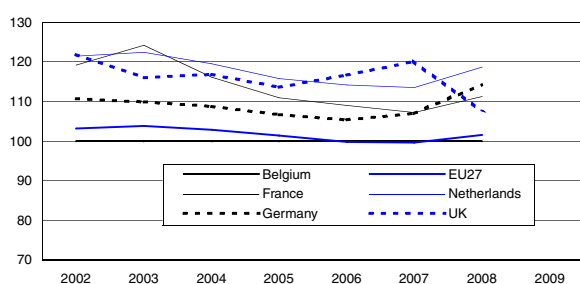
Competition

Graph 30 - Comparative price levels of consumer goods (Belgium = 100)



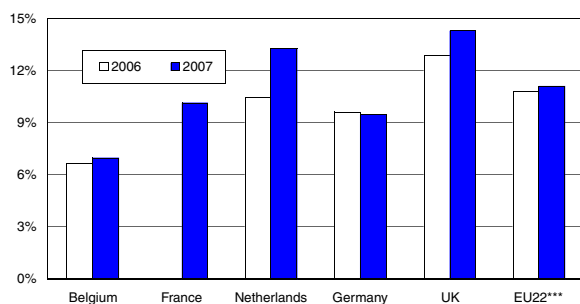
Source: Eurostat (Purchasing Power Parities)

Graph 31 - Comparative price levels of investment goods (Belgium = 100)



Source: Eurostat (Purchasing Power Parities)

Graph 32 - Birth rate of enterprises* **



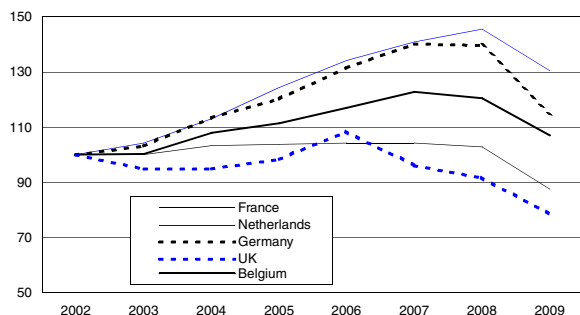
Source: Eurostat (Business Demography Statistics)

* Number of enterprise births in the reference period divided by the number of enterprises active in that period

** Industry and services, except management activities of holding companies, public administration and community services, activities of households and extra-territorial organizations

*** Unweighted average of the EU27 excluding Ireland, Greece, Poland, Romania and Malta; 2006 also excluding France

Graph 33 - Export volume index (2002=100)



Source: Eurostat (External Trade Data)

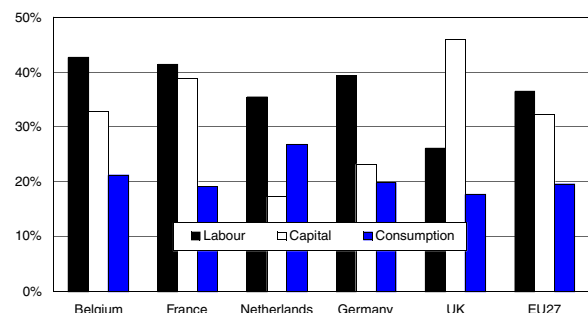
Competition can be defined as the interaction between market players, such that each of them tries to become the most efficient. This is relevant for the whole economy since it could also lead to the most efficient outcome at that level. Competition can, however, only be measured in an indirect way. One such way is to focus on market performance, as embodied by the evolution of prices. Based on purchasing power parity data (PPP), the average price level for consumer goods and services in Belgium has risen in comparison to the EU27 average and the neighbouring countries. In 2002 they were 10% above the EU27 level and also above all neighbouring countries' levels. In particular, certain food products and clothing are expensive in comparison to the EU average. For consumer services (not shown in the graph) there is a higher spread among Member States, which may illustrate the still weakly integrated services market in the EU. In 2009, Belgian services prices had risen to a level of 18% above the EU average. For housing, health care and education the differential was even more than 20%. The evolution of Belgian investment goods prices has been more favourable. Throughout the past decade they have been about as high as the EU27 average, but between 9% and 14% below the seven-year average prices (2002-2008) of the neighbouring countries.

In 2007, about 34 000 new enterprises were established in Belgium, which was almost 7% of the business population. This illustrates another way of measuring competition: focusing on the number, size and life-cycle of market players. The 7% enterprise birth rate, however, was the second lowest of the 22 Member States for which business demography data was available. This might indicate a relatively weak level of competition. However, institutional factors, such as a preference for rather being self-employed than establishing an enterprise, might also play a role.

Export volume in Belgium grew by 23% between 2002 and 2007, which is an indication of the evolution of its competitive position on international markets. With this performance, Belgium occupies a mid position among its neighbours. This is still impressive, as Belgium already has a very open economy. It may thus have less potential for further export growth than larger, less open countries. In this regard, the Netherlands' performance was maybe even more impressive. Clearly, all five countries suffered from the drop in world trade that followed the financial crisis.

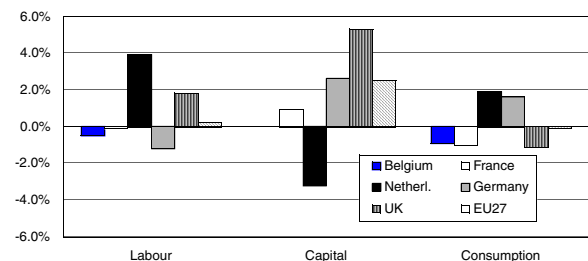
Taxation and business climate

Graph 34 - Implicit tax rates (2008)*



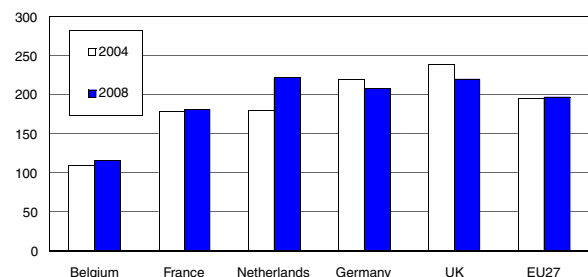
Source: European Commission, Taxation trends in the EU (2010)
 * Ratio of total tax revenues of the category (labour, capital, consumption) to a proxy of the potential tax base defined using the production and income accounts of national accounts

Graph 35 - Changes in implicit tax rates %-points (2004-2008)*



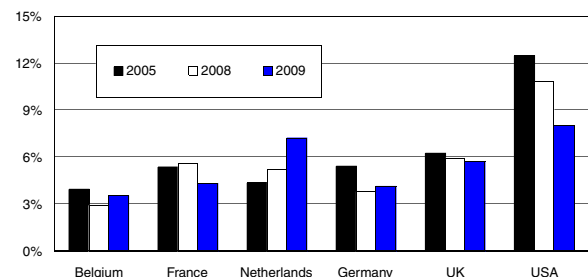
Source: European Commission, Taxation trends in the EU (2010)
 * For a definition, see note on Graph 34

Graph 36 - Implicit tax rate on energy*



Source: European Commission, Taxation trends in the EU (2010)
 * Energy taxes in euro per ton of oil equivalent (TOE)

Graph 37 - Total entrepreneurial activity index in %*



Source: London Business School (Global Entrepreneurship Monitor)
 * The number of people currently setting up a business or owning/managing a business that has existed for up to 3.5 years, relative to the adult population, 18-64 years

Compared to other EU-countries, the overall tax rate remained high in 2008 in Belgium at 44.3% of GDP. Only Sweden and Denmark have higher overall rates. The overall rate has slightly decreased since the 2003 high.

The tax structure by economic function shows that, compared to the EU-average, labour is heavily taxed in Belgium, while consumption and environmental taxes are relatively low. This overall picture is a traditional feature of Belgian taxation. In recent years, the implicit tax rates on consumption and on energy have further decreased.

The implicit tax rate on labour stood at 42.6% in 2008, with only Italy having a higher rate in the EU. In 2000-2006 a major tax reform of personal income tax took place, which resulted in a slight decline in the implicit tax rate on labour from 43.6% in 2000 to 42.5% in 2006.

The “notional interest on corporate capital” measure was introduced in 2006 to stimulate the self-financing capacity of companies. While the implicit tax rate on corporate income has been reduced since the late nineties and the implicit tax rate on capital from households and the self-employed have been gradually increased over the past 10 years, the overall implicit tax rate on capital has been relatively stable at around 32.5% for the past five years.

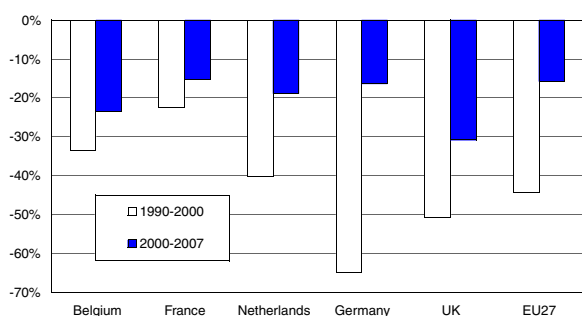
The recovery plan of late 2008 and early 2009 contained a number of measures that should have an impact on tax revenues. The most important was a reduction in the VAT rate from 21% to 6% for the construction of private and social dwellings (for an investment of up to 50 000 euro). The VAT rate on food served in restaurants has, from January 2010, been reduced from 21% to 12%. Specific recovery measures (mainly tax deductions) aimed to reduce energy consumption. Withholding taxes were reduced for scientific researchers, for overtime and for night and shift workers.

Tax measures have been introduced that aim to reduce greenhouse gas (GHG) emissions by individuals and companies. The purchase of cars that emit few or no GHG has been made cheaper through tax deductions.

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. Other indicators on firm dynamics, however, show more dynamic behaviour in Belgium. Entry rates, e.g., are close to 10%, which is comparable to the neighbouring countries.

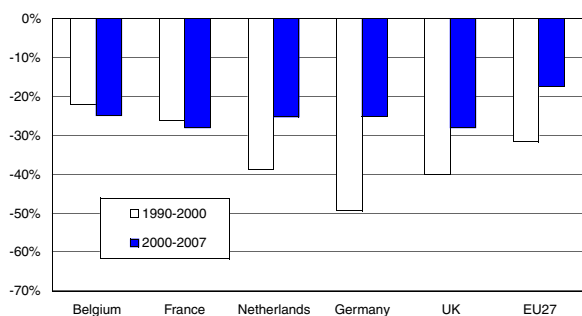
Environment

Graph 38 - Emission of acidifying pollutants
% change*



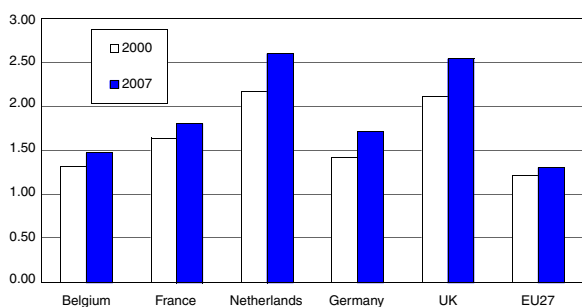
Source: Eurostat (Environment and Energy)
* Measured in acid equivalents

Graph 39 - Emission of tropospheric ozone precursors
% change*



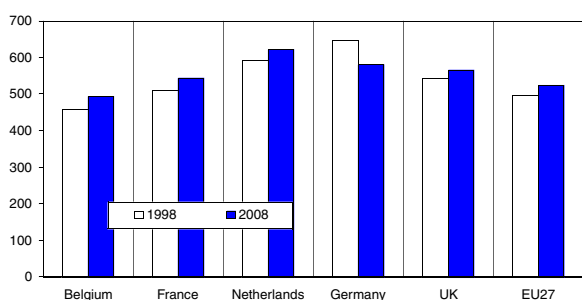
Source: Eurostat (Environment and Energy)
* Tropospheric Ozone Formation Potential (TOFP) equivalents

Graph 40 - Resource productivity
in euro/kg*



Source: Eurostat (Environment and Energy)
* GDP divided by domestic material consumption, the latter of which measures the total amount of materials directly used by an economy

Graph 41 - Municipal waste collected
in kg/person



Source: Eurostat (Environment and Energy)

As regards air emissions, in recent years Belgium has performed quite well in comparison with the EU27. Between 2000 and 2007, Belgium achieved a 23% decrease in emissions of both particulate matter and acidifying pollutants, and a 25% reduction in emissions of tropospheric ozone precursors, while the corresponding decrease in the EU27 equalled 15% and 17% respectively. Belgium also outperformed its neighbouring countries, except for the UK, as concerns emissions of particulate matter and acidifying pollutants. This good performance in the period 2000-2007 contrasts with Belgium's lacklustre performance during the period 1990-2000, in which the decline in emissions for the different pollutants was considerably smaller than the decrease in the EU27.

Resource productivity in Belgium increased by 11% between 2000 and 2007. This was faster than the corresponding increase for the EU27, which equalled only 7%. However, in most of its neighbouring countries, resource productivity improved by more than 20%. Resource productivity was lower in Belgium than in its neighbouring countries throughout the entire 2000-2007 period.

Municipal waste collected per person is considerably lower in Belgium than in its neighbouring countries. However, between 1998 and 2008 it increased by 8%, which was higher than the increase in each of its neighbouring countries. As a consequence, municipal waste collected per person in Belgium in 2008 rose to just over 94% of the EU27 average, up from 92% in 1998.

Total freshwater abstraction per capita in Belgium exceeded the level of its neighbouring countries by a quarter, on average, during the period 2000-2007, while the availability of freshwater resources per capita in Belgium was only just over half the amount available in its neighbouring countries. This implies that the stress being placed on freshwater resources was considerably higher in Belgium.

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 was higher than in all its neighbouring countries, except the Netherlands. 10% of the total Belgian area is protected under the Habitats Directive. This is the same percentage as for Germany, and higher than for the rest of its neighbouring countries. Nevertheless, the population of farmland birds decreased by 28% between 1995 and 2005, almost three times faster than the average decline in its neighbouring countries.

The evolution of Belgian R&D expenditures relative to other EU countries

In this working paper the evolution of expenditures for research and development (R&D) in Belgium in the period 1995-2007, is compared to the evolution in ten other EU countries. R&D expenditures by companies established in Belgium evolved quite favourably up to 2001. Subsequently, R&D intensity decreased and the position of Belgium relative to other countries deteriorated as well. This evolution seems to be due to a decline in the share of a significant number of industries in the overall R&D expenditure of the group of EU countries considered, and less the result of the type of industries in which Belgian companies have specialized.

Recent data show that, except for Finland and Sweden, no EU country or the European Union as a whole will reach the target set at the European Summit in Barcelona in 2002 of 3% of GDP to be spent on R&D in 2010. The target was one of the instruments for implementing the Lisbon Strategy that aimed to make the European Union the most competitive economy in the world by 2010. The 3% target has recently been reiterated in the Europe 2020 Strategy. After strong growth in R&D intensity in the 1990s, R&D intensity has in fact stagnated in the last decade or even decreased in a number of EU countries. Over the same period, R&D intensity in the United States has also been fairly static but at a substantially higher level than in the European Union. There are important differences within Europe: Belgium witnessed a strong increase in R&D expenditures in the second half of the 1990 but has witnessed a drop since 2001 and, more recently, stagnation, whereas the evolution has been far more advantageous in countries such as Austria, Denmark and Spain.

This paper provides an assessment of the evolution of R&D expenditures in the private sector in Belgium relative to a reference group of ten EU countries. Two alternative methods are considered, a shift-share analysis and an industry structure analysis, and two periods are distinguished, 1995-2001 and 2001-2007, i.e. before and after the proposal of the 3% target for R&D expenditure. Both methods show that the change in the share of a

country in the total R&D expenditure of the group of countries considered is determined by an intensity effect, i.e. the change in R&D intensity within industries relative to the same industries in other countries and less by the specialization of countries, i.e. the weight of industries in countries.

The change in the share of Belgium in the R&D expenditure of the reference group of countries was average compared to the rest of the group in the period 1995-2001. Over the more recent period (2001-2007), out of the group of eleven EU countries considered, Belgium witnessed the strongest decrease in its share after France and Sweden. The fact that this evolution can predominantly be explained by an intensity effect suggests that Belgian companies did not sufficiently grasp the opportunities that appear to have existed, judging by the evolution of R&D expenditures in other countries. It should be pointed out that in Belgium in most industries, R&D expenditure is dominated by a small group of companies, with the three largest companies in a given industry accounting on average for 65% of R&D expenditures. The relocation and downscaling of R&D activities by a relatively small group of these large companies explains part of the (relative) performance of Belgium in recent years.

The results in this paper suggest that there is a need to consider public support in favour of R&D activities within a comprehensive policy framework that focuses on attracting foreign R&D-active companies, supporting domestic start-ups, and educating and training qualified researchers but that also acknowledges the need to valorise R&D activities in terms of value added and to address important societal challenges.

*"Lissabon 10 jaar later: de evolutie van de uitgaven voor onderzoek en ontwikkeling in België vergeleken met andere EU-landen",
M. Dumont, P. Teirlinck,
Working Paper 20-10, October 2010.*

An analysis of the production and distribution of alcoholic beverages in Belgium

This paper shows the evolution of production, domestic demand and imports and exports of alcoholic beverages between 1995 and 2009. These variables are given for beer, malt and distilled and non-distilled alcoholic beverages as well as some non-alcoholic beverages. The paper shows the evolution of production, value added, investment, employment and wage costs for the alco-

holic beverage producing industry and breaks down employment in breweries by type. For the years 1995 and 2005, the study estimates and compares the GDP contribution and employment generation of the production and distribution of alcoholic beverages in Belgium. These estimates are based on the input-output tables for both years.

Despite a stagnation of domestic demand for beer (a decline in physical terms), the Belgian production of beer and malt increased in the period 1995-2009 due to exports. The increase in the export of beer and malt has improved the Belgian trade balance for alcoholic beverages. Though at its best in 2009, this trade balance continues to be negative due to large import values for wines. France is our most important export market for beer, but markets such as the US are increasing their share.

National account data show that the alcoholic beverages industry had a share of 6% of the production of all food and beverages industries in 2008. Its share in value added and investments was far greater, with 12% and 14%, respectively. Its employment share fell from 7.9% in 1995 to 6.4% in 2009.

Wage costs per head are higher in the alcoholic beverages industry than in the whole of the food and beverages industry but have experienced the same evolution. Using detailed social security data, employment in breweries is broken down by gender, age class, labour regime and into blue and white collar and self-employed workers. The workers in breweries are more frequently male, are older and work full time more often than the average in the food and beverage industry.

In 2005, the production of alcoholic beverages is estimated to have contributed to 0.52% of GDP. This is a decrease compared to 1995, when its GDP contribution was 0.72%. The 2005 GDP contribution includes a direct effect of 0.39% and an indirect effect (through its chain of suppliers) of 0.13%. These figures include the excise and VAT revenues on the domestic use of alcoholic beverages produced in Belgium.

The direct and indirect employment created by the production of alcoholic beverages is estimated at 10 900 persons, which is 0.27% of total employment. This is a decrease compared to 1995, when the employment impact was 14 500 persons (0.37% of total employment).

The paper further gives the GDP contribution of the distribution of alcoholic beverages produced in Belgium. A distinction was made between the distribution margins realised by the wholesale and retail trade (0.06% of GDP) and the implicit distribution margins realised by hotels and restaurants when serving alcoholic beverages (0.67% of GDP). These percentages represent a decrease compared to 1995, when they were estimated at 0.13% and 0.97%.

The distribution margins and taxes on imported alcoholic beverages are responsible for an additional 0.45% of GDP (this is the only part where a very small increase was observed compared to 1995, when this contribution amounted to 0.39%).

The total employment directly and indirectly generated by the distribution of alcoholic beverages, was estimated at 64 400 persons, which is 1.58% of total employment (2.33% in 1995). This number includes 13 600 persons involved in the distribution of imported alcoholic beverages but excludes the 10 900 employed in the production of alcoholic beverages. Employment figures include self-employed persons and part-time workers.

*“Een economische analyse van de productie en distributie van alcoholische dranken”,
L. Avonds, B. Van den Cruyce,
Working Paper 21-10, December 2010.*

Pension adequacy and the cost of ageing

In addition of their high complementarities, the MALTESE macro-budgetary model and the MIDAS dynamic micro-simulation model operate in a coherent assumptions framework. Indeed, they use identical demographic, macroeconomic, socio-economic and social policy scenarios. The combination of these two models therefore allows a joint, coherent analysis of the impact of alternative scenarios and reforms on the budgetary and social sustainability of the social security system, specifically pensions.

This working paper starts by discussing the 2009 reference scenario of the Study Committee on Ageing. This scenario is then used as the basis of comparison for four exercises that aim to analyse the impact of two alternative macroeconomic scenarios prepared by the SCA and

two policy measures, namely recent benefits increases.

The first alternative scenario assumes that the long-run productivity growth rate will increase from 1.5% in the reference scenario to 1.75%. The more pronounced drop in the benefit ratio (the ratio between the average pension and the average wage) due to this higher productivity growth rate implies a decrease in the cost of ageing (namely the increase in total social expenditure as a share of the GDP) between 2009 and 2060 from 8.2% to 7% of GDP and has, in contrast, a negative impact on the adequacy of pensions. In 2060, the at-risk-of-poverty rate among retirees increases from 5% in the reference scenario to 10%. The income inequality amongst retirees also increases but is less pronounced. This can be explained by a larger difference between incomes of

non-lump-sum retirement benefits beneficiaries, which increase with higher wage growth, and incomes of lump-sum retirement benefits beneficiaries, which do not vary.

The second alternative scenario assumes a higher employment rate in the 15-64 age group. The decrease in the budgetary cost of ageing is the same as in the first alternative scenario, but with a lower unemployment rate, a lower retirement rate and a higher benefit ratio. Except for the last decade of the simulation, the poverty risk among retirees remains comparable to that in the reference scenario. The increase in the poverty risk that comes with the first alternative scenario is thus avoided. The evolution of income inequality amongst pensioners is, on the contrary, identical to that in the previous scenario. Here, too, although for different reasons, the gap deepens between non-lump-sum pension beneficiaries and lump-sum pension beneficiaries.

The first policy measure analysed is the 14% increase in the income guarantee for the elderly. This measure strongly reduces the level of pensioner poverty as well as inequality amongst the elderly. As a safety net against poverty, the increase of this benefit reduces poverty risk by 5%-points on average. When this new lower bound is applied to income distribution, it renders it less spread and therefore reduces inequality between pensioners.

This is obtained at a relatively modest cost: an increase of 0.04% of GDP in the cost of ageing.

The 17% increase in the minimum right per career year that is the second analysed policy measure has no significant impact on the adequacy measures. First of all, this measure does not modify the at-risk-of-poverty rate among retirees: on the one hand, a large majority of beneficiaries already have income above the poverty line without this measure; on the other hand, the remaining beneficiaries also benefit very often from the income guarantee for the elderly, which largely neutralizes the impact of this increase on the risk of poverty. Secondly, and due to the relatively uniform distribution of beneficiaries from the minimum right, the increase of this benefit does not modify income inequality either. As to the budgetary consequences, social expenditure rises from 0.01% of GDP in 2010 to 0.07% of GDP in 2060.

*“Toereikendheid van het pensioen en budgettaire kosten van de vergrijzing: evaluatie van beleidsmaatregelen en van alternatieve scenario's - Adéquation des pensions et coûts budgétaires du vieillissement: impacts de réformes et de scénarios alternatifs”,
G. De Vil, G. Dekkers, R. Desmet, M.-J. Festjens,
Equipe 'Sociale bescherming, demografie en verkenning',
Working Paper 22-10, December 2010..*

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