SHORT TERM UPDATE

2-15

Quarterly Newsletter
June 2015

Headlines Belgian Economy

Special Topic in this issue

The relationship between unemployment duration and education: the case of young graduates in Belgium

Federal
Planning Bureau
Economic analyses and forecasts

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Quarterly Newsletter of the Federal Planning Bureau

Short Term Update (STU) is the quarterly newsletter of the Belgian Federal Planning Bureau. It contains 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.

LAST EDITION OF THE SHORT TERM UPDATE

Since July 1997, the Federal Planning Bureau (FPB) has issued the Short Term Update (STU) as a channel through which to publish indicators on the Belgian business cycle, and from 2002 structural indicators as well. Besides having served as a neat overview of Belgian economic performance, the STU has served as a publicity channel for other research done at the FPB.

We wish, however, to inform our readers that this is the last edition of the STU. As from autumn 2015, structural and business cycle indicators will be updated periodically on the FPB website. Moreover, an English summary will be incorporated into each FPB publication.

The Editorial Board

HEADLINES BELGIAN ECONOMY

Against the background of a gradual acceleration in world trade, the recent slide in oil prices and the strong depreciation of the euro, GDP growth for the euro area as a whole should speed up to 1.5% in 2015 and 1.8% in 2016. This recovery is, however, running unevenly as economies such as Germany, Spain and Ireland are growing at an above-Eurozone-average pace, while the French and the Italian economies are expanding at a markedly slower pace.

Despite a setback at the turn of the year, Belgian exports should still post a growth rate of 3.4% in 2015. Under the influence of an acceleration in growth in foreign export markets and limited increases in domestic costs, export growth should further accelerate to 4.6% in 2016. Households' purchasing power is backed by a further increase in employment, but at the same time limited by the policy of wage moderation. The recent improvement in consumer confidence should allow a rise in private consumption that outpaces the increase in disposable income. With a growth rate of 1.5%, private consumption should make a sizeable contribution to economic growth in 2015. The increase is less pronounced in 2016 (0.9%). Business investment remains an important motor of growth.

Domestic employment should increase by 0.5% and 0.8% in 2015 and 2016 respectively (total of 60 000 additional jobs). As job creation in the market sector is positively influenced by the limited rise in hourly wage costs, productivity growth should not accelerate (which is unusual when economic growth gathers momentum). The number of unemployed (broad administrative definition) should decrease by a total of 22 000 persons. The harmonised Eurostat unemployment rate should hence fall back to 8.3% in 2016.

Belgian inflation, as measured by the national index of consumer prices, should amount to only 0.4% as a consequence of the strong decline in energy prices. The latter do no longer exert downward pressure on inflation in 2016, leading to a rise in the inflation rate to 1.4%.

STU 2-15 was finalised on 15 June 2015.

The Federal Planning Bureau (FPB) is a public agency under the authority of the Prime Minister and the Minister of Economy. 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 macroeconomic forecasting, analysing and assessing policies in the economic, social and environmental fields.

Contents

The relationship between unemployment duration and education: the case of young graduates in Belgium

In this study, we investigate the exit rates from unemployment associated with different levels of education in Belgium during two periods characterised respectively by high (2002-2007) and low economic growth (2009-2014). Our estimated exit probabilities confirm that the chances of leaving unemployment are substantially higher for young unemployed people who have followed post-secondary education. Moreover, the probabilities of leaving unemployment considerably deteriorated between the two periods. On the one hand, the penalty associated with lower education slightly increased while, on the other hand, the advantage associated with tertiary education strongly reinforced itself.

Human capital and mismatch theories stress the importance of labour skills for success in the labour market. Skills encompass mostly school education and training but also attributes such as motivation and attitudes towards work. Skill-biased and task-biased technological change combined with offshoring have been identified as explaining the increasing difficulties met by certain types of low and medium skilled workers on the labour market. More recently, over-education, which involves higher educated individuals crowding out low educated ones when competing for jobs, has also been recognised as a factor aggravating the increasingly contrasting unemployment rates of low and high skilled workers. In this analysis, we concentrate on the relationship between unemployment duration and education for young unemployed people in Belgium. We investigate the exit rates from unemployment[1] associated with different levels of education during two periods characterised respectively by high (2002-2007) and low economic growth (2009-2014).

Our methodology is empirical. Our data comes from the National Employment Office and contains the population of young graduates aged 17 to 25 years entering[2] unemployment in 2002 and 2009 respectively. We follow these two cohorts for a period of 6 years. Half of young graduates entering unemployment in 2002 leave unemployment after a period of 5 months. The median duration increases to 8 months for the cohort entering unemployment after the beginning of the economic crisis (2009). Despite the start of the recession, the 2009 cohort is smaller than the 2002 cohort. This decrease, which concerns specifically young unemployed people under

the age of 23 years who live in Flanders, can be accounted for by supply side effects, in particular, a delayed entrance into the labour market due to a longer period of studies[3].

Figure 1 shows Kaplan-Meier estimates of the survival functions of the two cohorts. The survival function captures the probability of staying in unemployment past time t. The analysis of the slope of the survival function allows better understanding of the evolution of the chances of leaving unemployment through time. In fact, the probability of exiting unemployment decreases with time spent in unemployment. Two explanations are put forward in the literature to account for this negative relation. The first claims that the best individuals exit unemployment rapidly, leaving behind those having less adequate characteristics and therefore experiencing lower unemployment exit probabilities. The second claims that duration in itself reduces the chances of leaving unemployment through a depreciation of skills or through stigmatisation. Studies with Belgian data show that there is little evidence supporting negative duration dependence[4].

Graph 1 - Survival function in unemployment - 2002 and 2009 cohorts
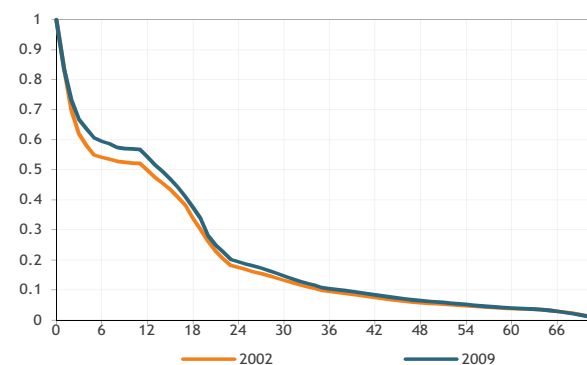
More specifically, Figure 1 shows that the survival rate decreases quite rapidly in the first three months. Afterwards, it continues to decrease until 6 months, but at a lower rate, and then it stagnates until around a year. The period between 6 and 12 months corresponds to the end of the "stage d'attente"[5] and to the transition into an unemployment status where benefits are being paid. Interestingly, this period of stagnation is followed by a new acceleration. Between 1 and 2 years, the survival func-

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1. Our data does not contain information on the actual exit destinations from unemployment. Besides employment, other possible destinations are further education, withdrawal from the labour force, migration or death.
2. All the young unemployed belong to the unemployment category "stage d'attente". Our data does not take into account young graduates who found a job directly after their studies and who do not register at the unemployment office when graduating.

3. A complementary explanation would be that relatively more Flemish young graduates find a job in 2009-2014 directly after graduation without registering at the employment office compared to 2002-2007.
4. See, for example, Cockx B. and Dejemeppe M. (2002), Duration Dependence in the Exit Rate out of Unemployment in Belgium: Is It True or Spurious? Journal of Applied Econometrics 20 (1), 1-23.
5. During our period of analysis, the duration of the "stage d'attente" varies according to age: 6 months for unemployed people under the age of 18, 9 months for those between 18 and 26 years and 12 months for those between 26 and 30.

tion decreases again at a relatively homogenous rate[1]. Beyond 2 years, the survival rate decreases at a very slow rate, which means that it becomes very difficult to exit unemployment. Finally, Figure 1 also shows that the survival function shifted to the right between the two periods. This means that exit probabilities decreased between 2002-2007 and 2009-2014, in particular, between 3 and 18 months. After that, the two curves slowly converge and exhibit more similar survival rates.

In order to better understand the relationship between unemployment duration and education level, we proceeded with a multivariate regression analysis, which also takes into account the relation between the other characteristics available in our data (time, age, gender, home region, nationality and month of entrance) and unemployment duration. Table 1 shows the hazard ratios obtained for each characteristic using a Cox duration model. These estimates measure the relation between each characteristic and the instantaneous probability of leaving unemployment (hazard rate) with respect to a reference category. For example, in the period 2002-2007, and controlling for all other characteristics available in our data, women had a smaller instantaneous probability of leaving unemployment than men. More precisely, women's hazard rate[2] of leaving unemployment is 4% lower than that of men. In the 2009-2014 period, women have, this time, a higher chance of leaving unemployment. Their hazard rate is 4% higher than that of men.

Let us now look at the estimates of the hazard ratios for education. The obtained hazard ratios for the different education degrees have to be interpreted with respect to a Bachelor's degree. For the 2002 cohort, a Bachelor's degree is associated with the highest hazard rate of leaving unemployment, closely followed by a Master's. All other degrees reduce the probability of exiting unemployment compared to a Bachelor's degree, in particular, a primary school diploma and a lower high school diploma, which reduce the probability of exiting unemployment by more than 40%. Moreover, differences between high school orientations appear, with vocational training exhibiting the lowest hazard ratio and therefore the lowest probability of leaving unemployment among high school degrees.

Contrary to the previous period, in 2009-2014, a young graduate with a Master's degree exhibits a significantly higher probability of exiting unemployment than one with a Bachelor's degree. All other degrees significantly reduce the probability of leaving unemployment slight-

ly more than in the period 2002-2007.

Table 1 - Multivariate regression analysis (Cox model)

Hazard ratios	2002-2007	2009-2014
Men*	1	1
Women	0.96	1.04
Primary school	0.56	0.55
Low high school	0.57	0.51
High school vocational	0.69	0.65
High school technical and artistic	0.79	0.73
High school general	0.78	0.76
Bachelor*	1	1
Master	0.96	1.09
Other	0.94	0.72
Belgian*	1	1
EU nationals (non-Belgian)	1.03	1.03
Other	0.82	0.97
Brussels	0.56	0.61
Flanders*	1	1
Wallonia	0.57	0.61
17-19 years	0.97	1.01
20-22 years*	1	1
23-25 years	0.88	0.91
# of observations	77,781	69,014

Notes: Regressions contain controls for month of unemployment entry. All estimates are significant at the 1% level with the exception of those for EU nationals in 2002 and 2009 and non-EU nationals in 2009, which are not significant.
*: reference category (hazard rate=1).

Regarding other characteristics, living in Wallonia or Brussels reduces considerably and to a similar extent the probability of exiting unemployment compared to living in Flanders, whatever the diploma. This disadvantage is slightly smaller in the period 2009-2014 than in 2002-2007. Moreover, while non-EU nationals have a lower probability of leaving unemployment than Belgians and other EU nationals, this penalty is smaller but not significant in 2009-2014. However, there are relatively few observations for non-Belgian graduates in our data and nationality is a poor criteria for assessing differences in the labour market between ethnic groups[3].

To conclude, our study confirms that the chances of leaving unemployment are strongly associated with the level of education of young graduates. In particular, the probability of leaving unemployment is substantially higher for graduates who have followed post-secondary education. Moreover, our results show that this effect has reinforced itself through time in two ways. While the penalty associated with lower education has intensified over time, the advantage associated with longer post-secondary education has further reinforced itself. Our results are compatible with theories which identify skill-biased technological change and job polarisation as an explanation for the higher incidence and duration of unemployment among low and medium skilled workers. Moreover, given the short interval between the two periods under consideration in our study, "over-education" seems a likely explanation for the further deterioration which took place in this period.

1. There are several labour market measures effective during our observation period which might influence the observed exit rates. In particular, the first stage of the monitoring procedure introduced in July 2004 has been found to have an impact on the exit rates to employment of the most employable unemployed (Cockx B. and Dejemeppe M. (2007), Is the notification of monitoring a threat to the unemployed? A regression discontinuity approach, CESifo WP 2042).
2. The hazard rate or instantaneous probability of leaving unemployment is the probability of leaving unemployment at time t, conditional on being unemployed at least until t.

3. Because ethnic background is not available in our data, we cannot make a distinction between Belgian young unemployed people with and without a foreign origin. The international literature documents significant differences in unemployment duration between natives and immigrants, including their offspring, even after controlling for observed characteristics.

Economic forecasts 2015-2016

Eurozone economy recovers gradually

Advanced economies' growth is expected to accelerate in 2015 and 2016, while China and oil-exporting countries, among others, should witness a slowdown this year. The US and the UK should post strong growth performances, but the recovery in the euro area is expected to be slower as a number of Member States are still facing structural problems such as high debt and unemployment rates. GDP growth in the euro area should speed up to 1.5% in 2015 and 1.8% in 2016 against the background of a gradual acceleration in world trade, the slide in oil prices and the strong depreciation of the euro (owing partially to the loose monetary policy of the ECB). These factors enhance export opportunities, limit production costs and support households' purchasing power. The recovery in the euro area is, however, running unevenly as economies such as Germany, Spain and Ireland are growing faster than the euro area average, while the French and the Italian economy are expanding at a markedly slower speed.

Graph 1 -   GDP growth (qoq growth rates in %)
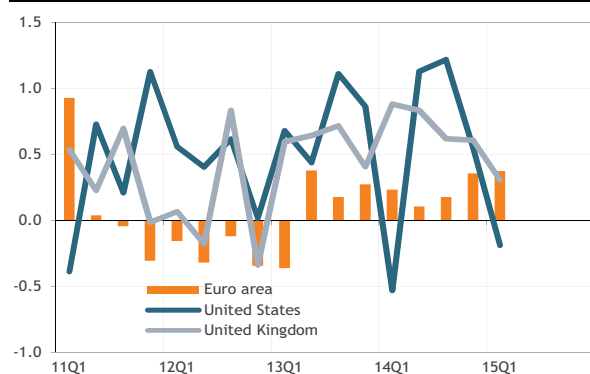
Source: Eurostat, national sources

The uncertainties surrounding this international scenario are running high. Global economic growth could be slowed down by geopolitical tensions or by a stronger-than-expected deceleration of the Chinese economy. Moreover, a faster-than-anticipated hike in monetary policy interest rates in the US or the lack of an agreement between Greece and its creditors has the potential to cause turmoil in financial markets, which in turn could weigh on entrepreneurs' and consumers' confidence.

Belgian GDP growth stands firm in 2015 (1.2%) driven by private consumption and should accelerate in 2016 (1.5%) as domestic demand and exports both strengthen

After a setback at the turn of the year, Belgian exports should benefit from the gradual acceleration in global economic activity and the depreciation of the euro, and still post a growth rate of 3.4% this year. Backed by an acceleration in growth in foreign export markets and the beneficial development in domestic costs (due to measures aimed at limiting labour costs), export growth should further accelerate to 4.6% in 2016. Export volumes should grow faster than import volumes in both years, resulting in a positive contribution of net exports to economic growth. The surplus on the current account of the balance of payments should mount considerably in 2015, when this volume effect is amplified by a favourable development in the terms of trade (owing to low oil prices).

Graph 2 -   Quarterly Belgian GDP growth (qoq growth rates, corrected for seasonal and calandar effects)
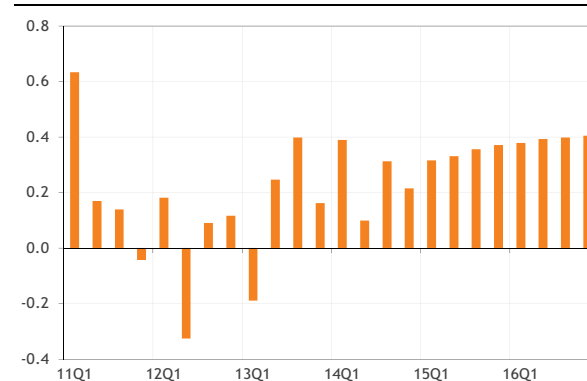
Source: INR/ICN, FPB

In 2014, real disposable income rose by 2.2%. To an important extent this can be attributed to property income, which is generally used to a more limited extent for consumption than other income components. Partly as a result of this, the rise in private consumption remained limited to 0.9%, while households' saving rate increased strongly (from 13.5% in 2013 to 14.5% in 2014). Both in 2015 and in 2016, the increase in households' purchasing power should be backed by a further increase in employment, but at the same time limited by the policy of wage moderation. Beneficial price effects (mainly through lower energy prices) should still result in an increase in real disposable income of 1.2% in 2015. In 2016, however, the rise in purchasing power should remain limited to 0.5%. The recent improvement in consumer confidence, which is particularly sensitive to the labour market situation, should allow a rise in private consumption that outpaces the increase in disposable income in both years. With a growth rate of 1.5%, private consumption should make a sizeable contribution to economic growth in 2015. The increase should be less pronounced in 2016 (0.9%). Households' residential investment is expected to stagnate this year, but increase by 1.3% in 2016, helped by financing conditions that remain beneficial.

Graph 3 - Private consumption, disposable income and saving rate

Source: INR/ICN, FPB

Graph 4 - Evolution of employment and unemployment (changes in thousands)
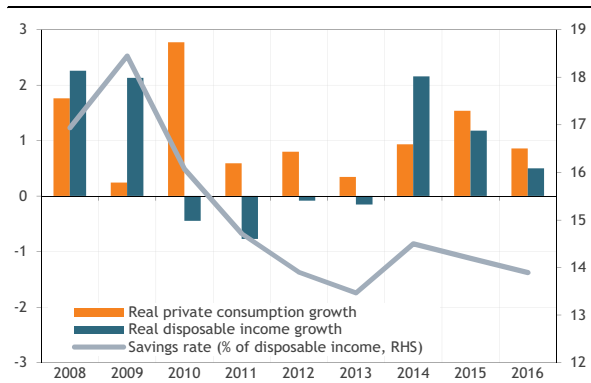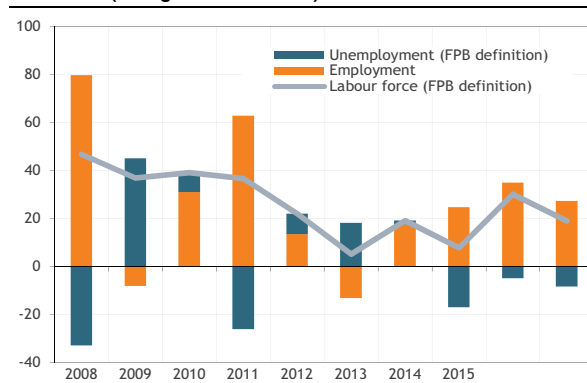

Source: NR/ICN, RVA/ONEM, FPB

Business investment remains an important motor of growth. It proved markedly strong last year (6.8%) and should decline by 0.7% in 2015. However, these figures are heavily influenced by exceptional purchases of investment goods, which had no effect on GDP as they were imported. Excluding these transactions, business investment rose by 2.6% in 2014 and should increase by 3.3% in both 2015 and 2016, supported by rising profitability and improving industrial capacity utilisation.

Government consumption growth (in volume) should amount to 0.5% this year and 0.8% next year. Government investment growth will, as was the case last year, rise strongly in 2015 (6%), mainly due to a catch-up movement in school building. In 2016, overall government investment should stabilise at this year's level.

Job creation supported by the limited rise in hourly wage costs

While last year's employment growth amounted to some 0.4% (a net increase of 17 700 jobs), increases of respectively 0.5% and 0.8% are expected in 2015 and 2016 (total of 60 000 additional jobs). Since 2014, job creation has been supported less by employment in the publicly subsidized voucher system for household-type services than was the case in previous years. Moreover, government employment is set to diminish. However, as job creation in the market sector is positively influenced by the limited rise in hourly wage costs, productivity growth should not accelerate (which is unusual when economic growth gathers momentum).

Against the background of a further increase in the labour force, the number of unemployed (broad administrative definition) should decrease by a total of 22 000 persons in the course of this and next year. The harmonised Eurostat unemployment rate should hence fall back from 8.5% in 2014 to 8.3% in 2016.

Inflation picks up in 2016

Belgian inflation, as measured by the national index of consumer prices, should amount to only 0.4% in 2015 due to the strong decline in energy prices. The latter should no longer exert a downward pressure in 2016, leading to a rise in the inflation rate to 1.4%. The health index, which is not affected by the evolution of petrol and diesel prices, should rise by 0.7% and 1.2%. The current pivotal index (101.02) should not be crossed by the smoothed health index before 2017. The smoothed health index is defined in accordance with the law of 23 April 2015 that introduced the so-called 'index jump'.

Graph 5 - Monthly evolution of inflation (yoy growth rates in %)
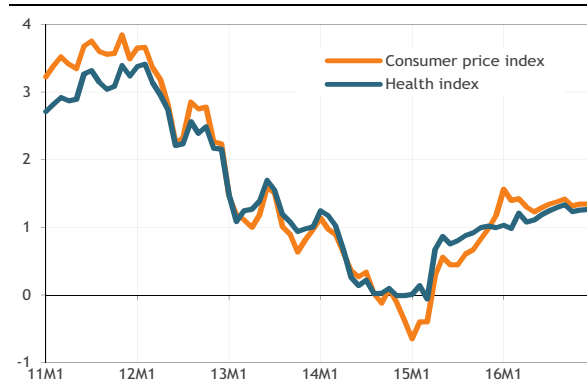
Source: INR/ICN, SPF Economy, FPB

"Economische vooruitzichten 2015-2016 / Prévisions économiques 2015-2016", INR/ICN, *press release, June 2015.*

Summary of economic forecasts

Economic forecasts for Belgium by the Federal Planning Bureau

Changes in volume (unless otherwise specified) (publication date: 11 June 2015)	2013	2014	2015	2016
Private consumption	0.3	0.9	1.5	0.9
Public consumption	1.1	1.0	0.5	0.8
Gross fixed capital formation	-2.2	5.4	0.1	2.4
Final national demand	-0.6	0.9	0.9	1.2
Exports of goods and services	2.9	3.7	3.4	4.6
Imports of goods and services	1.8	3.6	3.1	4.4
Net-exports (contribution to growth)	0.8	0.2	0.2	0.3
Gross domestic product	0.3	1.1	1.2	1.5
p.m. Gross domestic product - in current prices (bn euro)	395.26	402.03	410.52	420.79
National consumer price index	1.1	0.3	0.4	1.4
Consumer prices: health index	1.2	0.4	0.7	1.2
Real disposable income households	-0.2	2.2	1.2	0.5
Household savings ratio (as % of disposable income)	13.5	14.5	14.2	13.9
Domestic employment (change in '000, yearly average)	-12.4	17.7	24.8	35.0
Unemployment (Eurostat standardised rate, yearly average) [1]	8.4	8.5	8.4	8.3
Current account balance (BoP definition, as % of GDP)	-0.2	1.4	2.6	2.4
Short term interbank interest rate (3 m.)	0.2	0.2	0.0	0.0
Long term interest rate (10 y.)	2.4	1.7	0.8	1.0

[1] Other unemployment definitions can be found on page 14.

Economic forecasts for Belgium by different institutes

	GDP growth		Inflation		Government balance		Date of update
	2015	2016	2015	2016	2015	2016	
Federal Planning Bureau	1.2	1.5	0.4	1.4	.	.	06/15
INR/ICN	1.2	1.5	0.4	1.4	.	.	06/15
National Bank of Belgium	1.2	1.5	0.6	1.5	-2.7	-2.4	06/15
European Commission	1.1	1.5	0.3	1.3	-2.6	-2.4	05/15
OECD	1.3	1.8	0.0	1.3	-2.5	-1.6	06/15
IMF	1.3	1.5	0.1	0.9	-2.9	-2.1	04/15
ING	1.2	1.6	0.5	1.7	-2.7	-2.1	06/15
BNP Paribas Fortis	1.5	1.7	0.2	1.7	-2.8	-2.4	03/15
Belfius	1.3	1.5	0.3	1.0	.	.	05/15
KBC	1.3	1.7	0.4	1.3	-2.5	-2.3	05/15
Deutsche Bank	1.3	1.6	0.2	1.6	-2.7	-2.2	04/15
Oxford Economics	1.2	1.6	0.3	1.9	-2.2	-2.1	06/15
IRES	1.3	.	0.5	.	-2.5	.	04/15
Belgian Prime News	1.2	1.5	0.2	1.2	-2.6	-2.2	03/15
Consensus Economics	1.2	1.5	0.3	1.6	.	.	06/15
Consensus The Economist	1.2	1.6	0.3	1.5	.	.	06/15
Consensus Wirtschaftsinstitute	1.0	1.5	-0.1	1.0	-2.7	-2.4	04/15
Averages							
All institutions	1.2	1.6	0.3	1.4	-2.6	-2.2	
International public institutions	1.2	1.6	0.1	1.2	-2.7	-2.0	
Credit institutions	1.3	1.6	0.3	1.4	-2.7	-2.2	

General economic activity

Table 1 - GDP **growth rates (in %) [1]**

			yoy growth rates, in %					qoq growth rates, in %				
	2013	2014	2014Q1	2014Q2	2014Q3	2014Q4	2015Q1	2014Q1	2014Q2	2014Q3	2014Q4	2015Q1
Germany	0.2	1.6	2.3	1.4	1.2	1.5	1.0	0.8	-0.1	0.1	0.7	0.3
France	0.7	0.2	0.7	-0.2	0.2	0.0	0.7	-0.2	-0.1	0.2	0.0	0.6
Netherlands	-0.7	0.9	0.0	1.1	1.0	1.4	2.2	-0.4	0.7	0.3	0.8	0.4
Belgium	0.3	1.1	1.2	1.1	1.0	1.0	0.9	0.4	0.1	0.3	0.2	0.3
Euro area	-0.3	0.9	1.1	0.8	0.8	0.9	1.0	0.2	0.1	0.2	0.4	0.4
United States	2.2	2.4	1.9	2.6	2.7	2.4	2.7	-0.5	1.1	1.2	0.5	-0.2
Japan	1.6	-0.1	2.1	-0.4	-1.4	-0.9	-1.0	1.1	-1.7	-0.5	0.3	1.0

[1] Adjusted for seasonal and calendar effects
Source: INR/ICN, National sources, Eurostat
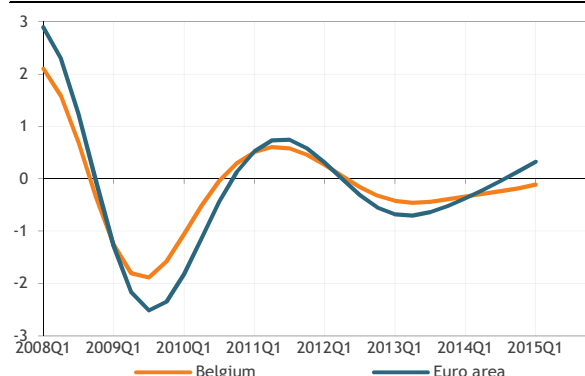
Graph 1 - GDP **growth (yoy growth rates, in %)**
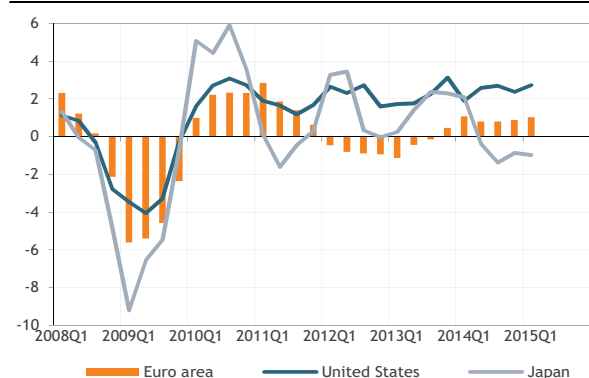
Source: Eurostat, National sources

Graph 2 - US **labour market situation**

Source: US Bureau of Labor Statistics

**Graph 3 -** GDP **business cycle (deviation from trend in %)**

Source: INR/ICN, Eurostat, FPB

Following quarterly growth rates of 0.5% and 1.2% in the previous quarters, the US economy contracted in 2015Q1 (-0.2%). Although a slowdown from the previous quarter was expected on the back of a surge in the US dollar (which weighed on exports) and a fall in oil-related business investment (due to the oil price plunge), the negative growth figure came as a surprise. While there has certainly been a deceleration in underlying economic activity, it was not as bad as the GDP figure suggests. Some exceptional factors such as a port strike and freezing weather conditions have temporarily weighed on growth. Moreover, doubts have arisen about the quality of the seasonal adjustment of the national accounts as first quarter GDP growth has consistently lagged growth during the second, third and fourth quarters (especially since the financial crisis). Other economic data, such as labour market figures, suggest that the US economy is still growing at a healthy, albeit slower, pace than in the course of 2014. While GDP growth is expected to bounce back in 2014Q2, weakness in the first quarter led to a downward revision of annual economic growth forecasts for 2015 (from 3% to around 2.5%).

Japanese GDP surged by 1% in 2015Q1, following a 0.3% rise in the preceding quarter. Besides a massive contribution to growth from an inventory build-up (0.5 %-points) output was mostly boosted by a strong rise in business investment. These figures suggest that the Japanese economy is finally recovering from the recession induced by the sales tax rise on 1 April 2014.

In emerging markets, economic growth continues to slow down. In China, this can be attributed to the equilibration of the imbalanced economy (away from investment, towards private consumption). In the commodity and especially oil producing emerging economies, it is mostly due to the decline in commodity prices.

**Graph 4 - Economic sentiment indicator
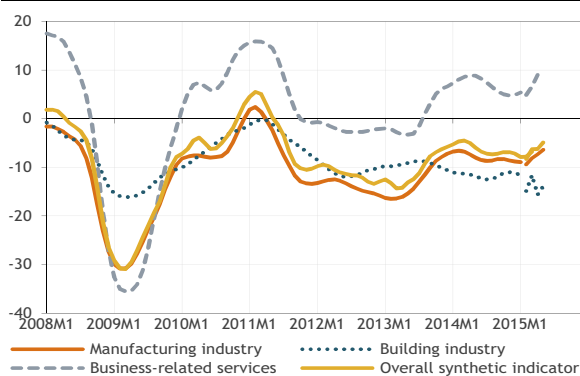(indices, average 1990-2011=100)**

Belgium — Euro area
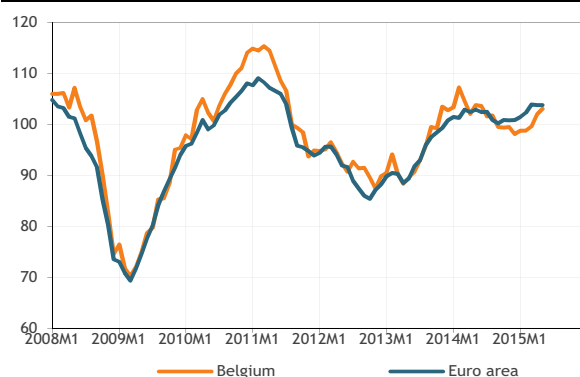
Source: European Commission

**Graph 5 - Belgian GDP growth and leading indicator
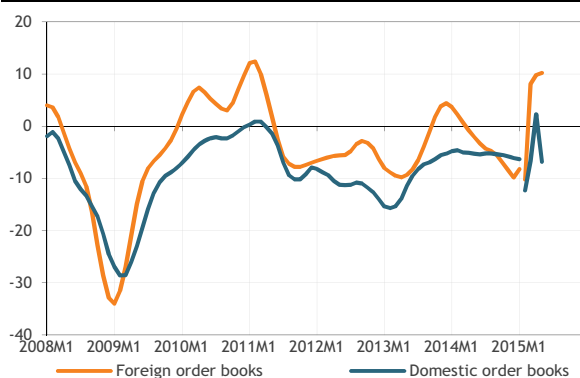(yoy growth rates of 4-quarter moving averages)**

GDP growth — FPB Leading indicator
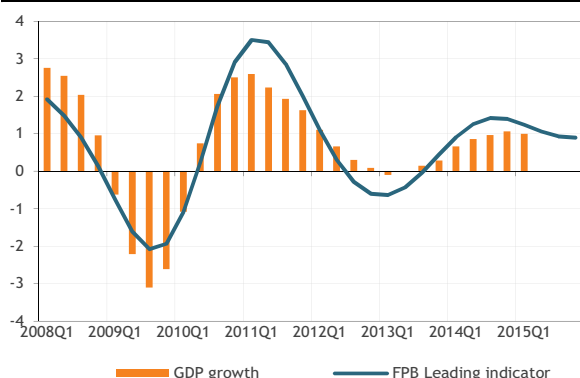
Source: INR/ICN, FPB

Graph 6 - Belgian business cycle indicator (indices)

Manufacturing industry .... Building industry
– – – Business-related services —— Overall synthetic indicator

Source: NBB

**Graph 7 - Manufacturing industry: order books (business survey
indices)**

Foreign order books —— Domestic order books

Source: NBB

Since the end of the recession (in 2013), euro area economic growth has remained fairly subdued. In 2014Q4 and 2015Q1, however, GDP growth accelerated to 0.4%, especially on the back of an acceleration in private consumption growth triggered by the plunge in energy prices. Divergence among Member States remains quite large. In yoy terms, the highest GDP growth rates have been registered in Spain (2.7%), Ireland, Portugal (1.8%) and the Netherlands (2.2%). The former three seem to have recovered quite well from the sovereign debt crisis and the accompanying fiscal tightening. The German, French and Belgian economies grew by about 1% compared to a year earlier. The laggards in the euro area are the economies of Greece (which is again coping with a recession), Finland, Austria and Italy, which all stagnated over the past year.

The euro area as a whole should continue to grow at the pace seen in 2015Q1 or slightly above throughout the year. Growth will be driven by the rise in purchasing power (as a result of the fall in energy prices and the rise in employment), the depreciation of the euro (which benefits exports) and the loosening of financing conditions. Euro area growth is expected to amount to 1.5% this year. Perhaps the biggest risk that might endanger this outlook is an exit of Greece from the euro area.

The economic sentiment indicator (ESI, Graph 4) summarises five indicators related to business and consumer confidence. Despite a hesitant development during the second half of 2014, the ESI for the euro area has been above its long-term average (equal to 100) since December 2013, while that for Belgium was subject to more volatility. By May 2015 (last observation), both indicators were again at the same level. In Belgium as well as the euro area, industrial confidence, which has the biggest weight in the ESI, has been constantly above its long-term average during the past year, while construction confidence clearly underperformed by historical standards. The image for the other three indicators taken into account to calculate the ESI (services, consumer and retail trade) is more mixed. In Belgium, they all fluctuated around their average, while in the euro area, services confidence remained below its average; the inverse was true for the other two confidence indicators.

The overall Belgian business cycle indicator (Graph 6) has remained more or less stable after its increase during the second half of 2013. The only noticeable movement is the upturn seen since the beginning of 2015. In the manufacturing industry, this upturn is mainly related to an improvement in demand forecasts and better-filled order books. Graph 7 shows that the improvement is seen in domestic, but even more in foreign order books. This is undoubtedly related to the depreciation of the euro against most currencies during 2015Q1.
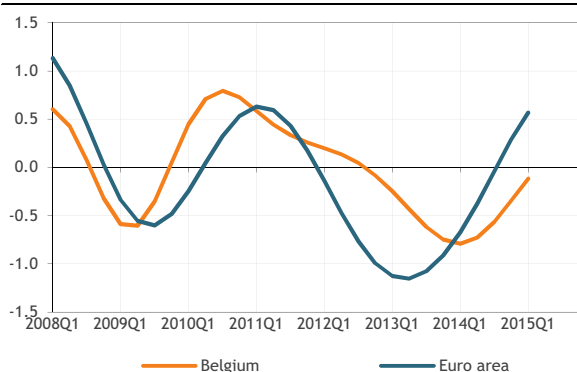
Private consumption

Table 2 - Private consumption indicators

|	2013	2014	2014Q2	2014Q3	2014Q4	2015Q1	2014M12	2015M1	2015M2	2015M3	2015M4	2015M5
New car registrations [1]	-0.1	-0.6	-1.0	0.7	-1.8	-1.0	7.6	-4.6	-3.5	4.6	-3.6	-5.7
Consumer confidence indicator [2]	-14.4	-9.0	-7.3	-10.7	-12.7	-6.7	-12.0	-9.0	-5.0	-6.0	-6.0	-3.0

[1] Change (%) compared to same period previous year; [2] Qualitative data
Source: NBB, Febiac

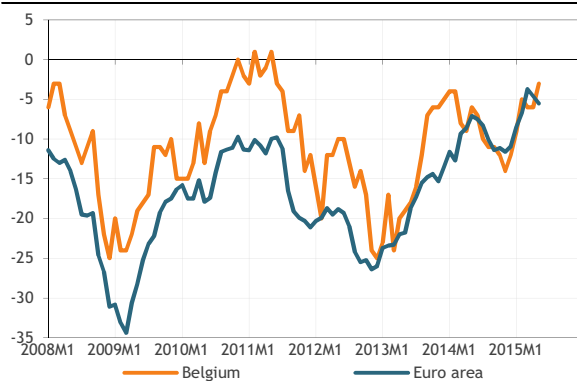**Graph 8 - Private consumption cycle (deviation from trend, in %)**

Source: INR/ICN, Eurostat, FPB

Graph 9 - Private consumption growth and leading indicator (yoy growth rates of 4-quarter moving averages)
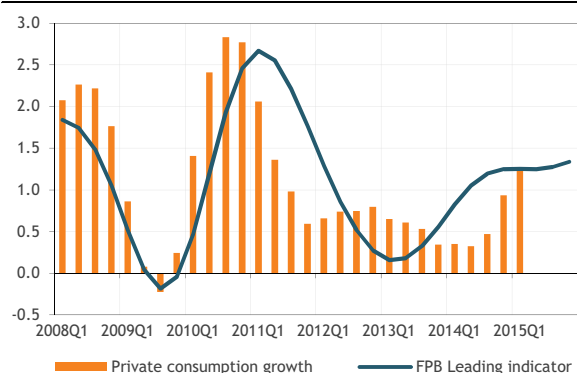
Source: INR/ICN, FPB

Graph 10 - Consumer confidence: international comparison (indices)

Source: NBB, European Commission

Since the onset of the financial crisis, private consumption has grown significantly more strongly in Belgium than in the euro area. While annual average growth in private consumption from 2008 to 2014 was close to zero (-0.1%) in the euro area, it amounted to 1.1% in Belgium. Considered on the basis of the expenditure approach of GDP, this is also one of the main reasons for higher economic growth in Belgium during this period. From mid-2013 onwards, however, consumption growth in the euro area seems to have recovered. In 2014 as a whole, private consumption growth in the euro area (1%) and in Belgium (0.9%) were almost equal. This growth acceleration is mainly explained by the catching up of a group of peripheral Member States (e.g. Spain).

Belgian private consumption grew significantly more slowly than real disposable income in 2014, which led to an increase in the private savings rate of more than 1 %-point as compared to 2013. This was due to the fact that disposable income in 2014 was jacked up significantly by an increase in property income, which is a component of disposable income that has a smaller impact on private consumption than labour income, for example. Private consumption growth in 2015 should remain robust (around 1.5%), but this is the result of a few counteracting factors. On the one hand, strong private consumption growth during previous quarters (0.6% per quarter on average from 2014Q3 to 2015Q1) provides a benign starting point. On the other hand, real disposable income should barely increase during the next quarters due to labour-cost reducing measures (the so-called index jump and a low increase in gross wages per hour). However, the negative influence of this phenomenon on private consumption should be mitigated by a decrease in the savings rate, implying that consumption should grow more strongly than real disposable income. A decline in the savings rate typically shows up in periods characterised by improving confidence. Belgian consumer confidence has increased since the end of 2014, fuelled by improving economic prospects. As the unemployment rate is expected to decline during the coming quarters, consumer confidence should continue its upward trend.
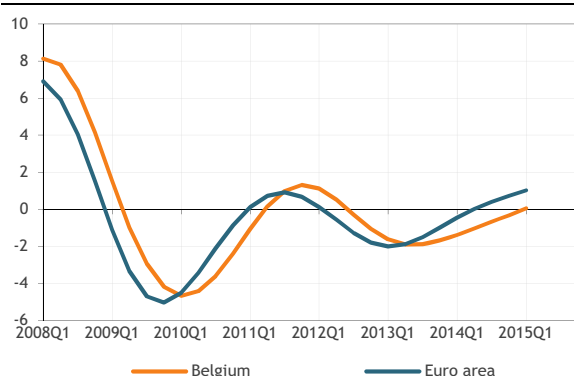
Business investment

Table 3 - Business investment indicators

|	2013	2014	2015	2014Q2	2014Q3	2014Q4	2015Q1	2015M1	2015M2	2015M3	2015M4	2015M5
Business survey, capital goods [2]												
Synthetic indicator	-8.5	-10.3	.	-10.3	-9.4	-13.4	-14.1	-13.3	-13.5	-15.6	-16.4	-12.0
Order book appraisal	-23.7	-23.2	.	-28.1	-22.6	-28.2	-29.5	-22.9	-33.6	-31.9	-36.2	-17.6
Demand forecasts	-0.6	-1.9	.	4.1	-5.0	-4.4	-7.9	-12.1	-3.4	-8.2	-5.4	-5.6
Investment survey [1]	-1.9	-1.3	11.5									
Capacity utilisation rate (s.a.) (%)	76.8	79.1	.	79.0	78.8	79.7	80.3					

[1] Change (%) compared to same period previous year; [2] Qualitative data
Source: NBB

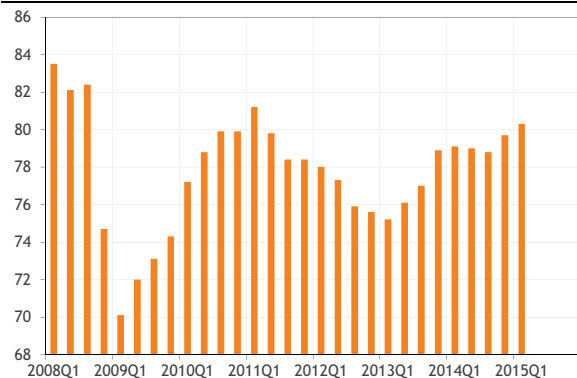**Graph 11 - Business investment cycle (deviation from trend, in %)**

Source: INR/ICN, Eurostat, FPB

Graph 12 - Business investment growth and leading indicator (yoy growth rate of 4-quarter moving averages)
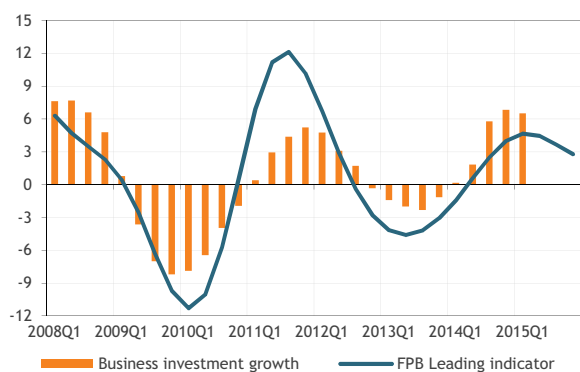
Source: INR/ICN, FPB

Graph 13 - Capacity utilisation in manufacturing industry (rate of capacity utilisation, in %)

Source: NBB

The accelerator effect means that investment moves in tandem with economic activity but that investment has a larger amplitude than GDP. Consequently, the investment cycles in Graph 11 are highly correlated to the business cycles in Graph 3. As economic growth in Belgium has been higher than in the euro area during the period 2008-2014 (average annual GDP growth of -0.1% in the euro area and 0.5% in Belgium), it should not come as a surprise that the same is true for business investment (average annual growth of -2.3% and 0.6% respectively).

During recent quarters, business investment in Belgium has developed in a very volatile way due to a few exceptional transactions, such as the purchase of several vessels by a Belgian tanker company. While qoq investment growth fluctuated between -8.1% and 10.6% in the course of 2014, this range is reduced to -0.3% and 1.9% if business investment is corrected for these specific transactions. As these purchases all imply an equivalent rise in imports, they did not have an impact on Belgian GDP.

On an annual basis, business investment rose by 6.8% in 2014, after a cumulated decline of 1.5% during the previous two years. When correcting for these specific transactions (representing nearly EUR 2.5 billion), growth should amount to 2.6%. The investment rate, calculated as the share of business investment in GDP at current prices, declined from 15.2% in 2011 to 14.8% in 2013 and increased to 15.5% in 2014 (14.9% when correcting for the specific transactions).

Business investment should register robust growth rates in the course of this year. The capacity utilisation rate rose to 80.3% in 2015Q1, which is higher than its historical average (around 79%), indicating the need to expand production capacity. Moreover, benign financing conditions due to low interest rates, the increasing operating surplus in the business sector and a gradual acceleration in economic growth should also have a positive effect on investment.
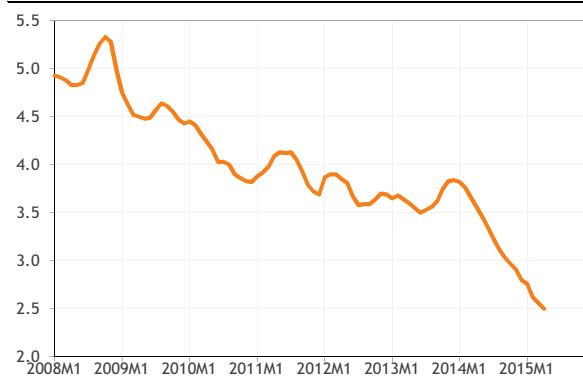
Housing investment

Graph 14 - Housing investment growth and leading indicator
(yoy growth rates of 4-quarter moving averages)

Source: INR/ICN, FPB

Legend: Housing investment growth — FPB Leading indicator
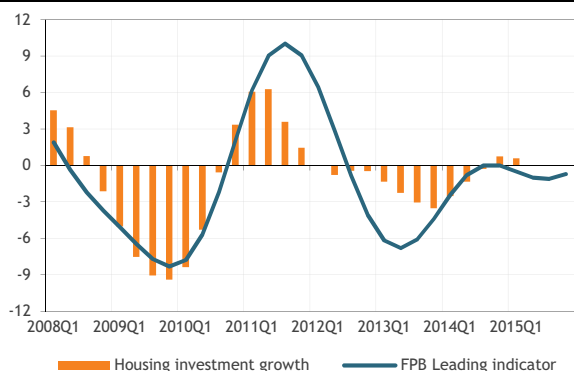
Graph 15 - Mortgage rate (over 10 years initial rate fixation, in %)
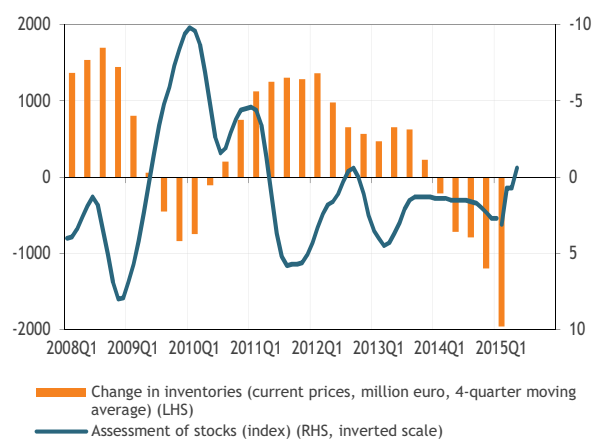
Source: NBB

Belgian residential investment was scaled back in 2012 and 2013 (-0.5% and -3.5% respectively), reaching a level that was nearly 11% below its peak in 2007. This pushed down the nominal residential-investment-to-GDP ratio from 5.8% in 2007 to 5.3% in 2013, which is close to its average since 1995. A modest recovery in housing investment started in 2013Q4, but lasted only three quarters, followed by a stagnation in the second half of 2014. As a result, average annual growth amounted to only 0.7% in 2014.

Residential investment should be supported in the next quarters by the historically low mortgage rate, but the impact of recent policy adjustments (the downscaling of tax incentives such as the reduction in the deductibility of mortgage loans in the Flemish Region) remains to be seen. Due to a negative starting point (a contraction in 2015Q1), annual average residential investment may decrease slightly in 2015. This weak performance is confirmed by the FPB leading indicator, which points to a very modest pick-up in the residential investment growth cycle in the second half of the year. Some of the components of the FPB leading indicator (information from the architects' survey and the total value of mortgage applications) lead the development of housing investment by four quarters.

Stock building

Graph 16 - Stock building indicators

Source: INR/ICN, NBB

Legend: Change in inventories (current prices, million euro, 4-quarter moving average) (LHS)
Assessment of stocks (index) (RHS, inverted scale)

As changes in inventories can take on positive as well as negative values, the series that can be calculated using chain-linked volume indices does not provide any useful information and is no longer published in the national accounts. Therefore, changes in inventories are only shown at current prices in Graph 16. However, their contribution to real GDP growth can be derived as a residual, taking the contributions of other demand components to economic growth into account.

Changes in inventories dragged down economic growth for the third consecutive year in 2014 (by 1 %-point, after negative contributions of 0.7 %-points in 2012 and 0.5 %-points in 2013). For this year, we assume a neutral contribution of stock building to GDP growth, as business confidence improves and fewer entrepreneurs consider their stock levels as excessive.

Foreign trade

Table 4 - Belgium - Trade statistics (goods, intra/extrastat, national concept)

	2013	2014	2014Q2	2014Q3	2014Q4	2015Q1	2014M10	2014M11	2014M12	2015M1	2015M2	2015M3
Exports - value [1]	2.0	1.2	1.9	1.6	-1.7	-2.9	1.6	-3.3	-3.7	-7.8	-2.4	1.1
Imports - value [1]	0.9	0.4	0.3	2.9	-1.9	-7.5	0.2	-4.3	-1.6	-11.9	-8.7	-2.1
Exports - volume [1]	2.1	1.5	2.0	2.1	-1.9	-0.9	-1.4	-4.4	0.2	-5.9	0.3	2.8
Imports - volume [1]	1.1	2.2	2.0	4.4	0.7	-4.9	-1.6	-1.6	5.8	-7.1	-6.1	-1.6
Exports - price [1]	0.0	-0.4	-0.1	-0.5	0.1	-2.1	3.0	1.2	-3.9	-2.1	-2.7	-1.6
Imports - price [1]	-0.2	-1.9	-1.7	-1.4	-2.7	-2.8	1.9	-2.8	-7.0	-5.1	-2.7	-0.5

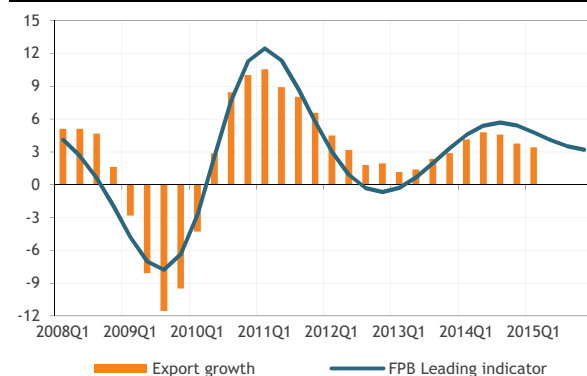[1] Change (%) compared to same period previous year
Source: INR/ICN

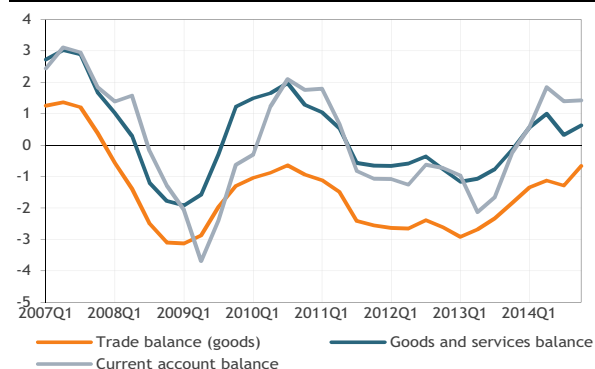**Graph 17 - Export cycle (deviation from trend, in %)**
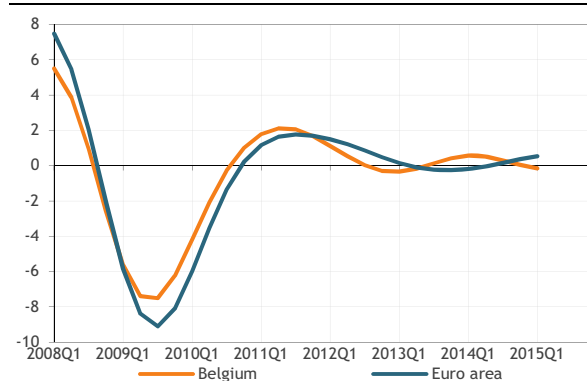
Source: INR/ICN, Eurostat, FPB

**Graph 18 - Export growth and leading indicator
(yoy growth rate of 4-quarter moving averages)**

Source: INR/ICN, FPB

Graph 19 - Belgian foreign balances (4-quarter cumul, % of GDP)

Source: INR/ICN, NBB, FPB

After the post-financial-crisis bounce, the Belgian and European export cycles declined between mid-2011 and end-2012 as the sovereign debt crisis pushed the euro area in recession. Ever since that moment, both export cycles have remained close to their trend, with barely any change in direction or difference between them discernible. This is basically in line with the evolution of world trade growth, which has mostly moved sideways over this period.

Compared to a year earlier, euro area export growth increased by 4.2% in 2015Q1. As ever, export performances differed widely. Spain, Portugal and Ireland witnessed the strongest export growth rates as these countries' cuts in labour costs led to a sizeable increase in price competitiveness. One of the weakest growth rates was registered in Finland, which is not only suffering from problems in its largest company (Nokia), but also from the boycott of Russia. The weight of exports to Russia in Finnish GDP had already fallen from 11.5% in 2008 to some 8% last year.

Following strong growth rates in 2014Q2 and 2014Q3, Belgian exports plunged in the last quarter of 2014 and remained feeble in 2015Q1. This resulted in a subpar year-on-year performance (3.1%) as compared to the euro average (4.2%). In the course of 2015, however, Belgian exports should benefit from the gradual acceleration in global economic activity and the depreciation of the euro. Next year, the growth acceleration in foreign export markets and the limited increase in domestic costs should allow a further strengthening of Belgian export growth.

This year, a strong improvement in the current account balance of the balance of payments is expected (from 1.4% of GDP in 2014 to 2.6% in 2015). Not only should export volume growth outpace import volume growth (resulting in a positive contribution of net export to economic growth), but the decline in oil prices should also allow a sizeable gain in the terms of trade.

Labour market

Table 5 - Labour market indicators

|	2013	2014	2014Q2	2014Q3	2014Q4	2015Q1	2014M12	2015M1	2015M2	2015M3	2015M4	2015M5
Unemployment [1][2]	654.5	656.1	659.5	653.8	648.5	641.5	645.3	642.2	641.7	640.7	635.8	633.1
Unemployment rate [2][3]	12.4	12.4	12.4	12.3	12.2	12.1	12.2	12.1	12.1	12.1	12.0	12.0
Unemployment rate-Eurostat [3][4]	8.4	8.5	8.4	8.6	8.6	8.5	8.5	8.5	8.5	8.5	8.5	.

[1] Level in thousands, s.a.; [2] Broad administrative definition; [3] In % of labour force, s.a.; [4] Recent figures are based on administrative data and may be subject to revision
Source: RVA/ONEM, FPS Employment, Eurostat, FPB

Graph 20 - Evolution of unemployment (incl. older)
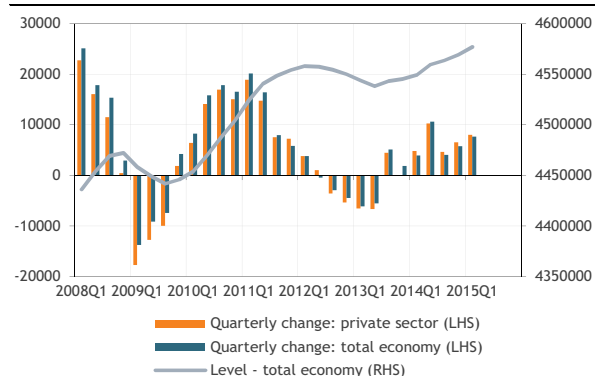**(number of persons, seasonally adjusted figures)**
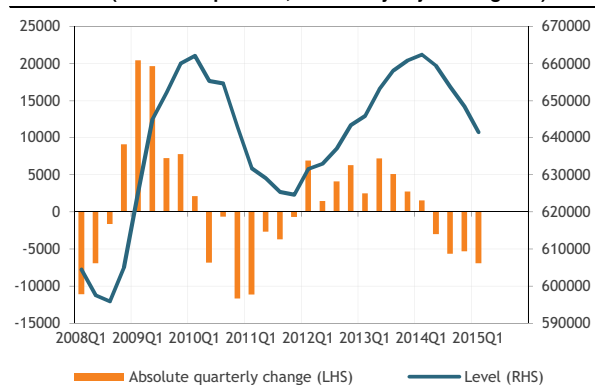
Source: RVA/ONEM

Graph 21 - Harmonised unemployment rates (in % of labour force)
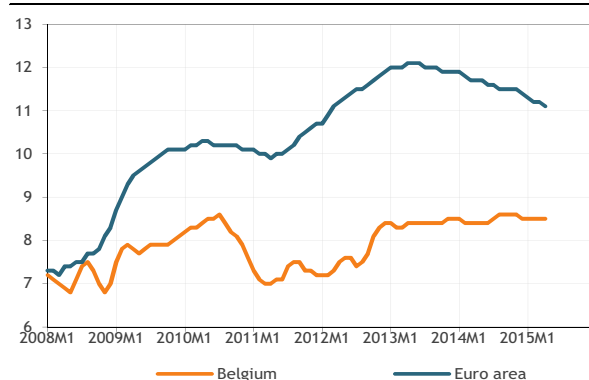
Source: Eurostat

Graph 22 - Evolution of domestic employment (number of persons,
seasonally adjusted figures)

Source: INR/ICN

Private sector employment growth picked up further in the course of last year (qoq growth rate of 0.2% on average). It maintained this pace in 2015Q1, when total hours worked even accelerated, after the temporary strikes-related drop in average hours worked in 2014Q4. However, growth in overall domestic employment has tended to be marginally lower in view of the decrease in public sector employment following the consolidation measures that have been taken at all levels of government administration. Moreover, in spite of the improvement in labour market conditions, jobs are still being shed at a virtually unchanged rate in manufacturing industries and in construction. In manufacturing, the employment figures for 2015Q1 have been negatively affected by an increase in the number of layoffs following the definitive dismantling of a major motor vehicle plant (Ford Genk) and its ancillaries. In construction, domestic employment has suffered from increased competition from foreign-based subcontractors that supply imported construction services to Belgian firms. This externalisation process has accelerated sharply since the beginning of 2012 and has undoubtedly contributed significantly to the fact that close to 8% of salaried employment has been lost in the construction industry over three years.

Since the beginning of 2014 (broad administrative), unemployment figures have come down quite substantially, the unemployment rate falling from 12.5% in 2014Q1 to 12.1% in May 2015. The decrease in unemployment has been accelerated by the fact that access to benefits for unemployed school-leavers has been made conditional on stricter controls on active job search behaviour and has been limited to a maximum duration of three years.

School-leavers that lose unemployment benefits tend to leave the (administratively measured) labour force, at least in the short run. This phenomenon has put further downward pressure on activity rates in the younger age bands and has (more than) compensated for the boost that is given to activity rates in the older age brackets following successive government measures aimed at tightening entry conditions for early retirement schemes. Together with the ongoing deceleration in the growth of the population of working age, this accounts for the fact that growth in the labour force has come to a complete standstill during the last three quarters.

Prices

**Table 6 - Inflation rates: change compared to the same period in the previous year (in %)**

	2013	2014	2014Q2	2014Q3	2014Q4	2015Q1	2014M12	2015M1	2015M2	2015M3	2015M4	2015M5
Consumer prices: all items	1.11	0.34	0.42	0.08	-0.13	-0.48	-0.38	-0.65	-0.40	-0.40	0.29	0.56
Food prices	3.62	-0.12	-0.11	-0.59	-0.94	-0.25	-0.76	-0.72	-0.05	0.03	0.60	1.28
Non food prices	-0.80	-1.04	-1.02	-1.32	-1.48	-2.68	-2.06	-2.96	-2.89	-2.20	-1.33	-0.92
Services	2.31	2.13	2.43	1.97	1.66	1.80	1.55	1.85	2.15	1.40	1.79	1.80
Rent	1.28	2.09	2.04	2.10	2.07	1.22	2.03	1.38	1.18	1.10	1.08	0.94
Health index	1.24	0.40	0.36	0.09	0.03	0.03	-0.01	0.01	0.14	-0.06	0.68	0.87
Brent oil price in USD (level)	108.7	99.0	109.7	102.0	76.2	54.1	62.1	48.2	58.1	55.9	59.6	64.5

Source: FPS Economy, Datastream

Table 7 - Monthly inflation forecasts

	2015M1	2015M2	2015M3	2015M4	2015M5	2015M6	2015M7	2015M8	2015M9	2015M10	2015M11	2015M12
Consumer prices: all items	99.85	100.26	100.32	100.70	100.86	100.83	101.00	100.78	100.76	101.05	101.07	101.16
Consumer prices: health index	100.61	100.89	100.73	101.12	101.16	101.10	101.27	101.00	100.98	101.28	101.30	101.40
Smoothed health index	100.39	100.55	100.66	100.66	100.66	100.66	100.66	100.66	100.66	100.66	100.66	100.66
	2016M1	2016M2	2016M3	2016M4	2016M5	2016M6	2016M7	2016M8	2016M9	2016M10	2016M11	2016M12
Consumer prices: all items	101.41	101.66	101.75	102.01	102.10	102.13	102.36	102.17	102.19	102.38	102.43	102.52
Consumer prices: health index	101.65	101.88	101.95	102.21	102.28	102.30	102.53	102.31	102.33	102.53	102.57	102.68
Smoothed health index	100.66	100.66	100.66	100.66	100.66	100.66	100.66	100.66	100.66	100.66	100.66	100.66

Source: Observations (up to 14M5): FPS Economy; forecasts: FPB

Graph 23 - Monthly inflation evolution (yoy growth rates, in %)
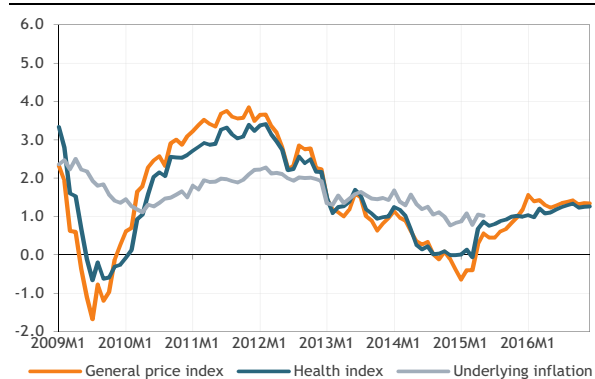
Source: FPS Economy, from 14M6 on: forecasts FPB

Graph 24 - Harmonised inflation rates (yoy growth rates, in %)
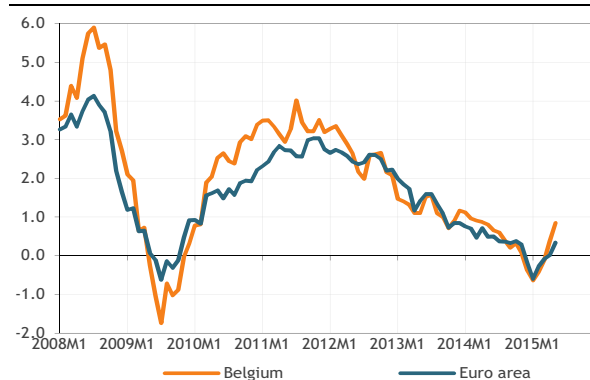
Source: Eurostat

Belgian consumer price inflation, as measured by the yoy growth rate of the national CPI, was negative for most of the previous two quarters and turned positive again in April 2015. Energy price developments have had a large influence on this evolution for two reasons. Firstly, the VAT rate on electricity for domestic use was lowered from 21 to 6% in April 2014, which exerted a downward influence on inflation of 0.4 %-points until March 2015. Secondly, the massive decline in oil prices since mid-2014 made yoy growth rates of the Brent price expressed in EUR drop from 5% in June 2014 to -48% in January 2015. From February onwards, the yoy growth rate of oil prices has been on an upward path, implying a contribution of oil products to inflation that becomes gradually less negative and that should turn positive again in December 2015. Underlying inflation has fluctuated around 1% since the beginning of this year and is expected to remain roughly stable during the coming months as government measures aimed at reducing wage costs should compensate for the upward pressure of the euro depreciation on import prices.

All in all, inflation should amount to 0.4% in 2015 and 1.4% in 2016, while the so-called health index should increase by 0.7% in 2015 and 1.2% in 2016. To introduce the 'index jump' (i.e. not adjusting wages and social benefits to price developments until a loss of 2% is incurred), it was decided to keep the smoothed health index stable at its level of March 2015. This index should only start to rise again in the course of 2017, implying that the current pivotal index (101.02) will not be crossed this year or next year.
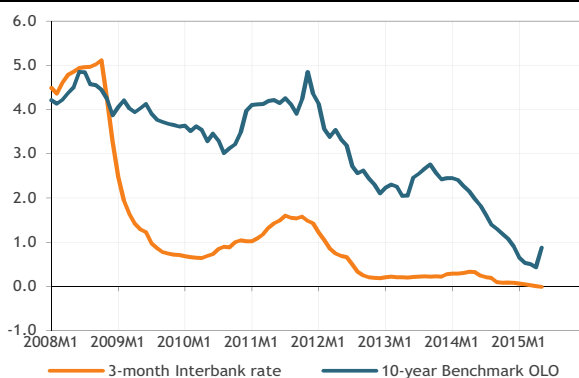
Interest rates

Table 8 - Interest rates

|	2013	2014	2014Q2	2014Q3	2014Q4	2015Q1	2014M12	2015M1	2015M2	2015M3	2015M4	2015M5
Short-term interbank rates (3 months)												
Euro area (Euribor)	0.22	0.21	0.30	0.16	0.08	0.05	0.08	0.06	0.05	0.03	0.01	-0.01
United States	0.27	0.23	0.23	0.23	0.24	0.26	0.25	0.25	0.26	0.27	0.28	0.28
Japan	0.15	0.13	0.13	0.13	0.11	0.10	0.11	0.10	0.10	0.10	0.10	0.10
Long-term government bond rates (10 years)												
Belgium	2.40	1.71	1.99	1.44	1.05	0.56	0.90	0.65	0.53	0.50	0.43	0.88
Germany	1.62	1.23	1.43	1.06	0.76	0.35	0.64	0.42	0.35	0.26	0.16	0.58
Euro area	2.71	1.89	2.10	1.67	1.31	0.78	1.14	0.89	0.80	0.65	0.62	1.06
United States	2.33	2.53	2.61	2.49	2.27	1.97	2.21	1.88	1.98	2.04	1.92	2.20
Japan	0.71	0.55	0.60	0.53	0.44	0.34	0.37	0.27	0.38	0.38	0.33	0.41

Source: Datastream

Graph 25 - Interest rate levels in Belgium (in %)

Source: NBB

Graph 26 - Yield curves for the euro area and the US (interest rate swap yields, in %)
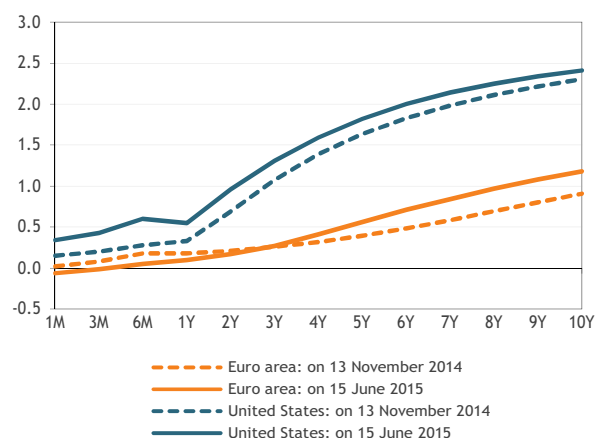
Source: Datastream

In the course of 2014, the ECB embarked on a large-scale programme of quantitative easing (QE), in which covered bonds, asset-backed securities and government bonds (from 2015 on) are purchased for a monthly amount of EUR 60bn. The ECB wants to stem the slide in inflation expectations and engineer an acceleration in economic growth with this programme. The operation seems to have succeeded so far, as inflation and inflation expectations, helped by the rise in oil prices from their January low, have bottomed out. While the quantitative easing operation is likely to last at least until September 2016, a first interest rate hike seems very distant.

The US Federal Reserve, which already abandoned its own quantitative easing programme some time ago, is likely to raise its policy rate this year for the first time since 2006. All in all, financial markets expect US policy rates to be raised about five times by 25 basis points before the end of 2016.

The appearance of negative inflation figures and the ECB's QE operation made the slide in long-term interest rates in the euro area, which had occurred already in the course of last year, even more pronounced. German bond yields with a 10-year maturity fell to close to 0% in mid-April, but the drop in the yields of the peripheral countries was even stronger, leading to a strong narrowing of the yield differential with German Bunds. Moreover, the yields on bonds with shorter maturities turned negative for many countries. This movement was halted in mid-April, however, as deflation fears ebbed away and speculation mounted that the ECB might end its QE program sooner than expected. As a result, yields bounced back strongly. For Belgium, e.g., long-term bond rates rose from an all-time low of 0.30% mid-April to 1.3% mid-June.

US long-term interest rates, which generally lead evolutions in the rest of the world, are now following the evolution seen in the euro area albeit in a less pronounced way.

Exchange rates

Table 9 - Bilateral exchange rates

	2013	2014	2014Q2	2014Q3	2014Q4	2015Q1	2014M12	2015M1	2015M2	2015M3	2015M4	2015M5
USD per EUR	1.328	1.329	1.371	1.325	1.249	1.127	1.231	1.163	1.136	1.082	1.082	1.116
UKP per EUR	0.849	0.806	0.815	0.794	0.789	0.744	0.788	0.767	0.741	0.723	0.723	0.722
JPY per EUR	129.6	140.4	140.0	137.7	143.1	134.3	147.1	137.7	134.9	130.3	129.3	134.8

Table 10 - Nominal effective exchange rates (2010=100)

	2013	2014	2014Q2	2014Q3	2014Q4	2015Q1	2014M12	2015M1	2015M2	2015M3	2015M4	2015M5
Euro	98.4	98.8	100.2	98.0	96.5	90.0	96.6	92.0	90.1	87.5	86.7	88.3
Growth rate [1]	5.7	0.4	-0.6	-2.2	-1.5	-6.7	0.1	-4.8	-2.0	-3.0	-0.9	1.9
US dollar	100.2	103.1	100.5	102.1	108.3	116.3	110.3	114.0	116.1	118.8	118.0	116.0
Growth rate [1]	2.9	2.9	-0.9	1.6	6.1	7.4	1.6	3.3	1.8	2.4	-0.7	-1.7
Japanese yen	87.9	81.1	82.5	82.0	77.3	77.3	74.8	77.0	77.5	77.8	77.9	76.0
Growth rate [1]	-18.9	-7.7	-0.1	-0.6	-5.8	0.1	-1.6	2.9	0.7	0.4	0.1	-2.4

[1] Change (%) compared to previous period
Source: BIS, NBB

Graph 27 - Euro-dollar and euro-yen bilateral exchange rates
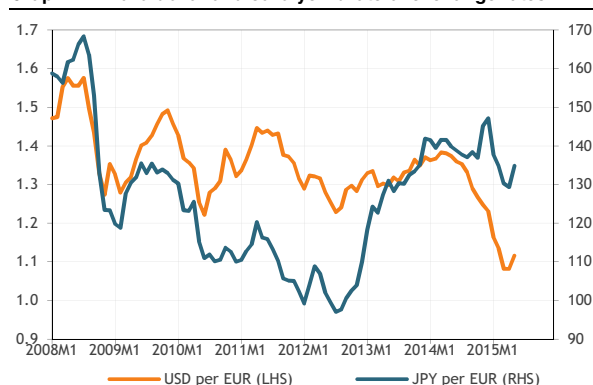
Source: NBB

Graph 28 - Nominal effective exchange rates (indices, 2006M1=100)

Source: NBB, BIS

Throughout 2014, the euro exchange rate depreciated against the dollar as (expectations with regard to) monetary policy measures of the ECB and the US Federal Reserve were on a divergent path. While the Federal Reserve stopped its quantitative easing (QE) programme in the course of the year and started to discuss the timing of a first interest rate hike, the ECB loosened monetary policy considerably. This evolution continued in the first quarter of 2015 as the ECB started a large scale sovereign QE programme.

Towards the end of 2015Q1, however, the euro first moved sideways and subsequently bounced back somewhat vis-à-vis the dollar as a series of weak US economic data pushed back the timing of the first interest rate increase by the Fed by at least one quarter. At the same time, deflation fears in the euro area were ebbing away while economic growth picked up, resulting in reduced expectations on the overall size of the ECB's monetary loosening move. The recent appreciation of the euro would probably have been stronger yet, had fears about the fate of Greece not started to mount.

While the euro lost some 20% in value against the US dollar between December 2013 and May 2015, the depreciation against most other currencies was more limited. In some cases, the euro even gained ground. This was especially the case for commodity-producing emerging economy currencies such as the Argentinian peso, the Brazilian real, the Russian rouble and the Ukrainian hryvnia. To the extent that the Federal Reserve continues to tighten its monetary policy, many emerging markets currencies might depreciate further.

In nominal effective terms, the euro lost some 13% between December 2013 and April 2015, but bounced back by 1.5% in May of this year.

Tax indicators

Table 11 - Tax revenues [1]

	2013	2014	2014Q2	2014Q3	2014Q4	2015Q1	2014M11	2014M12	2015M1	2015M2	2015M3	2015M4
Total [2], of which:	3.2	0.6	3.2	1.1	-4.2	4.9	-9.3	-9.9	11.3	4.4	-3.1	0.9
Direct taxes, of which:	5.9	-1.8	0.6	2.8	-10.7	14.5	-16.0	-19.4	22.9	12.0	1.2	-1.1
Withholding earned income tax (PAYE)	4.2	0.6	0.9	1.9	-3.2	2.2	37.0	-11.5	7.6	-4.3	0.6	-0.1
Prepayments	1.3	5.4	2.5	-2.4	13.8	46.6	.	21.3	.	.	.	-2.6
Value Added Tax and excise duties	-0.3	2.8	5.0	-1.0	2.6	-0.6	-4.7	-0.5	-1.1	2.0	-2.1	7.8

[1] Change (%) compared to same period previous year; [2] Total received by federal government, excl. of death-duties
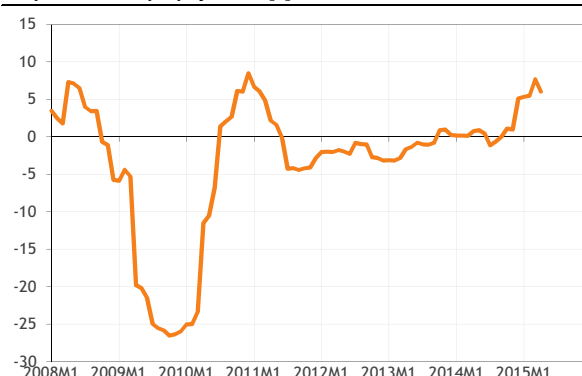Source: FPS Finance

Graph 29 - Real tax revenues [3]

Total tax revenues
Value Added Tax and excise duties
Direct taxes
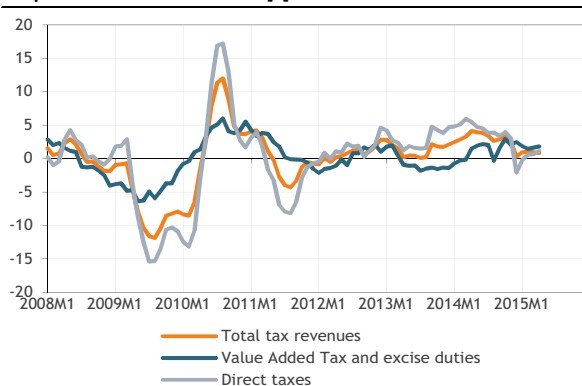
Graph 30 - Real withholding earned income tax (PAYE) [4]
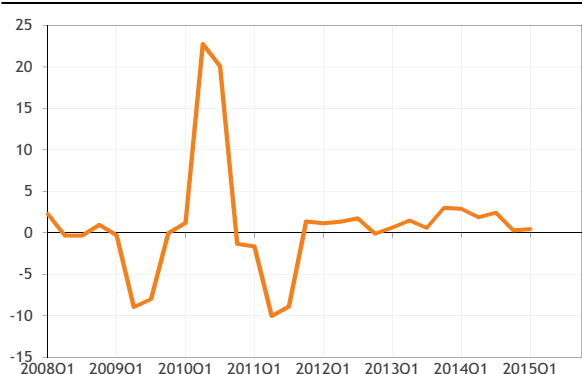
Graph 31 - Real prepayments [3]

[3] Change (%) over past 12 months, compared to previous 12 month period, deflated by consumer price index

[4] Change (%) over past 4 quarters, compared to previous 4 quarter period, deflated by consumer price index

On an annual base, tax revenue in 2014 grew by a mere 0.6% in nominal terms compared to 2013. This progression would have been even lower without the impact of discretionary measures: removal of the tax reduction for energy-saving investment (decided for the fiscal year 2013 and impacting 2014 strongly since this measure led to an announcement effect), creation of a "fairness tax" on corporate businesses, increased taxes on financial institutions and new increases in excise duties (decided in the Budget adjustment in July 2013) and the imposition of VAT on lawyers' services (since early 2014). On the other hand, the VAT on electricity consumption was reduced to 6%, down from 21% (as from April 2014).

In early 2015, as was the case during 2014, PIT revenue growth remains affected by the limited rise in employment in the private sector and the further decrease in the public sector, to which is added the zero real wage growth imposed for 2013-2015. In 2014, the indexation of the progressive PAYE scales (based on the previous year's higher inflation) exceeded wage and replacement income indexation. This effect will play again in 2015 but to a lesser extent (and also in 2016 due to the index jump that has been decided on).

Figures for prepayments in April 2015 (April is the first due date) are below expectations, considering the potential impact on corporate profitably of the wage moderation and the improvement in terms of trade. It is likely that companies are further delaying prepayments due to low or nil incentives to make payments early in the year (the tax surcharge for inadequate prepayments is currently lower than the interest rate for cash credits).

VAT revenue is still suffering from low price inflation and the reduced rate on electricity. Excise duties on energy are driven by a significant increase in the consumed volumes of road fuel (pushed by the relatively low prices of these products) with, furthermore, a shift from diesel to gasoline (which is taxed more than diesel).

Making our consumption and production sustainable

The 7th Federal report on sustainable development has been published to implement the *Belgian Act of May 1997 on the Coordination of Federal Sustainable Development Policy*. It is the first report since the publication of the *Federal long-term strategic vision for sustainable development* (LTV SD) adopted by the government in 2013, which contains 55 objectives that describe a sustainably developing Belgium by 2050. This report proposes two possible scenarios to reach these objectives.

The first part of the report describes the "Current evolutions towards sustainable development" and is based on the 2014 strategic assessment of sustainable development indicators (SDI). It evaluates the trends for 25 key indicators from 1992 to 2012-2013 by comparing these trends to objectives adopted by policy-makers. These objectives come from the LTV SD and other policy documents, such as the two Belgian Federal Plans for Sustainable Development and international documents on sustainable development drawn up at the level of the European Union (EU) and the United Nations (UN). The available figures indicate that 18 out of the 25 indicators have evolved, over a long period, towards their strategic objective. Therefore some progress towards sustainable development has been observed in Belgium since 1992, even if there is still need for improvement in different areas.

The second part of the Report presents two "Scenarios for transition towards a sustainable society in 2050". The purpose of these scenarios is to show that the transition towards sustainable development is conceivable, and possible. Their purpose is also to generate and feed the democratic debate around society's long-term objectives, embodied in the LTV SD, and on the actions and policies to be undertaken to get there. These two paths are not forecasts. They are examples of possible evolutions for achieving the ambitious objectives of a Belgium that is developing sustainably in 2050. They also contain examples of possible policies to support and generate these evolutions. These examples, most often taken from existing studies, are not ready-to-use recommendations but are very much a source of inspiration to feed the debate on the transition to sustainable development.

Both paths focus on the impetus that a single group of actors can give, consumers in the path called *SET-Consumption*, and producers in that called *SET-Production*. But, due to the magnitude of the challenge, all actors - consumers, producers and public authorities - must support this transition together through ambitious actions and policies.

In the *SET-Consumption* scenario, changes in consumption patterns drive the transition towards sustainable development. Consumers become aware of their responsibilities and change their behaviour as a consequence. These changes in behaviour vary according to the situation of each consumer as the trend towards individualisation becomes more marked. Therefore, behaviours and demand for goods and services diversify. Nevertheless, people increasingly take the common good into account in their individual lifestyle choices, while also considering criteria of social and environmental quality.

In the *SET-Production* scenario, changes in production patterns drive the transition towards sustainable development. Producers take their social and environmental impacts into account. They offer goods and services that respond better to strict sustainable development standards and implement the principles of a circular economy. They also ensure that the whole production chain offers decent work conditions.

In both scenarios, the evolution of these consumption and production driving forces allows the content of GDP growth to change. This growth is then compatible with sustainable development.

This Report offers examples of policies that the federal government can pursue in each scenario to improve the state of the development capitals.

The recommendations include the strengthening of the dynamics of evaluating societal trends, by improving the list of LTV SD monitoring indicators and working on the indicators complementary to GDP. They also stress the need to define sustainable development objectives and strategies. These objectives must have a deadline and, as far as possible, be quantified. There is also a need for interim objectives (targets) to guide and evaluate policies, either in the short run (2019, end point of the Federal Plan for Sustainable Development) or for the medium term, for example 2030. These interim objectives must be sufficiently ambitious to be on a course to achieve the long-term objectives defined in the LTV SD. Finally, these recommendations also include developing the ex-ante and the ex post evaluation of policies, to strengthen society's evolution towards the LTV SD by giving more importance to sustainable development in policy-making.

Sustainable development is an ambitious project of social change. To carry out this project and reach the LTV SD's objectives, assertive policies are necessary, exam-

ples of which are given in this report. But such policies need the commitment of all social actors towards this transition. This report pleads for a new social consensus to be built between all citizens, social actors and public authorities.

*"Making our consumption and production sustainable",
Task Force on Sustainable Development,
7th Federal Report on Sustainable Development. Prospective.
March 2015*

Impact assessment of the 2030 Climate and Energy Policy Framework and 2050 Roadmaps for Belgium

On October 17, 2014, the Federal Planning Bureau published the fifth edition of its triennial long-term energy outlook. The report describes a reference scenario (REF) up to 2050 simulating the evolution of the Belgian energy system under current trends and adopted policies in the fields of climate, energy and transport while integrating the 2020 Climate/Energy package's binding objectives. Analysing its results demonstrates the large discrepancy between this REF and what is necessary to be on track for the EU 2030 Climate/Energy framework as well as for a low-carbon economy by 2050, hence the need for additional policies and measures. This observation led to the writing of this paper, in which three policy-driven scenarios that are compatible with both the 2030 and 2050 greenhouse gas emission reduction challenge outlined by the European Council are being scrutinised.

These three scenarios differ in the level of ambition in the field of energy efficiency and renewable energy deployment. The first scenario (scenario 1) focuses exclusively on the 2030 and 2050 greenhouse gas emission reduction targets and is mainly driven by the application of carbon prices and carbon values. The second scenario (scenario 2) adds ambitious energy efficiency policies to the former. The third scenario (scenario 3) complements the second with a binding European-wide renewables target of 30% in 2030. These three scenarios record different environmental, energy system and economic and social impacts. They are extensively described for two particular horizons: 2030 and 2050.

In what follows, some of these impacts are summarised, i.e. the overall effect on greenhouse gas emissions as well as the differentiated outcomes in the ETS and non-ETS sectors, and the impact on the development of renewable energy sources.

By the year 2030, total greenhouse gas emissions decrease by 27% in scenario 1 and by about 30% in scenario 2 and 3 with respect to the 1990 level (compared to 20% in REF). The three policy scenarios show similar greenhouse gas emission reductions in the ETS and non-ETS sectors compared to 2005: from 27 to 31% in the former and from 25 to 32% in the latter. Compared to REF, the additional emission reductions in 2030 are, however, more significant in the non-ETS than in the ETS sectors, and all the more so in the two policy scenarios characterised by ambitious ener-

gy efficiency measures (scenario 2 and 3). The additional greenhouse gas emission reductions range from 3 to 7 %-points in the ETS sectors while they lie between 9 and 17 %-points in the non-ETS sectors.

In the longer term (2050), total greenhouse gas emissions are some 65% below the 1990 level, irrespective of the policy scenario (against 17% in REF). Greenhouse gas emissions continue to drop both in the ETS and non-ETS. Compared to REF, additional greenhouse gas emission reductions range from 37 to 43 %-points in the ETS sectors while they lie between 55 and 58 %-points in the non-ETS sectors. In scenario 1 where greenhouse gas emissions are mainly driven by carbon prices in the ETS and carbon values in the non-ETS, reductions are similar in both sectors: 65 and 68% compared to 2005. By contrast, greenhouse gas emission reductions are higher in the non-ETS than in the ETS in scenario 2 and scenario 3: 71% versus 58% compared to 2005. In other words, ambitious energy efficiency policies dampen the reductions needed in the ETS.

In the period 2020-2030, renewable energy sources continue to enlarge their share in gross final energy consumption. Starting from 5% in 2010 and with a national binding target stipulated in the 2020 Climate/Energy package (and implemented in REF) set at 13%, the share attains 18% in 2030 in scenario 1 and scenario 2 and even reaches 23% in scenario 3 (versus 17% in REF). Renewables cover different uses, i.e. transport, heating and cooling and electricity production. It is the development of the latter that mostly pulls the total renewables share, a trend that was already apparent in REF.

In the period 2030-2050, renewable energy sources continue on their growth path and reach shares of 41% (scenario 1), 39% (scenario 2) and 45% (scenario 3) in gross final energy consumption (compared to 19% in REF). In the policy scenarios, renewables cover almost two thirds of final energy consumption in transport, between 26% and 38% in heating and cooling and between 39 and 46% for electricity uses.

*"2030 Climate and Energy Framework for Belgium - Impact assessment of a selection of policy scenarios up to 2050",
D. Devogelaer and D. Gusbin,
Working Paper 3-15, April 2015*

Potential output growth in Belgium since the crisis

According to a recent study by the ECB, the uncertainty surrounding the estimates of potential output has risen in the euro area countries since the outbreak of the financial crisis. Moreover, based on the latest computations by international organisations, potential growth in the euro area has fallen since the onset of the financial crisis. In this working paper we examine both phenomena for Belgium based on potential GDP estimates produced by the Federal Planning Bureau.

A first tentative estimation of impact of the financial crisis on Belgian potential GDP was provided in the FPB Working Paper No. 10-9 followed by a more comprehensive computation of the damage of the crisis presented in WP 8-11. In this new paper we do not try to quantify the output loss attributable solely to the financial crisis as in the meantime many other important events have taken place such as the sovereign debt crisis within the euro area. We instead focus on the latest estimates available - based on the May 2015 FPB Economic Outlook - and put them into perspective by providing measures of uncertainty surrounding them.

The analysis reveals that potential GDP growth in Belgium was also severely hit by the crises. Potential output growth declined to less than 1.1% on average in the period 2009-2015 compared to 2% on average in 1999-2008, meaning a drop of almost 1 %-point. Although impressive, according to the European Commission, the euro area as a whole was struck even harder: the decline amounted to 1.4 %-points in average annual potential GDP growth (from 2.0% to 0.6%).

In terms of factor inputs, labour has resisted remarkably well in Belgium; its contribution to potential growth was only reduced marginally following the crisis (from 0.6 %-points in 1999-2008 to 0.5 %-points in 2009-2015), supported by both a declining NAWRU and a sustained expansion of the potential labour force. Over the same periods, the contribution of capital, as a result of less dynamic investment since the crisis, was almost halved (from 0.7 to 0.4 %-points). The contribution of total factor productivity diminished even more, going from 0.7 to 0.2 %-points but it has to be acknowledged that this decreasing trend preceded the outbreak of the crisis.

Uncertainty surrounding potential output stems essentially from two sources. First, since potential GDP is not directly observable, different models and methods tend to produce significantly different estimates ("model uncertainty"). Second, within a particular method, revisions of historical data and forecasts imply that potential output estimates are also revised ("data

uncertainty"). To measure this second type of uncertainty, we construct, using all past vintages of FPB estimates available, a "confidence range" by taking for each year the minimum and maximum value for potential growth across vintages. To examine whether uncertainty has increased since the outbreak of the crisis, the sample has been divided into "pre-crisis" vintages going from 2003 to 2008, covering the time period 1999-2012, and "crisis" vintages from 2009 to 2014, covering the full period 1999-2015.

Before the crisis, potential growth estimates oscillated between a minimum of 1.8% and a ceiling of 2.4%, with a maximum annual range of 0.3 %-points. After the outbreak of the crisis, substantial revisions to potential growth estimates were made for the 2009-2012 period (on average from 2.0% to 1.3%), including for the period 1999-2008 (from 2.1% to 1.7%). Uncertainty increased further in 2013-2015 as the recovery appeared to be short-lived and the euro area entered a new phase of recession. Compared to the pre-crisis estimates, the maximum range has almost tripled (to 0.9 %-points).

The other type of measure is associated with the uncertainty regarding the methodology used to compute potential GDP. In this case, we take the most recent estimates for Belgium from the three main international organisations to construct a confidence bound and compare them with our results. According to this range, the current uncertainty related to the method applied seems relatively limited for Belgium. On average, over the period 1999-2012, the width of the range is less than 0.2 %-points, with a maximum of 0.3 %-points. It increases only marginally at the end of the sample: in 2015 potential growth ranges from 0.9% (European Commission) to 1.2% (OECD), the IMF estimate (1.1%) being close to that of the FPB. This relative consensus among international organisations regarding Belgian potential output has not always prevailed; for instance, just after the outbreak of the crisis, differences were much larger (see WP 10-9).

Research in progress

The long-term budgetary and social challenges of ageing

The long-term model is used to project the budgetary consequences of ageing. For acute health care and long-term care public expenditure, new models were introduced in 2014. The first, notably, takes into account explicitly the impact of technological progress. The social dimension of pension benefits is investigated using a microsimulation model.

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Employment and retirement in the civil service

The question of whether the level and the structure of employment in government bodies in Belgium is appropriate has been raised frequently. A research project at FPB addresses this question, including the implications of public employment dynamics on public pensions, and the composition and dynamics of civil servant pensions.

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Macroeconomic, budgetary and GHG emissions prospects

Using a consistent modelling approach, medium-term macroeconomic and budgetary prospects – taking the 6th State reform into account – as well as the evolution of greenhouse gas (GHG) emissions are being investigated. A consistent regional-national version of the model developed in collaboration with experts from the regional governments of Brussels, Flanders and Wallonia is generating regional results.

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Economic drivers of migration flows

Modelling migration flows in population projections is recognized as a challenge. Although economic theory demonstrates the importance of economic drivers for some migration flows, these results are barely used in population projections. An ongoing research project aims at including some econometric results about these drivers in the FPB demographic model.

Contact: demo@plan.be

Progress in economic modelling at the FPB

On-going projects aimed at incorporating new approaches in economic modelling are supported by different institutions. Partners from the three Regions (IBSA-BISA, SVR and IWEPS) support the development of a "bottom-up" approach in the regional/national medium-term model. The federal sickness and disability fund (RIZIV-INAMI) collaborates on modelling health care expenditure. The EC supports the development of a sectoral international model. A federal research fund (BELSPO) and the Federal Public Service Social Security support modelling migrations in the dynamic microsimulation model, which is managed using the LIAM2 software developed at the FPB with the support of Luxembourg partners (IGSS – the Ministry of Social Security – and CEPS/INSTEAD).

Contact: contact@plan.be

Offshoring

The FPB is continuing its work on offshoring. The aim of this work is to monitor trends in the relocation of activities carried out in Belgium as well as to determine their impact on employment and productivity. The analysis is done at the industry level, but also with firm-level data.

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Innovation

Innovation is a key determinant of productivity growth. In the current FPB research on this topic, particular attention is given to the question to what extent public policy can facilitate innovation leading to the creation of economic activity and jobs.

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Transport modelling

The FPB model on transport demand for passengers and goods PLANET will be further developed by introducing a regional dimension. As regional governments have the competence for major issues affecting transport demand, a more accurate modelling of transport demand requires the development of this regional dimension. The aim is to present the 2015 outlook for transport demand with a regional version of the model.

Contact: transport@plan.be

Indicators complementing GDP

The FPB received the mission to develop and publish indicators on quality of life, human development, social progress and sustainability of the economy (act of 14 March 2014). This set should consist of a limited number of indicators. As these indicators have to measure the evolution towards goals for society, the FPB's experience in sustainable development indicators will be useful in constructing the set of indicators complementing GDP.

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Recent history of major economic policy measures

May 2015	On 21 May 2015, three bodies were set up to support the pension reform:

- an *Academic Council* providing scientific advice on proposals relating to pensions;
- a *National Pension Committee* responsible for social arbitration on these proposals;
- a *Knowledge Centre* providing technical support to the Council, the Committee and the Ministers in charge of pensions.

April 2015 — In a 2015-2018 update to the Stability Programme, the Belgian authorities considered reducing the structural deficit to 2.0% of GDP in 2015 (corresponding to an effective deficit of 2.5% of GDP), which would imply a structural improvement of 0.7% of GDP as compared to 2014. Over the period 2016-2018, the structural balance will be further improved by about 0.7% of GDP per year so that structural balance is reached in 2018 (two years later than planned in the previous update of the Stability Programme).

March 2015 — The Ministerial Council adopted the adjustment of social benefits to living standards. The 2015-2016 budgetary envelope shall be allocated to the following benefits:

Pensions:

- Minimum pension and minimum claim per working year: +2% (01/09/15), including the wage ceiling of the minimum claim (01/01/15).
- Elderly pensioners: +2% for pensions which came into effect five years earlier (01/09/15 and 01/09/16 for the 2010 and 2011 cohorts respectively); +1% for pensions which came into effect prior to 1995 (01/09/15).
- Holiday allowance: +6.4% (01/05/2015).

Unemployment benefit, unemployment benefit with company allowance and time credit:

- Minimum and lump-sum benefits: +2% (01/09/15).
- Wage ceilings, including maximum allowances: +1.25% (01/07/2015).

Disability, accidents at work and occupational diseases benefits

- Wage ceilings: +1.25% (01/04/15).
- Minimum benefits (and lump-sum benefits for accidents at work and occupational diseases): +2% (01/09/15).
- Benefits which came into effect six years earlier: +2% (01/09/15 and 01/09/16 for the 2009 and 2010 cohorts respectively).
- Reduction of social security contributions after retirement from 13.7 to 8.31% (for occupational accidents and occupational illnesses).

Social assistance:

- All social assistance benefits: +2% (01/09/15).

Rail freight incumbent B-Logistics was partly privatised. By of expanding B-Logistics' capital, the French-Swiss financial group Argos Soditic acquired a two-thirds majority. B-Logistics is still loss-making, but the losses have considerably reduced in the past few years.

February 2015 — On 1 April 2015, the minimum pension for the self-employed will be raised by EUR 10 for single people and by EUR 7.17 for survivors. As a result, the former will amount to EUR 1071.00 and the latter to EUR 1068.17. Complete assimilation with the wage-earners' scheme is scheduled for 1 August 2016.

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

Abbreviations for names of institutions used in this publication

BIS	Bank for International Settlements
CPB	Netherlands Bureau for Economic Policy Analysis
CRB/CCE	Centrale Raad voor het Bedrijfsleven / Conseil Central de l'Economie
DGSB	FPS Economy - Directorate-General Statistics Belgium
EC	European Commission
ECB	European Central Bank
EU	European Union
FEBIAC	Fédération Belge des Industries de l'Automobile et du Cycle "réunies"
FPB	Federal Planning Bureau
FPS Economy	Federal Public Service Economy, S.M.E.s, Self-employed and Energy
FPS Employment	Federal Public Service Employment, Labour and Social Dialogue
FPS Finance	Federal Public Service Finance
IMF	International Monetary Fund
INR/ICN	Instituut voor de Nationale Rekeningen / Institut des Comptes Nationaux
IRES	Université Catholique de Louvain - Institut de Recherches Economiques et Sociales
NBB	National Bank of Belgium
OECD	Organisation for Economic Cooperation and Development
RSZ/ONSS	Rijksdienst voor Sociale Zekerheid / Office national de la Sécurité Sociale
RVA/ONEM	Rijksdienst voor Arbeidsvoorziening / Office national de l'Emploi

Other Abbreviations

BoP	Balance of Payments
CPI	Consumer Price Index
EUR	Euro
GDP	Gross Domestic Product
JPY	Japanese yen
LHS	Left-hand scale
OLO	Linear obligations
qoq	Quarter-on-quarter, present quarter compared to previous quarter of s.a. series
RHS	Right-hand scale
s.a.	Seasonally adjusted
t/t-4	Present quarter compared to the corresponding quarter of the previous year
t/t-12	Present month compared to the corresponding month of the previous year
UKP	United Kingdom pound
USD	United States dollar
VAT	Value Added Tax
yoy	Year-on-year, i.e. t/t-4 (for quarters) or t/t-12 (for months)