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2017 European Semester: Assessment of progress on structural reforms, prevention and correction of macroeconomic imbalances, and results of in-depth reviews under Regulation (EU) No 1176/2011

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EXECUTIVE SUMMARY

This report assesses Belgium's economy in the light of the European Commission's Annual Growth Survey published on 16 November 2016. In the survey the Commission calls on EU Member States to redouble their efforts on the three elements of the virtuous triangle of economic policy — boosting investment, pursuing structural reforms and ensuring responsible fiscal policies. In so doing, Member States should focus on enhancing social fairness in order to deliver more inclusive growth.

Economic growth is set to maintain a steady pace. The economy grew by 1.2 % in 2016 with domestic and external demand contributing about equally to overall growth. Domestic demand has been driven by investment growth in recent years. Business investment was underpinned both by supportive financing conditions and by government measures. Investment in construction has also been rising due to housing and public infrastructure projects. Job creation has been widespread across the private sector as a result of labour tax cuts and wage moderation, which has also improved the labour cost competitiveness position of Belgian companies. Consumer spending is expected to pick up in 2017-2018 on the back of continued job and wage growth. The latter is underpinned by government measures to raise disposable incomes, in particular for low- and middle-income earners. The economy is expected to grow by 1.4 % in 2017 and by 1.6 % in 2018. This relatively low growth outlook ties in with relatively low estimates for potential growth.

Belgium has had difficulties consolidating public finances in the wake of the financial and economic crisis. The headline deficit widened again in 2016, to 2.9 % of GDP. It is expected to narrow to 2.2 % in 2017 and to remain around that level in 2018 unless additional budget measures are taken. With an estimated structural deficit of 2.5 % in 2016, there remains a wide gap with the country's medium term objective of a balanced budget in structural terms. Public debt is estimated to have peaked at almost 107 % of GDP in 2016.

Overall, Belgium has made some progress in addressing the 2016 country-specific recommendations. There has been limited progress on distributing fiscal targets among various levels of government in a way that can be enforced. Some progress has been made in reforming the tax system. Substantial progress has been made with regard to the reform of the 1996 law on the promotion of employment and the safeguarding of competitiveness. The reform aims at safeguarding the recent wage moderation and the gradual narrowing of the remaining labour cost gap with neighbouring countries. There is also some progress on the functioning of the labour market, especially in terms of activation, and on vocational training and education reforms, also with regard to disadvantaged groups. Higher retirement age and further limits to subsidized early retirement has encouraged older workers to stay in or return to work. Fiscal incentives in favour of work and targeted towards low-income earners have helped to boost the employment rates of vulnerable groups, by reducing unemployment traps. There has however been limited progress on sector regulation. Some of the network industries, professional services, and to some extent also the retail sector, remain sheltered from competition. The impact of newly adopted measures to boost innovation capacity of firms will take time to materialize. The details of the national pact for strategic investment still need to be announced.

Regarding progress in reaching its national targets under the Europe 2020 strategy, Belgium is broadly on track to reach the targets for R&D intensity, reducing early school leaving, and increasing tertiary educational attainment. By contrast, there is a risk that the targets on greenhouse gas emissions, renewable energy, energy efficiency and poverty reduction will be missed. Despite substantial job creation, the employment rate target of 73.2 % is still out of reach.

The main findings of this country report, and the related policy challenges, are as follows:

- **The recent pension reform was an important step toward addressing the long-term cost of population ageing**. Nevertheless, long-term trends of both pensions and long-term care still entail very significant risks to the sustainability of public finances. The planned introduction of a credit-based public pension system is meant to help improve long-term fiscal sustainability, as it would provide for automatic adjustment mechanisms in response to structural demographic or economic developments. Short-term risks of fiscal stress appear to have

been contained. The high public debt denotes continuing economic vulnerability.

- **Beyond the current tax shift measures, the design of the Belgian tax system still shows some shortcomings.** The large number of exemptions, economic distortions and adverse tax incentives create inefficiencies and lead to high statutory rates. The tax system does not make use of opportunities to shift taxes to more growth-friendly bases, e.g. by 'greening' the tax system. Some features of the Belgian taxation system remain sensitive to international initiatives in the fight against tax avoidance.

- **Job creation has been robust, yet the overall employment rate is weighed down by the lower performance in specific groups.** These include the low-skilled, the young, older workers and people with a migrant background. They largely reflect the groups with the highest risk of poverty or social exclusion, as poverty among Belgian households is mainly explained by joblessness. However, this risk is considerably mitigated by taxes and transfers. While skills mismatches represent a significant part of the overall mismatch between supply and demand in the Belgian labour market, other factors such as low geographical and job mobility and language skills may compound the issue.

- There are persistent and increasing disparities in long-term unemployment and inactivity rates across regions, and transition rates to employment are low. Although ongoing regional reforms of employment incentive schemes aim to rationalise and tailor the system, continuous monitoring of the cost-effectiveness of the policy choices made is warranted. In particular, some design features of the target group policies may have windfall and displacement effects. In addition, tax repercussions and withdrawal of social benefits upon entering the labour market or increasing hours worked may create inactivity and low wage traps, especially for second earners, single people and single parents.

- **Despite good average performance in education, key challenges are the educational inequality and the declining trend in the share of top-performing pupils.** While the share of top performers among 15 years-old pupils is still above the OECD average, their share is decreasing significantly. Meanwhile, the share of low-achievers is on the rise. Pupils' performance is strongly linked to their socioeconomic background, in particular for those with a migrant background. Addressing educational inequality will thus require a broad policy response going beyond the educational system. The strong demographic pressure, in particular among disadvantaged groups, risks exacerbating infrastructure deficiencies and teacher shortages, notably in major cities.

- **The inflation differential risks to offset competitiveness gains.** Headline and underlying inflation are structurally higher than in neighbouring countries. The figures mainly reflect rising prices in electricity and services, partly influenced by administrative decisions. Dysfunctioning in goods and labour markets added to the differential. Less intensive competition in sheltered non-tradable sectors explains why rising labour costs were easier to pass on into higher services prices, even if productivity growth did not keep pace with wages. Moreover, as wage indexation is common practice, upward inflation easily transmits into wage growth. This risks to translate into a downward impact on the employment of less productive workers, which can entrench over time. Moreover, price increases risk being passed on in traded goods and affecting competitiveness in sectors that are not sheltered.

- **A number of bottlenecks weigh on Belgium's growth potential.** Despite fiscal incentives for research activities, patent registrations and notwithstanding the presence of a highly skilled work force, the technological content of Belgium's exports is behind that of its peers. Its high-quality public research system has not brought about an abundance of fast-growing firms in innovative sectors. Stimulating the adoption of digital technologies and higher human capital accumulation could further underpin productivity growth. Moreover, new sectors capable of creating domestic value

added are not sufficiently involved, thereby missing out on multiplier effects, also in relation to employment, especially in services. Apart from downstream services such as distribution, this is a lost opportunity for an upward shift in the production chain, to where margins are bigger and finished products are more differentiated, notably through services such as R&I, design and branding.

- **High regulation in the network industries and some professional services is restricting competition**. Regulatory barriers are high in public utilities, such as postal services, public transport, the supply of energy and drinking water, and telecommunications. A number of rules also inhibit market mechanisms for professional services. There are remaining high barriers to entry, in particular requirements for establishing a practice, such as a particular legal or corporate structure. In addition to serving the interests of consumers, more affordable services would support growth and jobs. In the retail sector, significant operational and establishment restrictions are still in place.

- **Insufficient investment in infrastructure, in particular in energy, education and transport, and a low level of public investment in general limit productivity growth.** Infrastructure investment shortfalls, in particular in transport, as well as remaining adverse tax incentives, aggravate traffic congestion. Business investment, by contrast, has been resilient and increasingly oriented towards intangibles in the services sector. Nevertheless, some challenges in terms of entrepreneurship remain. Lengthy delays and a high burden of administrative and regulatory requirements — and their unpredictability — impede the creation and expansion of companies, for example in relation to property registration, labour legislation and construction permits.

- **Environment and climate policies in Belgium, although performing well in some areas (waste management, circular economy), remain insufficiently effective to combat local air pollution and greenhouse gas emissions.** A long-term climate policy vision is still lacking. The environmental gains of the envisaged change in the company cars system risk being very limited. Belgium remains Europe's most congested country in terms of hours wasted in traffic and delays, and this is unlikely to change in the short run, partly because of long delays in several major public infrastructure projects. Finally, the high and growing energy intensity of the manufacturing industry calls for additional energy efficiency and cost-effective renewables.

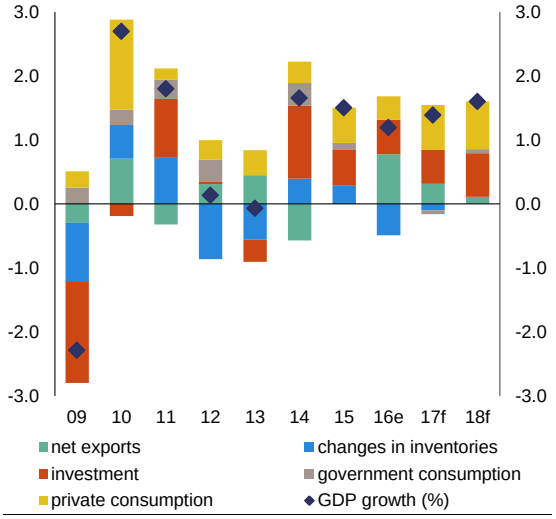
1. ECONOMIC SITUATION AND OUTLOOK

Economic growth

The Belgian economy proved fairly resilient in the wake of the global economic recession in 2009. GDP quickly regained pre-crisis levels, thanks to strong economic growth in 2010 and 2011 (Graph 1.1). That recovery period was followed by stagnation, with flat growth in 2012 and 2013. In 2014 and 2015, economic activity rebounded with growth reaching 1.7 % and 1.5 % respectively.

According to the Commission 2016 winter forecast, economic growth slowed down to 1.2 % in 2016. At 1.4 %, growth would strengthen in 2017 and economic activity is projected to expand by 1.6 % in 2018. The 2016 deceleration coincides to some extent with the March terrorist attacks and their aftermath. The impact from the March events is nevertheless assessed as limited and expected to be transient.

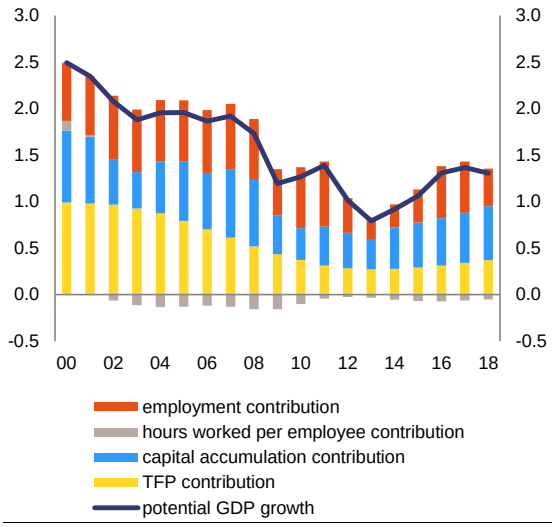
Graph 1.1: **Breakdown of GDP growth**



Source: European Commission

The modest growth outlook ties in with rather low estimates for potential growth. The decline compared to the pre-2009 estimates for potential growth is broad-based (Graph 1.2). First and foremost, it reflects the continuation of a long-term trend of declining gains in total factor productivity, which is estimated to have stabilised at a low level in recent years. Second, there has been a decline in the contribution of labour due to slower growth in the working-age population without any change in average hours worked. Third, capital accumulation has been somewhat lower than in the past. The negative output gap, an indicator of economic slack, narrowed to -0.4 % in 2015 from its trough of -1.5 % in 2013. It is projected to widen again slightly in 2016-2017 as growth falls short of its potential.

Graph 1.2: **Breakdown of potential growth**

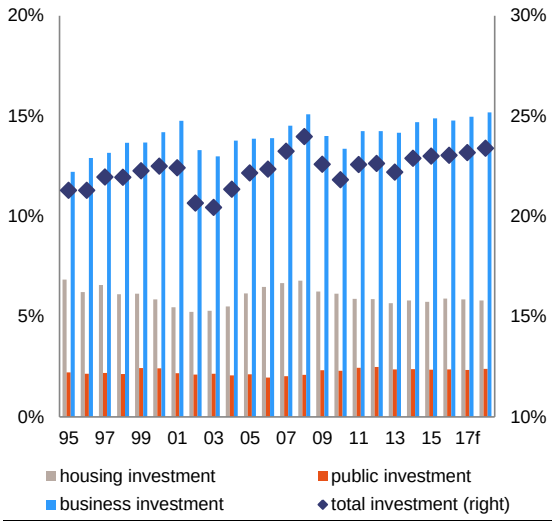


Source: European Commission

Domestic demand has been the main engine of growth in recent years, with a boost from investment. The latter has held up well in Belgium (Graph 1.3), in contrast to other Member States. The investment-to-GDP ratio was 22.6 % in 2009-2016, compared to 22.1 % in 2000-2008. It is expected to increase to around 23.3 % in 2017-2018. Investment growth has been broad-based across sectors, with business investment showing the way.

Business investment is underpinned by supportive financing conditions and by government measures to improve the relative labour cost position of Belgian companies. These measures have led to a steady increase in profit margins. Risks surrounding the positive outlook are mainly rooted in the external environment.

Graph 1.3: **Composition of investment spending (%GDP)**



Source: European Commission

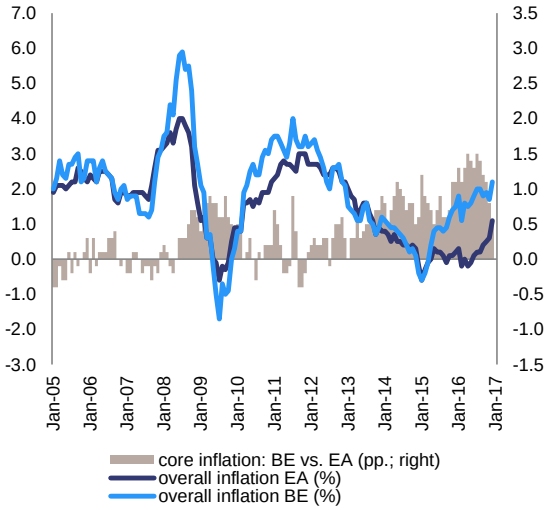
Investment in construction has also been buoyant thanks to housing and public infrastructure projects. Historically low mortgage interest rates and comparatively low yields on alternative investment assets set the scene for continued investment in housing. At the same time, the local government investment cycle in the run-up to local elections in 2018 is forecast to drive public investment in 2017-2018. The public investment-to-GDP ratio of around 2.4 % is nevertheless expected to remain among the lowest in the EU (see Section 3.4).

Household consumption is expected to gain momentum in 2017-2018 as a result of job and wage growth. Private consumption grew by 0.7 % on average in 2011-2016, half of the 2000-2011 average. This trend is in line with modest real disposable income increases until 2015, which in turn reflect a sustained effort by successive governments to moderate wage growth in order to correct for past losses in cost competitiveness. Income growth has picked up since 2016. Wages are again being adjusted for the cost of living following a temporary suspension of wage indexation schemes. In addition, some real wage increases are again being allowed, while income tax cuts have also been introduced since 2016 as part of a multiannual tax reform (see Section 3.1). A relatively strong labour market performance is contributing to growth in households' purchasing power. Overall, household consumption is estimated to have grown by 0.7 % in 2016 and to rise by 1.4 % in 2017 and 1.5 % in 2018.

Inflation

Consumer inflation rose by 1.8 % in 2016, the biggest increase in the euro area, where the average was 0.2 %. Price pressures are expected to remain entrenched, reflecting crude oil price developments, the temporary rise in unprocessed food prices due to poor weather, and picking up wage growth being passed on to service inflation. Inflation is projected to remain at broadly the same level in the near future, reaching 2.0 % and 1.9 % in 2017 and 2018 respectively. This implies a narrowing of the difference with the euro area.

Graph 1.4: **Consumer inflation**



Source: European Commission

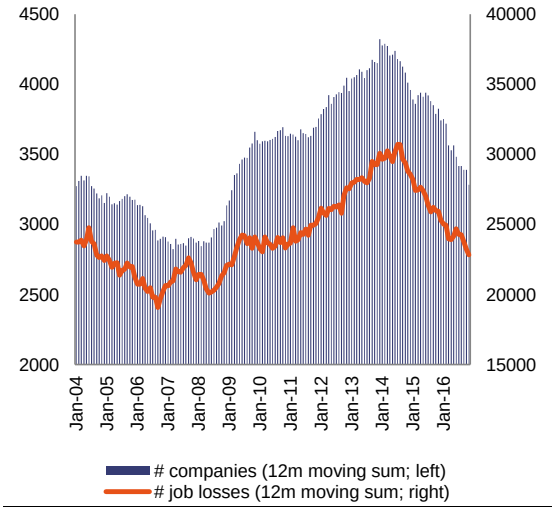
Comparatively high inflation has been a recurrent feature of the Belgian economy. Between 2012 and 2016, headline inflation was on average 0.4 pp. higher in Belgium than in the euro area as a whole. For core inflation — which excludes energy carriers and unprocessed food items — the difference over the same period even amounted to 0.7 pp. (see Graph 1.4). The drivers of this structural differential are discussed in Section 3.4.

Labour market and social developments

The Belgian labour market is in a cyclical expansion. The number of bankruptcies and resulting job losses has fallen back to a seven year

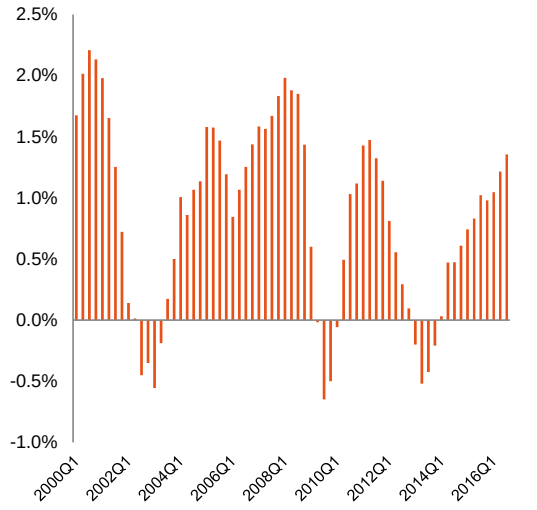
low (see Graph 1.5). Net employment is estimated to have increased by 1.3 % in 2016 and is expected to continue growing in 2017-2018, by 0.9 % annually. This makes economic growth relatively job-intensive. All private sectors have been contributing to job creation; in recent quarters even manufacturing added some jobs for the first time in five years. This suggests that employment growth is benefiting from improved cost competitiveness.

Graph 1.5: **Bankruptcies and resulting job losses**



Source: European Commission

Graph 1.6: **Employment growth (y/y %change; self-employed & employees)**



Source: European Commission

Private sector employment is set to grow further, thanks to continued economic growth and prospective cuts in social contributions for employers. Employment in the public sector has been roughly constant in recent years and is forecast to decline in 2017-2018. This helps to explain why total employment growth has not reached the rates seen during past economic upturns (see Graph 1.6). In addition, past job growth in the private sector was for a non-negligible part due to subsidised work, which has its limits. Overall, the unemployment rate is expected to decline from a peak of 8.5 % in 2015 to 7.6 % in 2018.

The good recent performance in terms of job creation nevertheless disguises a number of structural shortcomings. There remains for example substantial untapped potential stemming from low labour participation among certain groups. This has resulted in a labour market divided between insiders and outsiders, which is shown for example by the fact that the number of people living in households with very low work intensity is one of the highest in the EU (see Graph 1.7), whereas high-skilled labour is approaching full employment. This and other structural labour market issues are discussed in Section 3.3, which takes a closer look at regional disparities and the effectiveness of activation policies as well.

Raising employment and activity rates will be important to further reduce sustainability risks to public finances from an ageing population. The average working life in Belgium is one of the shortest of all Member States: 32.6 years, versus 35.4 years in the EU28 in 2015. Government measures to tighten eligibility conditions for early and pre-retirement have nevertheless led to an upward trend.

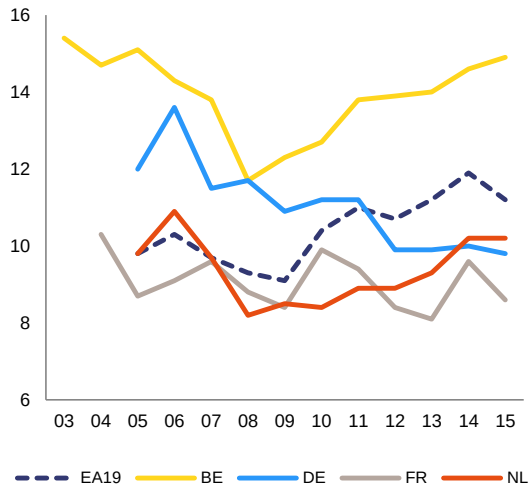
Income inequality remains relatively low and stable compared to EU averages ([1]). Since 2012, the lowest income decile has benefited from slightly better income developments than the median household, reversing the previous trend. The gap with the median is smaller than in many other EU countries ([2]). Social transfers are also

([1]) The Gini index of disposable income went down from 26.6 in 2010 to 26.2 in 2015 and the income quintile share ratio from 3.9 to 3.8. The EU averages in 2015 were 31.0 and 5.2, respectively.

([2]) The real income of the lowest income decile actually declined between 2000 and 2012, whereas the real median income grew. However, it has been growing again since

more effective in reducing income inequalities in Belgium than the EU28 average ([3]). Inequality in net wealth ([4]) was higher than income inequality, but was within the range observed in other EU countries for which data were collected in 2013-2014 (ECB, 2016). However, there are signs that the financial situation of lower income households has worsened in 2015-2016. Survey data point to an increase in the financial distress — the necessity to draw on savings or incur debt to cover current expenses — of the poorest quartile in Belgium (ESDE Quarterly review, 2017). Moreover, for the poorest income quintile, the rate of self-reported unmet needs for medical examination due to their cost is above the EU28 average and has been increasing ([5]).

Graph 1.7: **People living in households with very low work intensity (% total population aged less than 60)**

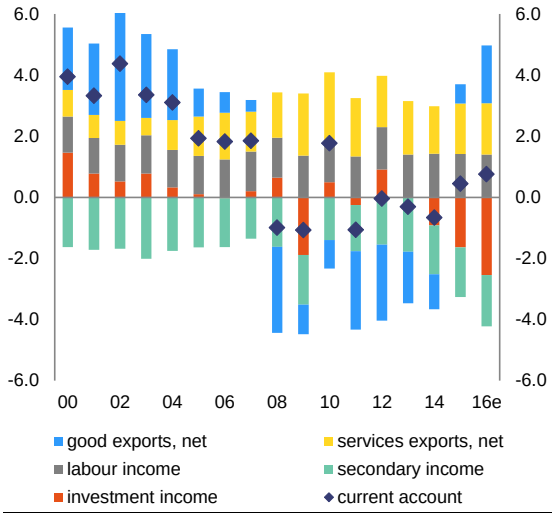


Source: European Commission

External position

In 2016 the current account is expected to record a surplus for the second year in a row. From a deficit of 0.7 % of GDP in 2014, it improved to a surplus of 0.4 % in 2015 and to an estimated 0.7 % in 2016 (see Graph 1.8). The recent improving trend — as well as the deteriorating trend in the past — is primarily reflected in the trade balance. Goods exports have been the more volatile component, with exports of services recording a broadly stable surplus over the years. The downward drift of the investment income balance, the result of external liabilities being generally higher-yielding than external assets, could not prevent a strengthening of the overall external position.

Graph 1.8: **Breakdown of current account balance (%GDP)**



(1) BPM5 methodology until 2007, BPM6 thereafter
(2) 2016 based on data for first nine months
Source: NBB

Following seven years of deficit, the goods balance returned to surplus in 2015 and this surplus is expected to have increased further in 2016. While changes in the oil price go a long way in explaining developments in the goods balance, there is also a marked volume effect. Following a steady decline in global export market shares by volumes gains were made in recent years.

Belgium maintains a solid net creditor position in relation to the rest of the world. The balance between external financial assets and liabilities stands at around 60 % of GDP, one of the highest in the EU. This surplus has its origin in the private sector, more in particular Belgian households, who own gross assets — foreign and domestic — representing about 240 % of GDP.

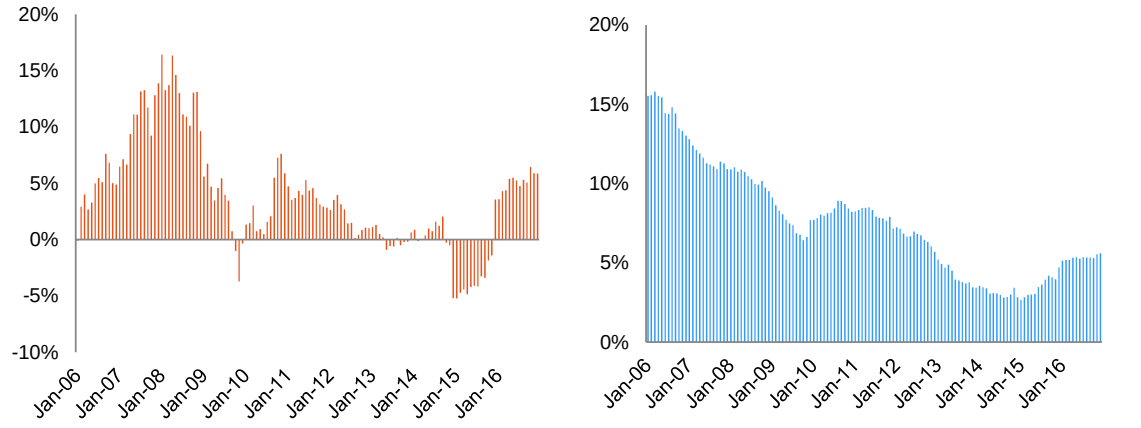
2012, at a faster pace than the real median income. For the latest available year, the S50/S10 ratio is below the EU average.

([3]) In 2015 the Gini coefficient was 48. It was 26.2 after taxes, social transfers and pensions were taken into account — a gap of 21.8. This gap, which measures how effective the tax-benefit system is at reducing inequality, is above the EU average of 19.9.

([4]) Difference between total assets and total liabilities.

([5]) It was 7.1 in 2014, up from 4.1 in 2011. The 2014 EU28 average was 5.1. Source: EU-SILC, 2014.

Graph 1.9: **Credit growth (y/y): non-financial companies (left) and mortgage loans (right)**



Source: NBB

Private indebtedness

Private debt stands at a relatively high level, in particular for non-financial companies. However, corporate debt figures are inflated by widespread intra-group lending, as was discussed in earlier country reports. This practice has been stimulated by the notional interest deduction, an allowance for corporate equity within corporate income taxation. The increase in liabilities as a result of intra-group lending pushes up the debt-to-GDP ratio, though these liabilities are matched by additional assets so that the debt-to-financial asset ratio provides for a better measure of companies' financial situation. This ratio has been steady at around 50 % in consolidated terms since 2010, comparing favourably with other Member States.

Access to finance for companies and the conditions attached to it do not appear to impose any restrictions on Belgian companies. Perceptions of credit constraints are at, or close to, a low for all company sizes. According to the most recent surveys, financing conditions are favourably assessed by companies in manufacturing, business-related services and the building industry. Sluggish to negative credit growth in recent years seems thus to have resulted from weak demand. In 2016, credit to non-financial companies grew by 5.1 %, compared to -3.1 % in 2015 and 0.1 % in 2014 (Graph 1.9).

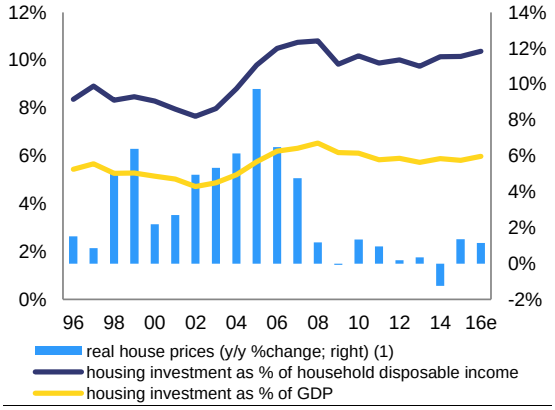
Although household debt has risen from 40 % of GDP in 2000 to 60 % in 2016, the ratio of debt-to-assets is still very low, reflecting the favourable wealth position of households. In terms of disposable income household debt rose from around 60 % at the turn of the century to an estimated 104 % in 2016. This increase stems from mortgage loans, which have registered strong growth in recent years thanks to the sharp decline in interest rates (Graph 1.9) and despite the fact that tax deductions have been made less beneficial.

House prices rose sharply in real terms prior to 2008. They increased by around 70 % in 1997-2008 or 5 % on average annually (Graph 1.10). They have been broadly flat since, increasing by 0.5 % on average annually. Belgian households spend a larger proportion of their disposable income on housing investment than was the case in the past. This helps to explain the modest growth in household consumption mentioned higher.

Valuation estimates based on structural ratios suggest some price overvaluation in the Belgian real estate market. As house prices grew faster than income and rental costs, price-to-rent and price-to-income ratios have risen steadily. The gap to their long-term average suggests an overvaluation of 20-25 % with no adjustment taking place in recent years (Graph 1.11). However, when other relevant variables are considered, it appears that prices are better aligned with fundamentals, with a narrowing of the valuation gap since 2009 as a result of the strong decline in mortgage rates. Massive refinancing of mortgage loans and the closing of new loans at lower rates have resulted in interest payments dropping from around 3 % of disposable income in 2007-2008 to below 1 % in recent years. While supportive financing conditions appear thus to

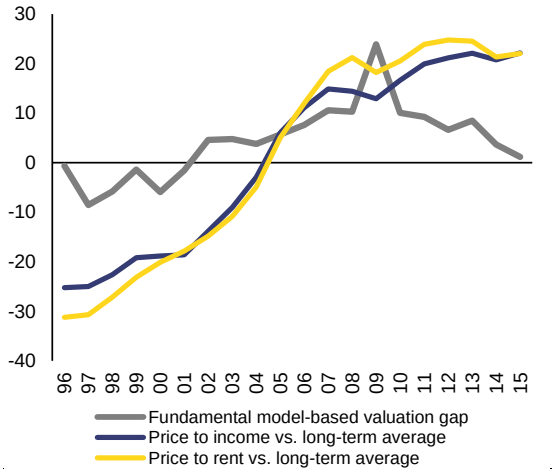
have prevented a house price correction, this also suggests how rising interest rates might put pressure on house prices.

Graph 1.10: **Residential real estate**



(1) deflated by household consumption; 2016 based on 9m
Source: European Commission

Graph 1.11: **Valuation gaps: price/income, price/rent and fundamental model**



- long-term values are computed over 1995-2015
- the model-based valuation gap uses five fundamental variables: the relative house price, total population, real housing investment, real disposable income per capita and real long-term interest rate.
Source: European Commission

As a result of the fast increase in household indebtedness and price developments, the European Systemic Risk Board (ESRB) has warned for medium-term vulnerabilities in the Belgian residential real estate sector ([6]). Despite the fact that household debt amounts to only around 20 % of total assets held by Belgian households (up from 14 % in 2000), there are sizeable pockets of vulnerability. Specific groups of highly indebted households (i) hold large mortgage loans in relation to the value of their real estate property, (ii) spend a high proportion of income on debt service, or (iii) have a low level of net financial wealth compared to their indebtedness (ESRB, 2016). Risk concentrations could materialise in the event of an economic downturn with knock-on effects on income. Such a scenario might lead to credit losses to banks, especially if accompanied by a decline in house prices. The National Bank plans to introduce an add-on to capital adequacy requirements for loans exceeding 80 % of the property's purchasing price in 2017, in addition to the general add-on introduced in 2013. The ESRB has pointed out that measures to directly address vulnerabilities due to highly indebted households have not been adopted, though, and that the tightening of credit standards applied in recent years appears to have halted. The financial sector is covered in Section 3.2 of the report.

([6]) The ESRB issued warnings to eight Member States.

Public finances

The consolidation of Belgium's public finances has been a slow-moving process, partly because of extended periods of political stalemate. The fiscal deficit improved from a trough of 5.4% in 2009 to 2.5 % in 2015. However, in 2016 it is expected to have widened again to 2.9 % of GDP. The most recent deterioration has been mainly revenue-driven, resulting from generally disappointing tax collection and revenue measures that fell short of expectations. Conversely, spending restraint has been thwarted by temporary expenditure increases related to the influx of asylum-seekers and the security situation as well as high inflation leading to faster-than-initially-anticipated indexation of public wages and social benefits. According to the latest Commission projections, the deficit would narrow to 2.2 % of GDP in 2017 and, assuming no policy changes, increase again to 2.3 % next year.

Public debt rose by 20 pps. of GDP since 2008. It is estimated to have peaked at almost 107 % of GDP in 2016 and to start declining as of 2017 thanks to the return to a primary surplus and a negative 'snow-ball effect' as interest expenditures decline while nominal GDP growth picks up. Public finances are discussed in Section 3.1.

Table 1.1: **Key economic, financial and social indicators — Belgium**

	2004-2008	2009	2010	2011	2012	2013	2014	2015	forecast 2016	2017	2018
Real GDP (y-o-y)	2,5	-2,3	2,7	1,8	0,1	-0,1	1,7	1,5	1,2	1,4	1,6
Private consumption (y-o-y)	1,6	0,5	2,7	0,3	0,6	0,7	0,6	1,1	0,7	1,4	1,5
Public consumption (y-o-y)	1,6	1,1	1,0	1,3	1,4	0,1	1,4	0,5	0,0	-0,2	0,3
Gross fixed capital formation (y-o-y)	5,1	-6,6	-0,8	4,2	0,2	-1,5	5,1	2,4	2,3	2,3	2,9
Exports of goods and services (y-o-y)	4,8	-9,4	10,3	6,7	1,8	0,8	5,1	4,3	5,5	3,9	4,3
Imports of goods and services (y-o-y)	5,3	-9,1	9,6	7,3	1,4	0,3	5,9	4,3	4,7	3,6	4,3
Output gap	1,5	-1,6	-0,2	0,2	-0,7	-1,5	-0,8	-0,4	-0,5	-0,5	-0,2
Potential growth (y-o-y)	1,9	1,2	1,3	1,4	1,0	0,8	0,9	1,1	1,3	1,4	1,3
Contribution to GDP growth:											
Domestic demand (y-o-y)	2,2	-1,1	1,5	1,4	0,7	0,1	1,8	1,2	0,9	1,2	1,5
Inventories (y-o-y)	0,4	-0,9	0,5	0,7	-0,9	-0,6	0,4	0,3	-0,5	-0,1	0,0
Net exports (y-o-y)	-0,2	-0,3	0,7	-0,3	0,3	0,4	-0,6	0,0	0,8	0,3	0,1
Contribution to potential GDP growth:											
Total Labour (hours) (y-o-y)	0,5	0,3	0,6	0,7	0,3	0,2	0,2	0,3	0,5	0,5	0,4
Capital accumulation (y-o-y)	0,6	0,4	0,3	0,4	0,4	0,3	0,4	0,5	0,5	0,5	0,6
Total factor productivity (y-o-y)	0,7	0,4	0,4	0,3	0,3	0,3	0,3	0,3	0,3	0,3	0,4
Current account balance (% of GDP), balance of payments	1,6	-1,1	1,8	-1,1	-0,1	-0,3	-0,7	0,4	.	.	.
Trade balance (% of GDP), balance of payments	1,7	1,1	1,3	-0,7	-0,8	0,1	0,4	2,3	.	.	.
Terms of trade of goods and services (y-o-y)	-1,0	3,1	-1,6	-1,2	-0,2	0,1	0,4	1,0	0,2	-0,1	0,0
Capital account balance (% of GDP)	-0,3	-0,2	-0,2	-0,1	0,6	-0,1	-0,3	0,0	.	.	.
Net international investment position (% of GDP)	39,6	57,5	65,2	60,9	51,8	52,0	59,3	61,2	.	.	.
Net marketable external debt (% of GDP) (1)	23,7	36,5	43,7	43,5	37,7	33,6	25,9	25,3	.	.	.
Gross marketable external debt (% of GDP) (1)	265,0	238,7	216,6	212,7	197,4	169,9	185,1	181,0	.	.	.
Export performance vs. advanced countries (% change over 5 years)	0,1	-1,3	-4,2	0,8	-5,4	-4,7	-5,5	-9,40	.	.	.
Export market share, goods and services (y-o-y)	-2,3	1,0	-6,6	-2,5	-6,1	1,4	1,4	-5,7	.	.	.
Net FDI flows (% of GDP)	-0,4	-12,4	-10,7	-6,1	5,5	0,8	1,2	2,0	.	.	.
Savings rate of households (net saving as percentage of net disposable income)	9,2	11,3	8,1	6,6	5,7	4,9	4,6	4,2	.	.	.
Private credit flow, consolidated (% of GDP)	10,7	6,2	3,2	21,2	14,4	9,4	0,9	4,5	.	.	.
Private sector debt, consolidated (% of GDP)	132,2	164,8	161,6	174,1	186,7	163,9	163,5	166,3	.	.	.
of which household debt, consolidated (% of GDP)	44,1	51,0	51,9	53,6	54,6	55,7	57,6	58,6	.	.	.
of which non-financial corporate debt, consolidated (% of GDP)	88,0	113,8	109,7	120,5	132,1	108,2	105,9	107,7	.	.	.
Corporations, net lending (+) or net borrowing (-) (% of GDP)	1,3	1,4	4,9	2,2	4,8	2,9	2,0	2,3	2,7	2,6	2,6
Corporations, gross operating surplus (% of GDP)	24,7	23,7	25,5	25,5	24,5	24,3	24,9	25,7	25,9	26,1	26,5
Households, net lending (+) or net borrowing (-) (% of GDP)	2,6	4,7	2,7	2,1	1,6	1,2	0,7	0,4	0,9	0,4	0,4
Deflated house price index (y-o-y)	5,6	-0,1	1,4	1,0	0,2	0,3	-1,3	1,3	.	.	.
Residential investment (% of GDP)	6,0	6,1	6,1	5,8	5,9	5,7	5,9	5,8	.	.	.
GDP deflator (y-o-y)	2,1	0,8	1,9	2,0	2,1	1,2	0,7	0,9	1,6	1,7	1,8
Harmonised index of consumer prices (HICP, y-o-y)	2,6	0,0	2,3	3,4	2,6	1,2	0,5	0,6	1,8	2,0	1,8
Nominal compensation per employee (y-o-y)	2,9	1,1	1,4	3,1	3,2	2,5	1,0	0,0	0,1	2,0	1,9
Labour productivity (real, person employed, y-o-y)	1,1	-2,1	2,0	0,4	-0,3	0,3	1,2	0,6	.	.	.
Unit labour costs (ULC, whole economy, y-o-y)	1,8	3,3	-0,7	2,7	3,5	2,2	-0,2	-0,5	0,2	1,5	1,2
Real unit labour costs (y-o-y)	-0,3	2,4	-2,5	0,7	1,4	1,0	-0,8	-1,4	-1,4	-0,1	-0,6
Real effective exchange rate (ULC, y-o-y)	0,9	0,2	-2,8	2,0	-0,7	3,5	-0,8	-4,3	-0,1	0,6	-0,6
Real effective exchange rate (HICP, y-o-y)	0,8	0,5	-2,6	0,6	-2,3	1,5	0,2	-2,9	2,7	-0,6	.
Tax rate for a single person earning the average wage (%)	42,1	42,0	42,1	42,2	42,7	42,4	42,4	42,0	.	.	.
Tax rate for a single person earning 50% of the average wage (%)	26.0*	25.8	26.1	26.4	27.5	26.2	25.9	25.2	.	.	.
Total Financial sector liabilities, non-consolidated (y-o-y)	10,0	-0,8	1,1	6,2	-5,1	1,8	3,5	-1,2	.	.	.
Tier 1 ratio (%) (2)	.	12.6	14.1	13.3	14.8	16.9	15.5	17.0	.	.	.
Return on equity (%) (3)	.	-8.0	10.8	-3.2	2.6	6.9	8.3	12.2	.	.	.
Gross non-performing debt (% of total debt instruments and total loans and advances) (4)	.	4.1	3.9	4.2	5.1	5.3	3.3	3.0	.	.	.
Unemployment rate	7,9	7,9	8,3	7,2	7,6	8,4	8,5	8,5	8,0	7,8	7,6
Long-term unemployment rate (% of active population)	4,0	3,5	4,0	3,5	3,4	3,9	4,3	4,4	.	.	.
Youth unemployment rate (% of active population in the same age group)	20,0	21,9	22,4	18,7	19,8	23,7	23,2	22,1	20,5	.	.
Activity rate (15-64 year-olds)	66,5	66,9	67,7	66,7	66,9	67,5	67,7	67,6	.	.	.
People at risk of poverty or social exclusion (% total population)	21,6	20,2	20,8	21,0	21,6	20,8	21,2	21,1	.	.	.
Persons living in households with very low work intensity (% of total population aged below 60)	13,9	12,3	12,7	13,8	13,9	14,0	14,6	14,9	.	.	.
General government balance (% of GDP)	-0,7	-5,4	-4,0	-4,1	-4,2	-3,0	-3,1	-2,5	-2,9	-2,2	-2,3
Tax-to-GDP ratio (%)	45,3	44,8	45,2	45,8	47,0	48,0	47,7	47,2	46,5	46,7	46,3
Structural budget balance (% of GDP)	.	.	-3,9	-4,0	-3,4	-2,7	-2,9	-2,6	-2,5	-2,0	-2,2
General government gross debt (% of GDP)	92,3	99,6	99,7	102,3	104,1	105,4	106,5	105,8	106,8	106,5	106,1

(1) sum of portfolio debt instruments, other investment and reserve assets
(2, 3) domestic banking groups and stand-alone banks
(4) domestic banking groups and stand-alone banks, foreign (EU and non-EU) controlled subsidiaries and foreign (EU and non-EU) controlled branches
(*) indicates BPM5 and/or ESA95
Source: European Commission, ECB

2. PROGRESS WITH COUNTRY-SPECIFIC RECOMMENDATIONS

Progress with implementing the recommendations addressed to Belgium in 2016 ([7]) has to be seen as part of a process which started with the introduction of the European Semester in 2011. First, against the backdrop of a public debt ratio of 106.6 % of GDP in 2014 and population ageing costs expected to rise considerably over the next decades, it was decided in 2014 to reform the pension system. This builds further on initial steps taken in previous years to raise the effective retirement age. Legislation has now been passed to tighten up the minimum age and career requirements for early retirement and raise the legal pension age for the years to come. The more favourable pension scheme for civil servants underwent a reform as of 2016.

In 2015, Belgium has pursued measures focusing on wage moderation and the so-called tax shift, with the aim to raise employment, strengthen purchasing power and reverse losses in competitiveness. In this respect, measures have been taken to reduce the tax wedge on labour through gradual decreases in personal income taxation and employers' social security contributions, with more than proportional reductions for lower salaries. The targeting of low wages favours the young and the low-skilled, who tend to have lower wages, but also the lowest employment rates, and thus supports activation for some of the most vulnerable groups. Overall, estimates by the Federal Planning Bureau and the National Bank of Belgium suggest an additional job creation of 45,000–65,000 jobs by 2021. Additional positive effects are expected from reductions targeting SMEs and self-employed. Taken together, these measures should support job creation and significantly reduce the projected increase in the economic cost of ageing.

Investment is also crucial within a longer-term perspective. Although overall investment did not experience the steep decline observed in other countries in the wake of the financial crisis, the situation is far less rosy when it comes to public investment. This has been structurally low for several decades, as a result of policy choices within a context of prolonged fiscal consolidation. Sustained cutbacks in investment budgets have resulted in net public investment, averaging zero since the 1990s, eroding the quality of public infrastructure (cf. section 3.4). The political agreement for a national pact for strategic investments, the announcement of an inter-federal energy pact in 2017 and calls for agreeing an inter-federal mobility strategy could provide renewed impetus for investment, including in energy and transport infrastructure, but details of each still need to be announced.

Overall, Belgium has made some ([8]) progress in addressing the 2016 country-specific recommendations. The latter identified several priority areas for reform such as further fiscal consolidation, the functioning of the labour market and the wage-setting system, education and vocational training, the innovation capacity of the economy, competition in the business services sector and retail sector, and investment shortfalls. Since the publication of the country-specific recommendations, the government has taken limited measures on the budget coordination between the different levels of government. The same holds true for the recommendation to simplify the tax system and thus limited progress has been made on country-specific recommendation 1. Substantial progress has been made in reforming the wage-setting framework as recently the government adopted a reform of the 1996 act which introduces a number of crucial amendments to the private sector wage negotiation framework, on issues such as the calculation and legal status of the so-called 'wage norm', potential penalty mechanisms for infringement of the norm and the government's ability to take measures in the event of excessive wage growth. There is moreover some progress on the functioning of the labour market and on vocational and educational reforms. This implies substantial progress on country-specific recommendation 2. Progress on country-specific recommendation 3 is limited as some measures which have been adopted or announced do not appear to fully address the challenge.

([7]) For the assessment of other reforms implemented in the past, see in particular section 4.

([8]) Information on the level of progress and actions taken to address the policy advice in each subpart of a country-specific recommendation is presented in the Annex A. This overall assessment does not include an assessment of compliance with the Stability and Growth Pact.

Table 2.1: **Summary Table on 2016 CSR assessment**

Belgium	**Overall assessment of progress with 2016 country specific recommendations (CSRs): Some**
CSR 1: *Achieve an annual fiscal adjustment of at least 0,6 % of GDP towards the medium-term budgetary objective in 2016 and in 2017. Use windfall gains to accelerate the reduction of the general government debt ratio. Agree on an enforceable distribution of fiscal targets among all government levels. Simplify the tax system and remove distortive tax expenditures.*	**Limited progress** • **Limited progress** has been made towards an enforceable distribution of fiscal targets among the various levels of government. • **Some progress** has been made in reforming the tax system.
CSR 2: *Carry out the intended review of the Law of 1996 on the promotion of employment and the safeguarding of competitiveness in consultation with the social partners. Ensure that wages can evolve in line with productivity. Ensure the effectiveness of labour market activation policies. Move forward with education and vocational training reforms and provide training support for disadvantaged groups, in particular people from a migrant background.*	**Substantial progress** • **Substantial progress** has been made in reforming the wage-setting framework to safeguard cost-competitiveness. • **Some progress** has been made on the functioning of the labour market. • **Some progress** has been made on vocational and educational reforms.
CSR 3: *Boost the capacity to innovate, in particular by fostering investment in knowledge-based capital. Increase competition in the business services sector and the retail sector by removing unwarranted operational and establishment restrictions. Address shortfalls in investment in transport infrastructure and energy generation capacity.*	**Limited progress** • **Limited progress** has been made to foster stronger investment in private intangibles, including private R&D. • **Limited progress** has been made on increasing competition in the business services sector and retail sector. • **Some progress** has been made on addressing shortfalls in investment.

Source: European Commission

Box 2.1: Contribution of the EU budget to structural change in Belgium

The total allocation of the European Structural and Investment Funds (ESI Funds) in Belgium amounts to EUR 2.7 billion under the current financial framework 2014-2020. This is equivalent to around 3 % of national public investment. ([1]) Belgium envisages putting around EUR 98 million into financial instruments, which mainly support SMEs, energy efficiency and research and innovation projects. By 31 December 2016, an estimated EUR 1.5 billion, which represents about 55 % of the total allocation for ESI Funds have already been allocated to concrete projects.

Financing under the European Fund for Strategic Investments (EFSI), Horizon 2020, the Connecting Europe Facility and other directly managed EU-funds is additional to the ESI funds. By end 2016, Belgium has signed agreements for EUR 417 million for projects under the Connecting Europe Facility. The EIB Group approved financing under EFSI amounts to EUR 987 million, which is expected to trigger nearly EUR 4.8 billion in total investments (as of end 2016).

All necessary reforms required by the ex-ante conditionalities ([2]) to ensure a timely and efficient up-take of the funds have been met. These included establishing regional smart specialisation strategies and their available budgetary resources.

The relevant country-specific recommendations focusing on structural issues were taken into account when designing the 2014-2020 programmes. Examples include actions to reduce greenhouse gas emissions from non-ETS activities especially as regards buildings and urban transport; support actions in the field of employment, social inclusion and education; helping Belgium reach its Europe 2020 targets in relation to reduction of poverty, early school leaving and greenhouse gas emissions and reaching an employment rate of 73.2 % by 2020. In this context, specific attention is devoted to young people, in particular with the implementation of the Youth Employment Initiative in Wallonia and in Brussels.

ESI Funds also address wider structural obstacles to growth and competitiveness, including the promotion of an innovation-friendly business environment by improving SME competitiveness, improving innovation and research performance and stimulating growth of the e-economy. In this context, Belgium will focus on developing synergies between businesses, R&D centres and higher education. About 11% of total ESI Funds will support Research and Innovation projects and 10% of the total ESI Funds will be spent on actions in the area of low carbon economy.

https://cohesiondata.ec.europa.eu/countries/BE

([1]) National public investment is defined as gross capital formation + investment grants + national expenditure on agriculture and fisheries.

([2]) At the adoption of programmes, Member States are required to comply with a number of ex-ante conditionalities, which aim at improving framework and investment conditions for the majority of areas of public investments. For Members States that do not fulfil all the ex-ante conditionalities by the end of 2016, the Commission has the possibility to propose the temporary suspension of all or part of interim payments.

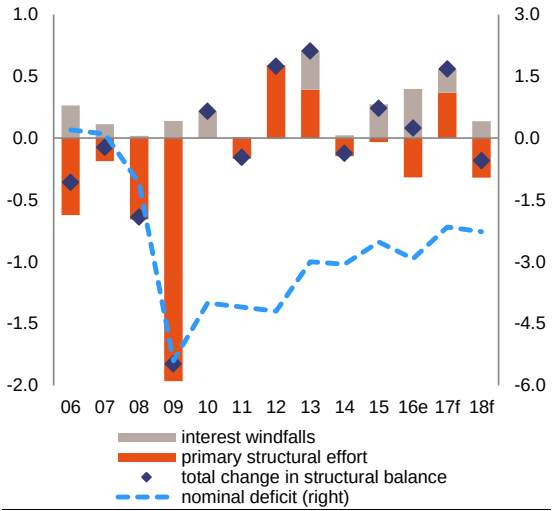
3. REFORM PRIORITIES

3.1. PUBLIC FINANCES AND TAXATION

3.1.1. FISCAL POLICY

Belgium's public finances bear the marks of the financial and economic crisis. The general government balance went into deep deficit in 2009 (see Graph 3.1.1). Ever since, Belgian authorities have had difficulties to reconnect with the pre-crisis situation of a broadly balanced budget and to contain the increase in public debt. According to Commission projections, the deficit widened again in 2016, to 2.9 % of GDP as compared to 2.5 % in 2015. It is expected to narrow to 2.2 % in 2017 and widen slightly in 2018 unless additional budget measures are adopted. Whereas the decline in the revenue-to-GDP ratio is the main driver behind the fiscal delay incurred in 2014-2016, the deterioration since 2008 arose from an increase in primary expenditure. The latter went from 46.3 % of GDP in 2008 to 52.4 % in 2013 and around 51 % in recent years.

Graph 3.1.1: **Fiscal deficit: headline and structural developments (%GDP)**



Source: European Commission

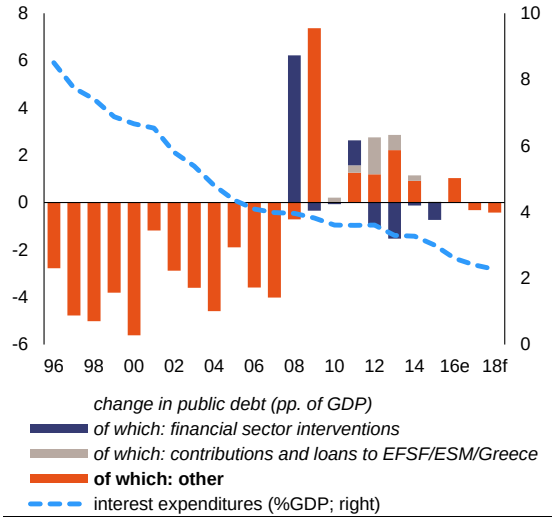
In structural terms, too, budget consolidation has made only modest advances so far. While the nominal balance improved by 2.5 pps. between 2009 and 2016, the structural balance — which adjusts for the impact of the business cycle and one-off budgetary measures — improved by only 1.5 pps. over the same period, leaving a structural deficit of 2.5 % of GDP at the end of 2016. Moreover, this net structural improvement has been nearly completely due to interest windfalls, with the primary structural change turning negative in recent years (see Graph 3.1.1). In other words, Belgium has not made full use of the supportive conditions for budget consolidation resulting from the sharp decline in interest rates. Long-term debt reduction depends on a return to sufficiently high primary budget surpluses. There remains, however, a long way to go towards the country's medium term budgetary objective (MTO) under the Stability and Growth Pact, of achieving a balanced budget in structural terms. Attaining and maintaining this medium term budgetary objective would put the debt level on a downward path and pre-finance part of the projected ageing costs discussed below.

Together with substantial support for the financial sector, budget deficits have pushed up public debt. The debt ratio is estimated to have peaked at almost 107 % of GDP in 2016. The increase, by as much as 20 pps. since 2007, stands in stark contrast to the period of sustained debt reduction that preceded it (see Graph 3.1.2). Debt rose more in the euro area but the euro area debt ratio peaked in 2014, whereas Belgian government debt is expected to start declining only from 2017. Aside from financial sector interventions, loans to Greece and contributions to the European Stability Mechanism and its precursor partly explain the increase in the debt ratio. Some of the financial sector bailout has been recovered, which has had a debt-reducing impact ([9]).

The high public debt denotes continuing economic vulnerability. Combined with a sizeable budget deficit, it limits the authorities' margin for countercyclical policies or new policies, for that matter, considering the debt service on the hefty debt stock. The gradual advent of age-related costs (see lower) only adds to the challenge.

([9]) In addition to the impact on the debt of asset sales and loan repayments, there has also been a positive impact on the deficit from dividends (BNP Paribas, Belfius), guarantee fees and penalties.

Graph 3.1.2: **Public debt trends**



Source: European Commission

At the same time, short-term risks linked to high public indebtedness appear to be contained. Belgian authorities have been using favourable market conditions to refinance the outstanding debt against much lower rates at considerably longer maturity. This has allowed interest expenditure to fall, even despite the increasing debt levels. Total interest payments went from 4.0 % of GDP in 2008 to 3.0 % in 2015 and 2.6 % in 2016. A further decline is expected in coming years (see Graph 3.1.2). The average maturity of long-term issuance rose to 17.5 years in 2016 (14.1 years in 2015 and 15 years and 2014) with an average weighted yield of 0.8 % (0.9 % in 2015 and 2.2 % in 2014) ([10]).

The proportion of short-term debt in total debt has fallen. This is reflected in the average life to maturity of the overall federal debt portfolio. It rose from around 6 years until 2009 to 8 years at the end of 2015 and to 8.7 years at the end of October 2016, the longest ever. The longer average life shows in the 12-month and 60-month refixing risks ([11]). As a result, if interest rates rose, this would trickle through only slowly in the debt stock. A linear increase in the yield curve by 100 basis points would imply higher costs of 0.1 % of GDP in 2017 and 0.3 % of GDP in 2019, though relative to a baseline of falling interest payments (Chambre des représentants de Belgique, 2016). According to the 'S0 indicator' Belgium does not seem to face a high risk of fiscal stress in the short term, i.e. within one year ([12]). However, the S0 fiscal sub-index exceeds the critical value, pointing to some challenges in the short term due to the fiscal side.

3.1.2. LONG-TERM SUSTAINABILITY

Longer-term sustainability indicators paint a less benign picture, with Belgium facing high sustainability risks in the medium term, i.e. up to 10 years. This is because public debt is projected to reach around 102 % of GDP at unchanged policy and because it is sensitive to potential shocks in nominal growth and interest rates. Such shocks would bring the debt level to 108-109 % of GDP in 2027 (see Graph 3.1.3). On the other hand, converging towards the medium term budgetary objective, as required by the Stability and Growth Pact, and maintaining this structural balanced budget stance, would put the debt ratio on a clear downward path, arriving at 80 % of GDP by 2027.

The required fiscal effort for reaching the medium term budgetary objective is substantial, considering the estimated structural deficit of 2.5 % in 2016. Moreover, rising expenditure might require additional measures once at the medium term budgetary objective. This risk is confirmed by the sustainability gap indicator S1, which points to high risks in the medium-term ([13]). These are mainly due to the distance between the debt ratio and the 60 % of GDP reference value. To a lesser extent, they also stem from the projected rise in ageing costs. Reaching a debt ratio of 60 % of GDP by 2031 would require a fiscal adjustment of as much as 4.1 pps. of GDP between 2018 and

([10]) The data source is the Belgian Debt Agency, which manages the federal debt portfolio, representing 85 % of total public debt.

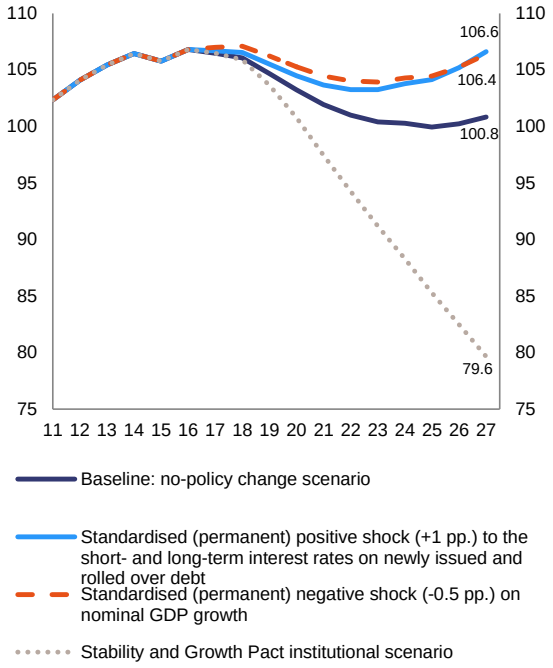
([11]) The proportion of outstanding debt which matures in a given time period or which is subject to changes in interest rates because of a floating interest rate. The 12-month and 60-month refixing risks fell from around 22 % and 60 % in 2010 to around 19 % and 43 % at the end of 2016.

([12]) The S0 indicator is a composite indicator of fiscal stress based on 25 fiscal and macro-competitiveness variables that have proven to perform well in detecting fiscal stress events in the past. More information can be found in the European Commission Debt Sustainability Monitor 2016.

([13]) The S1 indicator measures the required fiscal adjustment needed between 2018 and 2023 to bring the public debt ratio down to 60 % of GDP by 2031.

2023 relative to the baseline scenario assuming no policy change.

Graph 3.1.3: **Public debt: medium-term projection and scenarios (%GDP)**



Source:
European Commission (Debt Sustainability Monitor 2017)

Long-term fiscal risks are assessed as medium-level. Ensuring the sustainability of public finances in the long run would require an additional fiscal adjustment of 3 pps. of GDP. The risks stem from the projected increase in age-related spending, such as pensions, long-term care, and, to a lesser extent, healthcare. These estimates take into account the pension reforms enacted by the Belgian authorities in recent years and discussed also in previous country reports (see Box 3.1.1). The long-term impact of the measures is evident in the latest projections of the Ageing Working Group: pension expenditure is projected to rise by 1.3 pps. of GDP between 2013 and 2060, compared to 3.3 pps. before the most recent reforms. The lower projections allowed Belgium to lower its medium term budgetary objective from a structural surplus of 0.75 % of GDP to a balanced budget in structural terms.

Additional pension reforms would further improve long-term fiscal sustainability. There are risks of a shift from early exit through the pension and unemployment systems to exit through the sickness and disability schemes, which would reduce the reforms' projected gains. The government intends to lay the groundwork for the introduction of a credit-based public pension system by the end of its term in 2019. Once operational, such a system would provide for automatic adjustment mechanisms in response to structural demographic or economic developments. One element is the demarcation of criteria for demanding jobs. People in such jobs will still be able to retire early following the reforms. The government has asked social partners to determine these criteria. The available budget for the period 2018-2021 has already been fixed by the government.

Expenditure projections for long-term care contribute to sustainability challenges in the long run. Following the most recent institutional reform, regions and communities have become responsible for long-term care. Dependent people represented 7.7 % of the Belgian population in 2013, about the same as in the EU. Belgium nevertheless had the highest proportion of the population receiving long-term care. As a result, Belgium spent 2.1 % of GDP on long-term care in 2013, twice the EU average. In addition, while the proportion of dependent people in the total population is projected to increase less by 2060 than the EU average (+1.5 pps. vs. +2.8 pps.), the expected increase in spending on long-term care is 1.5 pps. of GDP for Belgium, compared to 1.1 pps. of GDP for the EU as a whole.

3.1.3. FISCAL FRAMEWORKS

Effective budget coordination is essential in a federal country like Belgium. A large part of spending power has been devolved to sub-national governments. In addition, the central government — which is responsible for most of the debt and faces the bulk of age-related costs — does not have the legal authority to impose budget targets on regions and communities. In an attempt to improve internal coordination and to transpose the Treaty on Stability, Coordination and Governance in the EMU (the 'Fiscal Compact'), the federal government and the regional and community governments concluded a cooperation agreement in 2013. It requires the High Council of Finance to propose multiannual budget targets for each

Box 3.1.1: **Selected highlight: the Belgian pension reform**

The Belgian — as many other European — pension system is facing the dual challenge of ensuring its financial and social sustainability. Maximizing employment is an additional goal of pension and retirement policies. The intensification of population ageing over the next couple of decades will increase the challenge of meeting these three objectives in many ways.

In view of this, at the end of 2011, the pre-pension system through the elderly unemployment benefit system has been replaced by a system known as 'unemployment with company allowance'. The reform aimed at increasing employment among older workers by gradually raising the minimum age and career length requirements for early retirement from respectively 60 and 35 to 62 and 40 and helping to reduce the gap between the effective and statutory retirement age.

On a longer time horizon, a broader pension reform was adopted in the Law of 10 August 2015, the main effect of which is to raise the statutory retirement age from 65 up to 66 by 2025 and to 67 by 2030; second, to further raise the minimum age and number of career years required for qualifying for early retirement to respectively 63 by 2018 and 42 by 2019; and third, to increase the minimum age for survivor's pension. The civil servant pension scheme underwent an additional reform as of 2016: the years of studies taken into account in the above mentioned career condition for early retirement will be progressively phased out as from 2015 (by steps of 4 to 6 months/year). The government also announced initiatives to encourage the development of occupational pension schemes to supplement the public pension. Finally, the government announced a transition towards a credit-based pension system (to be introduced as from 2030) to allow for a strengthening of the link between the retirement age and life expectancy.

The 2015 pension reform is a major step toward addressing the long-term cost of ageing, as shown in the latest projections of the Ageing Working Group (EPC, 2015). Thanks to the reforms the cost of ageing in the long run is expected to increase but at a much slower pace: the annual growth in cost of ageing is expected to halve from the current 4–5 % per year; pension expenditures are projected to rise by 1.3 % of GDP between 2013 and 2060 (from 11.8% of GDP to 13% of GDP), compared to 3.3 % before the 2015 reforms. The difference is mostly due to the pension reform itself (-1.6 pp. of GDP), while other measures, such as the temporary suspension of indexation and lower public employment decided in the framework of the budgetary consolidation measures, will also curb public pension expenditure growth (by -0.4 pp. of GDP).

Insofar as the budget is concerned, the reforms also contributed to improve Belgium's medium term budgetary objective (MTO). The reforms should also accelerate progress in increasing the employment rate (also due to the introduction of more advantageous arrangements for people working while receiving a pension) as well as the effective exit age from the labour market, which in 2014 was the second lowest in the OECD (60 years for men and 59.3 years for women).

government in preparation for the annual Stability Programme. On this basis, the federal, regional and community governments are expected to reach a binding agreement on overall and individual multiannual fiscal paths. The High Council is responsible for monitoring compliance with the agreed targets and if it signals a significant divergence, the government concerned has to adopt corrective measures; progress on the corrective measures is, in turn, monitored. The federal government is taking steps to reinforce the autonomy of the High Council and the independence of its members.

Implementation of the 2013 cooperation agreement has been poor. Both in 2015 and in 2016, the federal governments, the regions and communities did not achieve an agreement to formally commit to the fiscal trajectory proposed by the High Council of Finance. This lack of internal cooperation and burden sharing undermines the viability of the country's overall trajectory towards its medium term budgetary objective as laid down in the Stability Programme. A task force has been created to remedy the factors that prevented an agreement in the run-up to past Stability Programmes. However, the obstacles appear to be rather political than technical.

3.1.4. TAXATION

The effects of the ongoing tax reform are beginning to materialise. Taxes on labour, including social contributions, are being reduced in several steps between 2016 and 2020, while others, mainly consumption taxes, have been increased, thus partially compensating for the labour tax cuts. Last year's country report detailed and assessed the measures mainly from a budgetary and labour market perspective. Positive effects on competitiveness, employment and growth are also expected to help fund the tax cuts, although the overall budget-neutrality of the reform is not assured. Additional positive effects are expected from reductions targeting small and medium-sized enterprises (SMEs) and self-employed people.

Nevertheless, the Belgian tax system remains complex, with tax bases eroded by numerous exemptions, deductions and reduced rates. These entail revenue losses, economic distortions and a heavy administrative burden**.** The latest figures for the federal government show that the total amount of tax expenditures (i.e. tax relief) is sizeable, and that the rising trend as a percentage of GDP continues ([14]). A study estimated that the actionable policy gap in VAT was 15.9 % in 2014, above the EU average of 14.9 % ([15]). In some cases there may be good reasons to retain specific tax expenditures, e.g. innovative ways of financing start-ups are being fostered through tax breaks and tax incentives at federal and regional level. Nevertheless, a comprehensive rethink of the design of the tax system is warranted as the cost-effectiveness of the various exemptions and reduced rates is not always clear.

The tax shift has only partially exploited opportunities to shift taxes to a more growth-friendly base, amongst others environmental taxation and the removal of environmentally harmful subsidies. The most positive changes in recent years were the introduction of road pricing for heavy duty trucks in all regions from April 2016 and changes to vehicle and road taxes in Flanders. No agreement has been reached so far to extend road pricing to passenger cars (see also Section 3.5.2.). A study of the Federal Planning Bureau points to the fact that a kilometre charge on heavy duty trucks alone is insufficient to have a sizeable impact on peak hour congestion. ([16]) The tax reform also provides for a steady increase in excise duties on diesel and a reduction in those on petrol with the aim of achieving parity by 2018. Belgium is also one of the few Member States to have introduced indexation for environmental taxes (excise duties, vehicle and road taxes) ([17]). Moreover, the Brussels region has introduced a tax on car parks for office buildings, which is designed to become more dissuasive every year.

Despite past measures to further align the tax base for company cars to CO2 emissions, private use continues to be heavily subsidised. This impedes further progress in tackling congestion, air pollution and greenhouse gas emissions. In its draft budget plan for 2017, the federal government announced changes to the company car system. First, since 1 January 2017, a less favourable tax deduction for employers concerns all company car costs when a fuel card is granted. Second, as from April 2017, a new framework would allow employees whose pay package includes a company car to opt for a mobility allowance (net pay) budget or additional net pay instead, by agreement with their employer. Although the practical details have yet to be spelled out, the measure is planned to be budget-neutral. Its environmental benefits, however, are probably limited, without a substantial reduction in the number of company cars (currently around 450,000) and the change is unlikely to simplify the system.

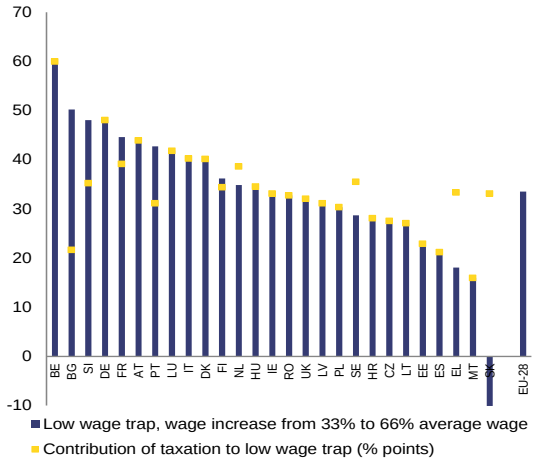
([14]) Chambre des représentants, 2016. Inventaire 2014 des exonérations, abattements et réductions qui influencent les recettes de l'Etat, annexe au projet de loi contenant le budget 2016.

([15]) CASE, *et al.*, Study and Reports on the VAT Gap in the EU-28 Member States: 2016 Final Report, TAXUD/2015/CC/131.

([16]) Federal Planning Bureau (2009), Analyse de l'impact de différents schémas théoriques d'une taxe routière en Belgique, Working Paper 14-09.

([17]) European Commission (2015), Tax Reforms in EU Member States 2015, Institutional Paper 008, p. 68.

Graph 3.1.4: **Low wage trap for second earners, 2015**



Source: Tax and Benefit database; European Commission (2016), EU Tax Policies: 2016 Scoreboard.

Certain features of the tax system still give rise to labour market traps. For example, the upper limit for receipt of the *'marital quotient'* constitutes a disincentive for second earners ([18]) to engage in the labour market or increase their working hours. In 2015, the low wage trap and the inactivity were among the highest in the EU. In both cases, the contribution of the taxation system was among the highest in the EU (Graph 3.1.4). However, this does not yet reflect the effect of the 2016 tax reform.

Some of Belgium's tax rules may be used in structures of aggressive tax planning. ([19]) The absence of anti-abuse rules ([20]) and notably the possibility to cascade deductions under the allowance for corporate equity (ACE) are features of the tax system which may facilitate aggressive tax planning by multinational groups that locate financial companies in Belgium to minimise their overall tax burden. ([21]) In that respect, the high level of foreign direct investment positions but also the size and pattern of interest flows ([22]) as a percentage of GDP suggests that the country's tax rules are used by companies that engage in aggressive tax planning. Within this context, it is also important to note that corporate tax initiatives (for example the amendment to the Parent-Subsidiary Directive or the Anti-Tax Avoidance Directive) will strengthen Member States' anti-abuse framework and boost tax transparency (for example through the automatic exchange of information on tax rulings or on country-by-country reports).

Belgium has taken steps to adjust some of its tax rules facilitating aggressive tax planning. Belgium amended its patent box regime in order to bring it in line with Action 5 of the Base Erosion and Profit Shifting project (see OECD, 2015) as endorsed by the Code of Conduct for Business Taxation.

In its draft budget plan for 2017, the federal government announced several measures, including the potential overhaul of corporate income taxation. The current corporate income tax system is characterised by a high statutory rate of 33.99 % (with a lower rate for SMEs), with numerous exemptions and allowances. Reforms under consideration would move towards a system with lower statutory rates and fewer exemptions, and possibly raise taxes on capital gains and increase incentives to channel savings into productive investment. Prior assessment of the various options made clear the difficulty of carrying out a budget-neutral reform that would significantly reduce the statutory tax rate, even if existing exemptions, deductions and specific

([18]) Data for second earners in this paragraph refer to a second earner with two children, whose partner earns the average wage. The low wage trap supposes a move from 33 % to 67 % of the average wage; the inactivity trap supposes a move from inactivity to 67 % of the average wage.

([19]) Aggressive tax planning consists in taking advantage of the technicalities of a tax system or of mismatches between two or more tax systems for the purpose of reducing tax liability. (source: Commission Recommendation of 6 December 2012 on aggressive tax planning (2012/772/EU)). For an overview of the most common structures of aggressive tax planning and the provisions (or lack thereof) necessary for these structures to work, see Ramboll Management Consulting and Corit Advisory (2016), Study on Structures of Aggressive Tax Planning and Indicators, European Commission Taxation Paper n°61. It should be noted that country-specific information provided in the study gives the state of play by May/June 2015.

([20]) For example, the lack of Controlled Foreign Companies (CFC) rules. Furthermore, while the tax authority is generally fighting hybrid loans and the qualification of the income (interest or dividend), no linking rule exists, also there is a lack of rules to counter mismatches in tax qualification of domestic companies or partnerships and those of a foreign state.

([21]) Advice of the High Council of Finance of July 2016 (L'impôt des sociétés dans un contexte "Post-BEPS'').

([22]) In 2015, the level of inward and outward foreign direct investment amounted respectively to 102% and 100% of GDP. Moreover, the flows of interests received amounted to 105.3% of GDP in 2015.

schemes are abolished, in particular the allowance for corporate equity. The proposals are still under discussion. Both the budget-neutrality of potential reforms and the impact of new measures on the debt/equity bias need to be carefully assessed. The 2017 budget included a further increase in the financial withholding tax rate, from 27 % to 30 % ([23]), an extension of the existing tax on stock exchange transactions (doubling the taxation ceilings and broadening the tax base to include transactions on foreign trading platforms), and the abolition of the 'speculation tax'.

([23]) This general increase in Belgium's withholding tax rate has no effect on the numerous withholding tax exemptions. In addition, some types of income are still eligible for a reduced 15 % withholding tax and personal income tax rate.

3.2. FINANCIAL SECTOR

The financial sector seems to remain relatively sound, but low interest rates, digitalisation, clients' changing preferences and intense competition are challenges for traditional business models. Banks and insurers are undergoing severe and sometimes disruptive restructuring, some more visibly than others. With one of the highest cost-to-income ratio in the EU, restructuring will continue and consolidation is likely. On the banking side, the minimum interest rate on savings accounts (0.11 %) may aggravate the situation. On the insurance side, the negative effects of the 2 % tax on life insurance premiums are still felt by the sector. In addition, if the current very low interest rate environment persists, employers and insurers might find it difficult to achieve the guaranteed return of 1.75 % over the lifespan of the contract.

The financial crisis has left the Belgian State with participations in several large banks and insurers. It has a share of about 10 % in BNP Paribas, 100 % of Belfius bank, 100 % of insurer Ethias (including stakes of regions and local authorities), and 50 % of Dexia bank. Dexia is in resolution and it is unclear how much will eventually be recovered because full resolution will take years to conclude. Moreover, Dexia accounts for sizeable contingent liabilities. These stem from the Belgian State's guarantee of 51.4 % of the bank's liabilities. This guarantee, on which only limited fees are due, amounted to 8.3 % of GDP on average in 2016, compared to 8.5 % in 2015 and 9.7 % in 2014. In nominal terms, it rose from EUR 31.5 bn at the end of 2015 to EUR 36.7 bn at the end of 2016. Government plans concerning other stakes in the financial sector are currently unclear. BNP Paribas and Belfius have been yielding dividends to the federal budget.

Belgium had a number of macro-prudential measures in place in 2016, which were either newly activated or had been extended. Besides phasing-in buffers on systemic banks, in its capacity as the designated authority the National Bank of Belgium prolonged a measure imposing higher risk weights applied by banks to mortgage loans. The NBB has also announced its intention to introduce an additional macro-prudential measure in 2017 to address vulnerabilities in the residential real estate market (see Section 1).

Table 3.2.1: **Financial soundness indicators (in %)**

	2010	2011	2012	2013	2014	2015	2016Q2
Non-performing loans	3.9	4.2	5.1	5.3	3.3	3.0	2.8
Coverage ratio	29.3	31.6	28.1	29.3	45.3	46.3	48.5
Loan-to-deposit ratio (1)	62.4	60.1	56.6	58.2	59.6	62.4	62.1
Tier 1 ratio	15.5	15.1	15.9	16.4	15.3	16.0	15.7
Return on equity	10.5	1.4	3.3	6.2	7.8	10.3	-
Return on assets	0.5	0.1	0.2	0.4	0.5	0.7	-

Note: (1) ECB aggregated balance sheet: the loan-to-deposit ratio excludes to/from government and MFI. The loan-to-deposit ratio corrected for securitisation turns around 90%.
Source: ECB CBD

Belgian capital markets function well but are constrained by country-specific factors. Some features of the taxation system favour 'risk-free' capital like deposits and bonds over 'risky' capital like shares. The stock exchange transaction tax negatively affects efficiency and liquidity. The large inflow of household funds into savings deposits is largely determined by cyclical and structural factors such as a risk-averse attitude to savings, which could be a serious barrier to investment in cross-border funds, and the tax exoneration on regulated savings accounts. The lack of a business ecosystem capable of helping SMEs with the listing process is another potential barrier to expanding Belgium's capital markets.

Efforts to increase activity and value added in the financial sector could focus on niches where Belgium is already well positioned to compete. This includes financial market infrastructures (e.g. Euroclear), but also communications providers such as SWIFT.

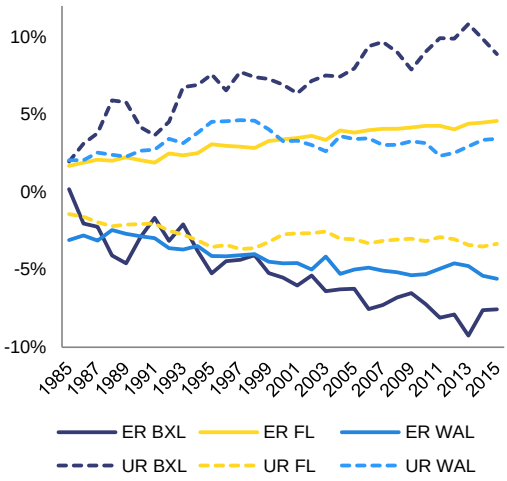
Belgium is consistently late in transposing financial directives. It is among the Member States with the highest number of open infringement cases for non-transposition of post-crisis financial directives. For most Directives Belgium has eventually communicated full transposition but it is still late in the full transposition of four Directives, including the Payment account Directive and the Directive on non-financial reporting. Belgium is following up the recommendations of the high level expert group created by the Minister of Finance in view of improving the transposition process.

3.3. LABOUR MARKET, EDUCATION AND SOCIAL POLICIES

3.3.1. LABOUR MARKET

The performance of the labour market remains mixed as large differences persist between regions and between subgroups of the population. Unemployment remains below the EU and euro area average at 7.9 %, but the proportion of long-term unemployment within unemployment has risen sharply between 2012 and 2015 before stabilising at a high level. Job creation has been substantial over the past year ([24]), in spite of some high-profile announcements of collective dismissals. ([25]) The employment rate (67.2 %) and the activity rate (73.0 %) remain well below the average in the EU and euro area. ([26]) However, there are big and increasing differences between and within regions (Graph 3.3.1). ([27]) Labour market outcomes for the low-qualified, the young, older workers and people with a migrant background are far below levels recorded for similar groups in the other Member States. Meanwhile, job vacancy rates consistently exceed the EU average ([28]), pointing to mismatches between labour supply and demand at various levels. ([29])

Graph 3.3.1: **Differences in employment and unemployment rates (15-64 years) at regional level compared to the Belgian average.**



Source: Eurostat — Labour Force Survey

A relatively large proportion of the working-age population is not employed. Unemployment and different types of inactivity are largely concentrated among specific groups such as the low-qualified young people, older workers and workers with a migration background from non-EU countries. Trends also differ across population groups. For instance, activity and employment rates are falling among low-qualified young people (20-24 years), while among low-qualified older workers they are rising. The number of people below the age of 60 living in households with very low work intensity is one of the highest in the EU and still increasing, contrary to the average European trend. At the same time, a relatively large proportion of the population lives in households with very high work intensity (Graph 3.3.2).

([24]) According to the National Bank of Belgium, close to 110 000 jobs were created between Q4 2014 and Q3 2016, an increase of 2.5 %. Much of this job creation occurred in the private sector.

([25]) For example, in 2016, Caterpillar announced the closure of its Gosselies plant, resulting in job losses for 2 000 employees and potentially 3 000 more job losses for various suppliers and subcontractors. This led to the Commission and the Walloon government setting up a joint task force to help with restructuring and retraining, including the use of the various existing EU funding instruments as appropriate.

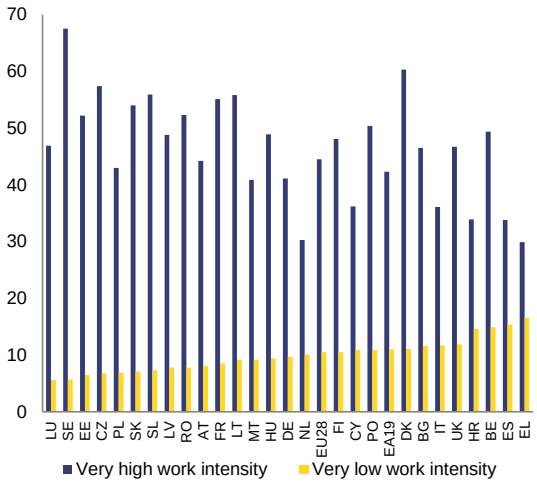
([26]) Data for the second quarter of 2016. Activity rate (20-64 years): EU & euro area 77.6 %; employment rate (20-64 y): EU 71.1 %, euro area 70.0 %; unemployment rate (15-74 y): EU 8.6 %; euro area 10.0 %.

([27]) The employment rate at NUTS1 level ranges from 58.7% in the Brussels Capital Region to 71.9% in Flanders. At NUTS2 level, sizeable differences can be observed in both Wallonia (Hainaut: 58% v. Brabant-Wallon: 69.2%) and Flanders (Limburg: 68.7% v. West-Flanders: 73.6%).

([28]) The Belgian job vacancy rate stood at 2.9 % in Q3-2016 (against an EU average of 1.8 %).

([29]) While skills mismatches account for much of the overall mismatch in the Belgian labour market, other factors such as low geographical and job mobility and the need for language skills compound the issue.

Graph 3.3.2: **Distribution of the population (aged 0-59) by work intensity of the household — 2015**



Source: EU-SILC.

Beyond the level of qualification, inactivity is strongly linked to age, gender and migrant (versus native) background. For young people (under 24 years), inactivity is essentially explained by education and training. For older workers, retirement is the major reason. Family and care responsibilities are major explanations for women but not for men. In addition, sickness and disability are increasing reasons for inactivity among prime age workers. Inactivity among non-EU-born residents is much higher than for Belgians without a migrant background. This is related to a specific combination of factors including the functioning of the labour market, taxation and welfare policies, as well as integration measures and, specifically for women, differences in gender roles (FOD Werk, 2015).

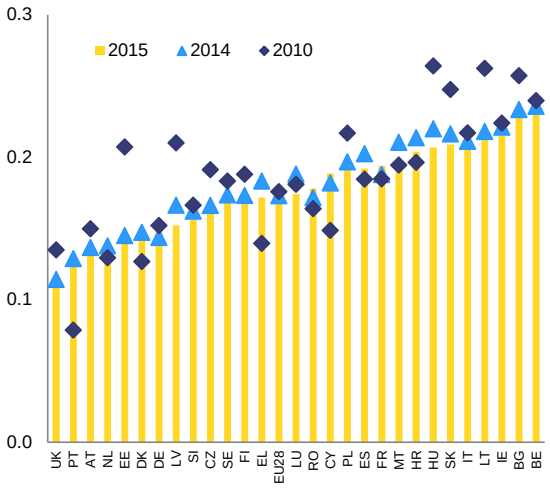
An increasing number of people are relying on welfare and invalidity schemes. The number of recipients of social assistance benefits has increased by about 60 % over 10 years, with a particularly marked rise for young working age adults (20-39 years) and for men. The 10 % increase in 2009 coincided with the economic crisis, whereas the 13 % rise from 2014 to 2015 reflects the entry into force of the reform limiting the right to an 'insertion allowance' for seeking work. About a third of those coming to the end of their insertion allowance rights seem to move onto the social assistance benefit. The number of days paid out on account of labour incapacity and invalidity has also been rising annually, by 4-5 % since 2006, accelerating to 7 % in 2014 and 6 % in 2015. This increase reflects a combination of higher numbers of cases claiming for longer periods. It is more pronounced among workers aged over 50 and for women.

Although temporary and part-time employment is becoming more prevalent, labour market segmentation by contract type remains comparatively limited. While part-time work, as a percentage of total employment, is above the EU average (at 24.3 %, against 19.6 %), involuntary part-time work is limited to 10 % of the total (against 29.9 % in the EU). The proportion of temporary employees in the total workforce has risen, from 7.6 % in 2010 to 8.5 % in 2015. This is still markedly below the EU average and the rates observed in neighbouring countries. The average transition rate from temporary to permanent employment also compares favourably, by these benchmarks. This is particularly true for young people, but not for people with a migrant background, who are overrepresented in precarious employment contracts (FOD Werk, 2015). The percentage of temporary contracts among newly recruited employees has risen, from about 30 % in 2012 to 40 % in 2016. There has also been a steady and slightly accelerating trend towards a higher incidence of temporary employment among young people in the past 4 years (SPF Economy, 2016). Taken together, these observations suggest that the abolition of the probation period for open-ended contracts may have contributed to increased contract type segmentation, although the phenomenon remains comparatively limited.

The Belgian labour market is characterised by a high degree of mismatch between supply and demand for skills. The relative dispersion of employment and unemployment rates across skills groups is among the highest in the EU and shows significant differences in the respective likelihood of being employed for the low-skilled, medium-skilled and high-skilled. This indicates in turn a mismatch between the supply of skills (proxied by the composition of the working-age population) and the demand of skills (proxied by the composition of employment) (Graph 3.3.3) (European Commission, 2016a). While the employment rates of recent tertiary education graduates is relatively high, the gap with the employment rate of those who have completed

only secondary education is markedly wider than in neighbouring countries. This sizeable skills mismatch is the product of various factors. The decline of manufacturing in Belgium has been faster and steeper than in other Western European countries. This contributes to low demand for low-skilled labour. At the same time, Belgium has a relatively high proportion of early school leavers, mainly concentrated in Wallonia, in Brussels and in other urban areas, and a high proportion of young adults with a low level of educational attainment. Participation in adult lifelong learning is also markedly below the EU average and the levels in neighbouring countries.

Graph 3.3.3: **Relative dispersion of employment rates by education level, 2010, 2014 and 2015**



Source: Own calculations based on Eurostat. Annual average based on the average of four quarters.

Measures to tackle inactivity and unemployment focus on reducing overall labour costs, strengthening financial incentives to work and activating older workers. The personal income tax reform being phased in includes several measures to increase net wages for low and average wage earners. Earlier reforms that limit young jobseekers' eligibility for benefits and introduce degressivity of the overall benefit levels have now been fully phased in. With regard to older workers, access to the unemployment benefit system with a top-up from the company is being tightened by gradually lifting the age ceiling and career length requirements. The transition will be complete by 2020. At the same time, it was decided to increase the pensionable age from 65 to 67, in two steps in 2025 and 2030. More recently, the federal government proposed a series of measures to increase the flexibility of working time arrangements and to promote in-company training. The regional authorities, meanwhile, are in the process of reforming the existing employment incentives aimed at specific target groups and the monitoring and guidance activities of their respective public employment services.

The ongoing tax and social security reforms are producing positive effects on take-home pay for low and average wage earners and on the participation rate of older workers. The number of young people benefiting from an insertion allowance is dropping, and so is the number of people resorting to early labour market exit schemes. The employment rate of older workers is increasing, from 42.7 % in 2014 to 44.0 % in 2015 ([30]). However, the tax and benefit system still puts a heavy tax burden on second earners (usually women) who face a tax wedge which was among the highest in the EU in 2015 (see Section 3.1.4).

Table 3.3.1: **Size of selected target groups (total population in thousands)**

	Young people (20-24 years, except Brussels 20-29 years)		LTU (25 – 54 years)	Older workers (55-64 years)
	low-qualified	medium-qualified		
Brussels	41	72	50	114
Flanders	41	227	41	847
Wallonia	48	133	79	465
Belgium	108	402	170	1 426
of which:				
% of non-EU-born	14.1%	6.3%	29.9%	6.3%
% of native-born with one or two parents non-EU-born	14.9%	9.5%	10.0%	0.5%

Source: Eurostat (2015 Labour Force Survey; LFS ad hoc module: 2014. Migration and labour markets) — own calculations

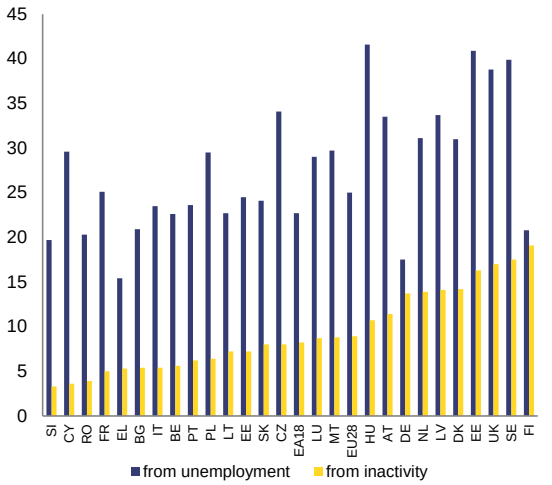
People with a migrant background represent a large proportion of the target groups ([31]) selected for employment support. The employment rate of non-EU-born residents in Belgium remains very low and the resulting gap with native-born residents is one of the largest in the EU. The gap is larger for women, which is mainly explained by high inactivity rates, by

([30]) The trend is quite similar as regards their activity rate, from 45.1 % in 2014 to 46.6 % in 2015.
([31]) At the exception of older workers.

contrast with non-EU-born men, for whom the gap is chiefly due to higher unemployment. The low employment rate persists in the second generation, despite their being educated in Belgium. Overall, this is a substantial issue. The non-EU-born represent 8.5 % of the population but 14 % of the low qualified young people, and nearly 30% of the prime age long-term unemployed (Table 3.3.1). In addition, the second generation with at least one non-EU-born parent represents 9.5 % of the 20-24 age group but 10 % to 15 % of the target groups. Employment outcomes for first-generation migrants differ greatly according to the reason for migration and to individual characteristics such as age, sex, education level and literacy. However, even when adjusting for these individual characteristics, the second generation is significantly less represented in employment than residents without a migrant background, which is also, as for the first generation, one of the worst outcomes among Member States for which data are available (OECD, 2014a). The unexplained part of this lower employment probability may point to discrimination. This is confirmed by testing studies showing that being of foreign origin directly impacts on the probability of being recruited, other things being equal (OECD, 2013a). Therefore, despite extensive legislation, discrimination still seems to be an important labour market barrier.

Despite significant resources spent on activation policies, transition rates into employment remain well below the EU average (graph 3.3.4)**.** Consequently, although Belgium spends more than the average on active labour market measures, ([32]) the phenomenon of long-term unemployment remains widespread, mostly in Brussels and in Wallonia and among specific population groups. So for example, long-term unemployment is slightly below the EU and euro area averages among the prime age working population, but comparatively high among young people and older workers. In the latter case, this is partly due to the legacy of relatively easy access to early exit opportunities via the unemployment benefit system. The long-term unemployment rate of low-qualified young people in Belgium has been consistently above EU and euro area averages ([33]) and is higher for young women than for young men.

Graph 3.3.4: **Labour transitions by employment status**



Source: Eurostat

The measures taken by subnational governments represent major simplifications of the existing employment schemes. The sixth State Reform transferred follow-up of the unemployed and 22 targeted employment incentive schemes to subnational levels. The employment incentive system was complex, with definitions and procedures not always aligned, and take-up of some measures was low (Van Landeghem et al, 2015; ONEM, 2015). Throughout 2016, the three regions and the German-speaking community were reviewing these various schemes to streamline and focus financial support on a limited number of priority groups and to better integrate employment support with other types of employability measures. The reformed employment support systems have already become fully operational in Flanders, and Wallonia and Brussels will follow in the course of 2017.

However, some features of the reformed employment support schemes, including wider targeting and high wage ceilings, may result in windfall and crowding-out effects. The success of the new employment incentives will depend on the extent of windfall and displacement effects

([32]) Belgium spends around 0.52 % of GDP on active labour market policy measures, which is slightly more than the EU average and the weighted average of neighbouring countries.

([33]) In 2015, the long-term unemployment rate for young low-qualified people (15-24 years) was 19 %. The euro area average is 12 %.

they create and whether they increase labour demand or not. It is significant here that the target group of medium-qualified young people in Flanders has been widened, by dropping the 156 days unemployment spell requirement.. This might entail a windfall effect as employers will pay lower social contributions for someone they might have recruited anyway. However, displacement effects may be reduced, as there is no reason for employers to prefer young people who have had a 6-month spell of unemployment. At the same time, the level of financial support for low-qualified young workers and for the long-term unemployed between the ages of 25 and 54 has been reduced. ([34]) Also, in all regions, the wage ceilings set to qualify for employability measures or lower social contributions are high: about 80 to 90 % of young people and older workers would qualify, while low wage earners from other age brackets will not receive any additional support. In addition, there may be adverse threshold effects close to these levels: increases in wages above the ceiling will cost employers much more as the advantage of the scheme disappears. ([35]) Close monitoring of the effects of these design features will be needed to evaluate whether the newly reformed schemes are properly targeted and cost-effective.

The different choices made may promote inter-regional movement of labour from Brussels and Wallonia to Flanders. There are major differences in terms of the instruments selected. Flanders has opted for a policy based on the place of employment (thereby potentially covering workers commuting from other regions), whereas Wallonia and Brussels have opted for a broader mix of instruments, based mostly on the worker's place of residence. Brussels is also planning to introduce a training budget for low-qualified young people (aged under 30). These choices make sense in view of the higher unemployment rates in Wallonia and Brussels compared to Flanders. However, inter-regional mobility is not only determined by labour cost considerations. Other factors, such as command of the language, registration fees on real estate purchases, transport infrastructure (including public transport) and wide publication of job offers are also important.

([34]) The Flemish government decided to shift part of the budget intended to support employment of this latter group from wage cost reductions to guidance, training and work experience measures.

([35]) To remedy the issue, the Flemish employment incentive scheme for young workers provides for a slightly higher wage ceiling as of the second year of employment.

3.3.2. SOCIAL POLICY

The stability of the overall risk of poverty or social exclusion, below the EU average but above that of neighbouring Member States, hides divergent trends across population groups. While the at-risk-of-poverty-or-social-exclusion rate for the overall working age population is stable, it has fallen for the elderly (older than 65) and increased for young people (16-24), notably for people with low qualifications, with disabilities or with a migrant background. The worsening social situation of the low-skilled, in particular, is explained by the fall in employment rates for this group and a higher risk of experiencing (very) low work intensity, despite a high overall vacancy rate. This also holds for the high proportion of non-EU born migrants living in a situation of poverty or social exclusion: 50.7 % in 2015 (vs. 27.5% for people born in the EU but not in Belgium and 17.0 % for people born in Belgium), which is higher than the level recorded for non-EU born migrants in the EU (40.2 % in 2015). Moreover, the gap in the at-risk-of-poverty-or-social-exclusion rate between people with and without disabilities amounts to 17.7 percentage points, which is significantly higher than the EU average of 9.7 percentage points. Belgium is one of the few Member States where financial distress for households in the lowest income quartile has increased in the year to Q4 2016 (European Commission, 2016). These developments may point to a shift from a 'generation gap' in poverty to a division between highly educated and low-educated people within the working-age population.

This is largely explained by inactivity and unemployment, which markedly raise the poverty risk. The at-risk-of-poverty-or-social-exclusion rate among the population in employment is well below the EU average. In contrast, the at-risk-of-poverty-or-social-exclusion rate among the inactive or unemployed population is above the EU average. Nevertheless, the poverty-reducing impact of taxes and transfers for non-standard working and jobless households tends to be particularly large in Belgium, most notably for jobless households, whose poverty rate

is more than halved after taxes and transfers (OECD, 2015a).

The proportion of children living in very low work-intensity households is above EU and euro area averages. Belgium has reached the Barcelona targets, with 49 % of children younger than 3 in childcare, and 98 % of those between 3 and minimum compulsory school age. However, the number of income-related places in out-of-school care services remains small, particularly in Brussels.

3.3.3. EDUCATION AND SKILLS

The Belgian education system continues to combine good average performance, by international comparison, with persistently high educational inequalities and wide gaps in performance between schools. The impact of socioeconomic status on basic skills proficiency remains above the EU average. Compared with 2012, the 2015 OECD PISA results (OECD, 2016a) point to an increase in the percentage of 15-year-olds who are low achievers (performing below level two in science 19.8 %, reading 19.5 % or mathematics 20.1 %). This is consistent with an even greater deterioration across the EU. Disparities between communities remain, in terms of mean scores and percentages of low and top performers. Despite some improvements, the percentage of low achievers in the French community (around 23 % in science and reading and 24 % in mathematics) is still larger than the national average. In the Flemish community, the percentage of low achievers has been rising and is now close to 17 % in all areas tested; for the German-speaking community this percentage is 14.3%. Although national performance on early school leaving is slightly better than the EU average, large differences between communities and regions persist.

Nurturing excellence is essential in order to counter the declining share of top performers among the 15-year-olds students. According to Pisa 2015 results, Belgium's share of top performers is still above the OECD average in all three areas tested, at 15.9 % in mathematics (against an OECD average of 10.7 %), 9 % in science (OECD average 7.7 %) and 9.3 % in reading (OECD average 8.4 %). However, since 2003, there has been a rapidly down turning trend of top performers in mathematics even when adjusted for the demographic changes. The decrease is especially pronounced in the Flemish community. The proportion of top performers in the French and German community is below the national average in all three areas and is little more than 5 % in science. Moreover, the low proportion of students and graduates in science and technology might hamper future innovation as discussed in the 2016 country report**.** For further details on science, technology, engineering and mathematics (STEM) students and graduates, see Section 3.4.2. on innovation.

In addition to the impact of socioeconomic status on performance above the EU average, there also is a large gap in performance between EU-born students and those non-EU born or with at least one parent non-EU born. Despite an improvement, the second generation performs only slightly better than the first, even taking socioeconomic background into account. Belgium has a comparatively high proportion of 15 year-old students with a migrant background, and this rose from 15.1 % to 17.7 % between 2012 and 2015 (PISA, 2015). They are, however, unevenly spread across the communities (the figure is 14 % in the Flemish community). In 2015, the share of second- and first-generation students with a migrant background in Belgium was respectively at 9.0% and 8.7%. The percentage of first-generation migrants with educated parents increased compared to 2012; The language spoken at home and the country of origin explain a large part of the difference in basic skills The increased number of refugees since 2015 has reinforced the challenges. The communities have taken measures to increase the capacity of reception classes, the number of language teachers and the budget to support newly arrived students (European Commission, 2016c).

Increasing child poverty and greater diversity in language, culture and family structure compound the equity challenge. Often pupils do not have sufficient support from their families due to lower social and/or financial capital, challenges with language of instruction and other related factors. The family structure also matters, with students from single-parent families underperforming more than in other countries (OECD, 2013b). Divergent levels in

poverty amongst the school population (Studiedienst van de Vlaamse Regering, 2015; Mc Kinsey, 2015) reinforce disparities between communities and regions (European Commission, 2016c). The problem is especially acute in the Brussels region. Therefore, addressing educational inequalities requires a broad policy response going beyond education.

Moreover, the projected growth of the school population is among the largest in Europe and the pace will be even faster for disadvantaged groups, in particular pupils with a migrant background who are largely concentrated in big cities (European Commission, 2016d). Efforts are made to spread the refugees across the country. However, past experience shows that they tend to move to big cities to join people with similar migrant background. Growth disparities ([36]) of the school population between the language communities, regions and educational levels are forecast. The growth is the highest in the French Community with a 7 % increase forecast for the next decade**.**

As a result, shortages in educational infrastructure are a growing concern, particularly in cities. A geographical shift in enrolments, demographic pressure and insufficient planning — coupled with long delays in renovation and building — have led to infrastructure capacity and quality issues. At 6.6 %, the proportion of public expenditure spent on school infrastructure is below the EU average of 7.4 %.

Shortages of well-qualified teachers are emerging and teachers are not always well prepared or supported to cope with an increasingly diverse school population. Despite a higher than average enrolment rate of students in 'Education', there is a shortage of qualified teachers. The main reasons are the difficulty of attracting the most suitable students and candidates to the profession; the high exit rate among starting teachers; retirement conditions; and the unavailability of a proportion of teachers for teaching. Barriers also include the big difference in status and employment conditions of starting teachers compared with those of (not very mobile) established teachers (OECD 2015; Delvaux, B., et al., 2013). Finally, recognition of foreign teachers' qualifications is one of the barriers for teachers with a migrant background (OECD, 2014b). Participation in training for teaching in a multicultural or multilingual setting is significantly below the EU average (OECD, 2013b). The diversity of the student population is not reflected in the teaching profession. In-work teacher training is not used well to develop skills, or recognised for career development purposes. Teachers' contracts are still based only on teaching hours.

Performance gaps between schools are reinforced by uneven access to experienced teachers, going beyond residential background and also reflecting academic, socioeconomic, language and migrant background (Belgian Court of Auditors, 2015; Mc Kinsey, 2015). Schools with the most disadvantaged pupils are unable to attract the most experienced teachers and school heads, and face greater turnover in teaching staff. Equal opportunities policies for such schools have not delivered the results expected, despite the student-teacher ratio in these schools being one of the lowest by international comparison (OECD, 2013b). There is little monitoring of the performance of individual schools (OECD, 2016b).

Major school reforms have been launched, aiming to improve equity, key competences, and the quality and relevance of vocational education and training. The reform process for the French community attests so far to a positive shift towards transparent, participatory and evidence-based policy. Based on the main guidelines of the reform adopted in mid-2016 by the government and on an impact assessment, the December 2016 draft advice from the steering group for the reform proposes a five-point strategy, objectives and priorities, taking into account strict budget constraints. This is an important step in this major reform, which covers the whole system:

([36]) According to a forecast, between 2015 and 2025 the growth of the school population will accelerate in BE fr to reach 7 % (+13 % in Brussels and +5 % in Wallonia) (Mc Kinsey, 2015). In BE nl (Flanders and Brussels), the school population is expected to increase by 4 % between 2015/2016 and 2020/2021 (Nusche, D., et al., 2015). Between 2016 and 2026, the Flemish school population in pre-primary, primary and secondary is expected to grow by 5 %, 2 % and 11 %, respectively. In the German-speaking community, the number of pupils in primary schools has been stabilising in the last years, whereas the number of pupils in secondary school is expected to continue to decrease in the coming years.

pupils and competencies, teachers, education provision and governance of the system. After a consultation process, the Flemish government adopted in January 2017 the final key measures of the master plan secondary education. They will be progressively implemented as of September 2018. A new ordering of the study offer and a rationalisation of the study areas are foreseen. Most of the measures are optional. The general, technical and vocational streams are maintained. Future monitoring to ensure that the current pitfalls on educational inequalities are addressed is important. Other specific measures aim to reduce the high rate of children enrolled in special needs education by fostering greater inclusion in the mainstream system; in particular, a major Flemish initiative (the 'M-decree') came into force in 2015/2016. However, full implementation of the decree will take time. All three communities are further developing dual learning, involving companies, as part of secondary education, and pursue the preparation of the reform of initial teacher education.

Performance at school also depends on a large number of external factors. A good knowledge of the teaching language at school is an important key to a successful school career. Addressing educational inequalities also requires policy responses on employment, social, anti-discrimination and migration policies, coordinated between the various competent authorities. The governance issue in Brussels is particularly challenging.

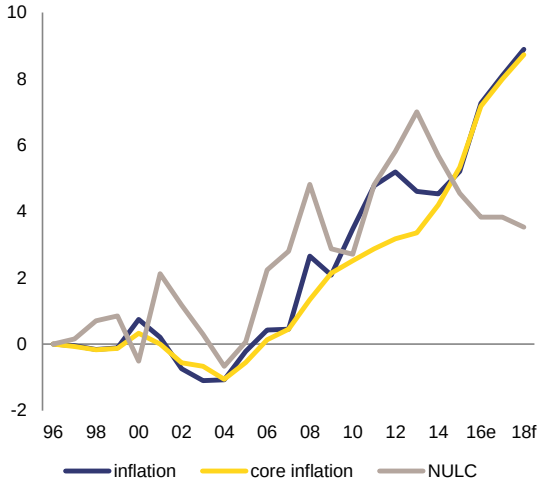
3.4. COMPETITIVENESS AND INVESTMENT

3.4.1. PRICES, COSTS AND COMPETITIVENESS

Inflation

An inflation gap has been widening between Belgium and its neighbouring countries. Between 2006 and 2016, the accumulated inflation differential between Belgium and the neighbouring countries reached around 7 % (Graph 3.4.1), with a comparable differential built up for core inflation over this period. This inflation gap widened considerably in the last couple of years. Moreover, according to the latest Commission projections, it would continue to widen in 2017-2018.

Graph 3.4.1: **Cumulative (core) inflation and nominal ULC differential between Belgium and neighbouring countries**



Source: European Commission

In 2016, prices increased by 1.8 % in Belgium, compared with 0.2 % in the euro area and Belgium's neighbouring countries. Increases in indirect taxation explain only part of the difference (see Graph 3.4.2). Core inflation — excluding unprocessed food and energy items — was also notably higher last year. It amounted to 2 %, compared to 0.8 % in the euro area and 0.7 % in the three neighbouring countries, where it dropped for the third year running.

The fact that price growth is structurally higher in Belgium could have implications for external competitiveness. As nearly all Belgian companies automatically adjust wages to the cost of living ([37]), higher consumer prices reflect in faster rising labour costs, which undermines cost competitiveness when not offset by gains in productivity. As low productivity jobs become relatively more expensive than high productivity jobs, labour shedding risks to occur and have a downward impact on the overall employment rate over time. Graph 3.4.1 shows that in Belgium the nominal unit labour cost differential has evolved — with a small time lag — in parallel to the total inflation differential between Belgium and its neighbouring countries. A decoupling has taken place from 2014 onwards, though, when wage moderation policies started to take effect and the unit labour cost gap started narrowing. However, without permanent wage moderation, fast price growth risks undoing the gains made in recent years. The recent reforms in the wage setting mechanism (reform of the Law of 1996) aim to address this risk by introducing a safety margin to avoid faster wage growth in Belgium than in its neighbouring countries (cf. infra).

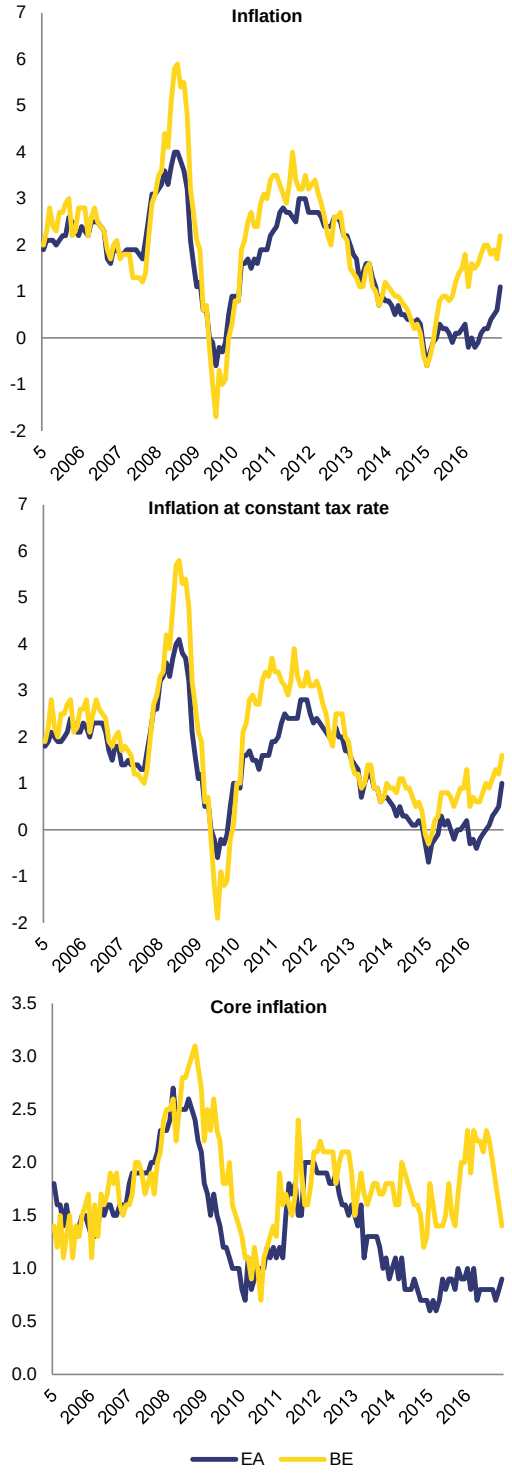
Electricity prices contributed significantly to the acceleration of inflation in 2015-2016. Indeed, electricity alone was responsible for 0.3 pp. and as much as 0.7 pp. of total inflation in 2015 and 2016. Although energy price increases are subject to the 'safety net mechanism', the impact of this price control mechanism is limited, especially on electricity prices. This is because almost two thirds of contracts are fixed-price contracts to which the mechanism does not apply. Moreover, non-energy components account for a large and increasing percentage of the retail energy prices. Around 75% of consumer electricity prices are network charges (distribution and transmission costs), levies, taxes and VAT, which are not subject to the price control mechanism.

The fast rise in electricity prices for end consumers is rooted in hikes for price components other than generation costs. The reduction in the VAT rate on household electricity consumption from 21 % to 6 % introduced in April 2014 was reversed in September 2015. *Intercommunales*, which include utility suppliers, are subject to corporate income taxes since 2015

([37]) All wage indexation schemes in Belgium are based on the so-called health index, which excludes petrol and diesel (as well as alcohol and tobacco), while taking into account heating oil, gas and electricity prices,

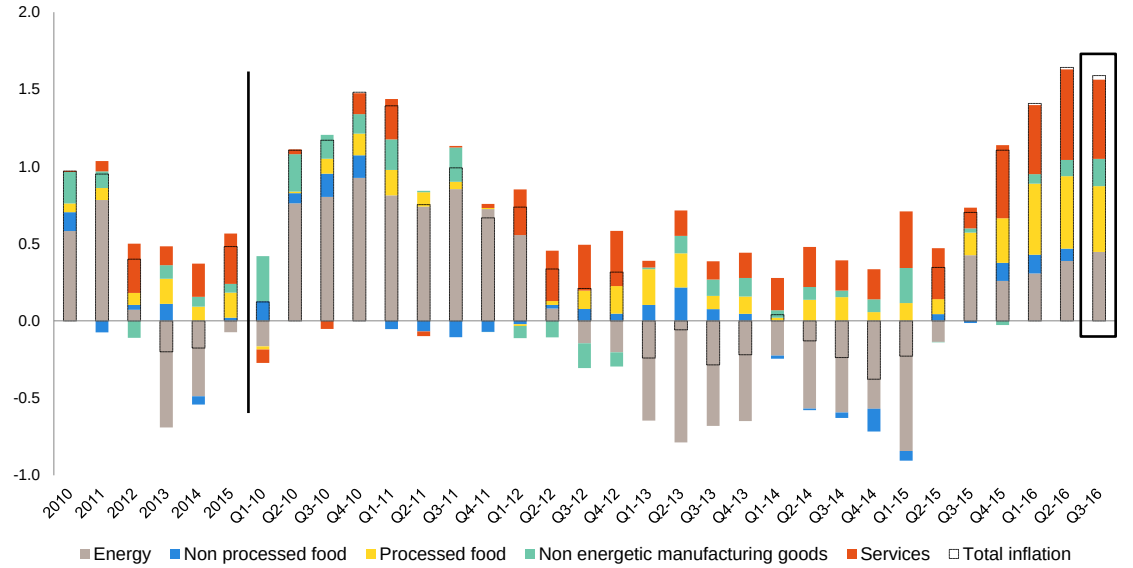
and have increased distribution charges as a result. In Flanders, owners of green energy installations have been required to pay a fixed surcharge for use of the distribution network since 2015. Finally, in 2016 Flanders increased a general energy contribution and abolished the free electricity all households were receiving.

Graph 3.4.2: **Inflation, inflation at constant tax rate and core inflation – Belgium and euro area (January 2005 – December 2016)**



Source: European Commission

Graph 3.4.3: **Contribution of the main product groups to the inflation differential between Belgium and its main neighbouring countries**



Source: INR - ICN

Steady core inflation in the range of 1.5-2% primarily reflects services prices. For the period 2008-2016, services explain about half of the core inflation differential (excluding energy and non-processed food) with neighbouring countries, a third is the result of higher prices for processed food, and the residual is due to price developments in non-energy industrial goods. According to the Price Observatory, bars and restaurants (which have a higher weight in the Belgian price index), telecommunication and culture accounted for most of the service price differential between 2008 and 2016 (Price Observatory, 2016) (Graph 3.4.3).

Considering that labour is the predominant input for services, the key determinant of service prices are wage costs. Several service sectors have built up wage gaps relative to the average for the three neighbouring countries. This is particularly true for the sheltered non-tradable services sectors, where productivity growth cannot always keep pace with nominal wages (cf. infra), such as the information and communication sector, bars, restaurants and accommodation, retail and transport (European Commission; Price Observatory). However, the sustained wage moderation in recent years does not seem to have resulted in price adaptations in these sectors, which points to downward price rigidities.

Less intensive competition in service markets may help explain price rigidities. Indicators that can be used as proxies for competition include the mark-ups (a proxy for profit), the market churn rate (the sum of birth and death rates expressed as a percentage of the total number of active firms), market concentration, and regulation, e.g. entrepreneurship and administrative barriers (see Section 3.4.3). Several important service markets show a high degree of concentration, which might hamper market dynamics. There are for example only a few big players present on the telecommunication market in Belgium. Low margins could also have an impact in certain subsectors; in restaurants and bars increasing costs due to the labour force regularisation and due to the rise of food prices have, in combination with low margins, resulted in higher prices in 2016. High minimum wages have compounded this dynamic.

Prices of regulated services are also influenced by administrative decisions. Given that regulated services account for 28 % of all services in the price basket ([38]), its effect on overall inflation can be considerable. For instance, the Flemish authorities increased education tuition fees in

([38]) This is comparable to the average weight in neighbouring countries, which however varies across them: 34% for the Netherlands, 25% for Germany and 17% for France.

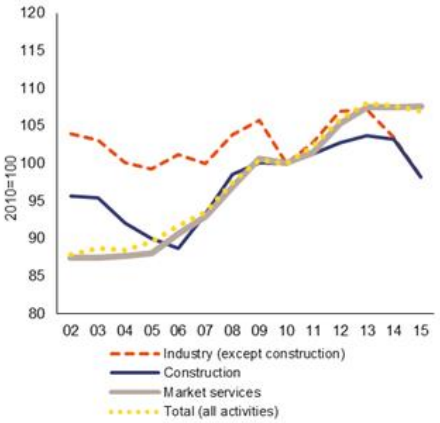
2015, pushing up overall service prices by an estimated 0.4 pp. and total inflation by around 0.2 pp. (Price Observatory, 2016). Other regulated services which have contributed to an increase of services inflation since 2015 include the sewer system, medical services and hospital care. An additional factor explaining the higher service market prices could be that some services in Belgium, such as notaries, public transport, education and insurances, are index-linked — albeit with some time lag. Rent increases are also administered, but have not contributed to the inflation differential.

Concerning processed food and retail, different factors can explain the price differential with neighbouring countries. Factors identified include unfavourable market conditions related to bargaining power, the skills and commercial strategy of market players, labour and exploitation costs, distributors' business strategies and consumer preferences (see, e.g., SPF 2012; Federal Planning Bureau, 2012). Establishment and operation conditions for retailers could also affect market functioning and indirectly impact the price of (supermarket) goods. Some of the factors that explain less advantageous wage costs in the Belgian retail sector include: the employee profile (usually older and full time in Belgium), the rigidity of the labour market, fiscal pressure and the automatic wage indexation mechanism (Centrale Raad voor het Bedrijfsleven, 2010; Cornille & Langohr, 2011; SPF, 2012). However, while these factors could help explain differences in price levels, they cannot explain higher price growth, which may be linked instead to insufficient competition (see Section 3.4.3.).

Labour cost competitiveness

Belgian relative labour cost competitiveness eroded steadily for almost a decade until 2014, as a result of dynamic wage increases. Starting from an already high level, nominal wage increases frequently exceeded the average increases observed in neighbouring countries between 2004 and 2013. At the same time, productivity increases, equally starting from a high level, lagged behind, especially between 2010 and 2014. As a result, the total nominal unit labour cost differential between Belgium and its three biggest neighbouring countries rose to 7 % in 2013 before falling back as a result of wage moderation policies (Graph 3.4.1 and 3.4.4).

Graph 3.4.4: **Unit labour cost by sector**



Source: Eurostat

To deal with eroding cost competitiveness, the federal government has successfully enacted wage moderation policies. The need for prompt action was shown in particular by the sharp rise of nominal wage costs relative to neighbouring countries in 2009-2010. Since then, the authorities have intervened in the wage-setting process to slow down wage growth, by setting lower margins for real wage growth throughout the period between 2011 and 2016. In order to close the nominal wage handicap with neighbouring countries accumulated since 1996, the government also imposed a temporary suspension of wage indexation clauses in both the private and government sectors ([39]) and is gradually reducing employer social contributions in the framework of the ongoing tax reform (see Section 3.1.4.).

Since the beginning of 2014, the measures taken have curbed the unfavourable unit labour cost trends compared to neighbouring countries. Not only did hourly wages in Belgium's business sector rise at a slower pace than in the three main neighbouring countries ([40]), productivity also

([39]) The temporary suspension of wage indexation clauses in collective bargaining agreements was introduced by keeping the 'smoothed health index' unchanged from March 2015 to April 2016, thus effecting a real wage cut of 2 %.

([40]) According to the Central Economic Council secretariat, in terms of hourly labour costs, the gap narrowed from 4.1 % in 2013 to 2.9 % in 2014, to 1.5 % in 2015 and then to -0.3% in 2016.

changed favourably and, consequently, unit labour costs were down both in 2014 and 2015, allowing the economy to close part of the labour cost gap with neighbouring countries (Graph 3.4.4). Unit labour costs are expected to increase at a more moderate pace in 2017-2018 than has been the case in the past.

Moreover, to prevent past problems from reoccurring, the current federal government has tightened the existing wage bargaining framework. Wage negotiations in Belgium have been regulated by the 1996 law on employment and the safeguarding of competitiveness. ([41]) As illustrated above, however, this arrangement did not prevent the appearance of a growing wage cost handicap, as predicted real wage in neighbouring countries often turned out to be overestimated whereas domestic inflation frequently exceeded expectations (cf. supra). In addition, wage growth in Belgium regularly exceeded the nominal ceiling implied by the wage norm as a result of forecasting errors and/or because of composition effects of workers in certain industries. To prevent such overshoots from happening in the future, the federal government has amended the 1996 law in several respects. From 2017, the calculation of the wage norm incorporates two prior adjustments. The first is intended to prevent the reappearance of an hourly labour cost handicap vis-à-vis neighbouring countries compared to the 1996 baseline. ([42]) The second adjustment takes the form of an additional safety margin of a minimum of 0.5 % of the calculated margin for real wage growth. Unlike the existing system, the new method of setting the wage norm would also go beyond the historically accumulated labour cost handicap since 1996 and further close the wage gap with neighbouring countries measured in absolute terms. The new wage norm for 2017-2018 has been set at 1.1 %, which should allow for a further reduction in the absolute wage gap relative to the reference countries.

The measures taken go a long way to preventing a wage handicap from reoccurring and improving Belgium's relative cost competitiveness vis-à-vis key trading partners within the euro area. Due to the more conservative baseline projections and the built-in prior adjustments in the calculation of the wage norm, the margin for negotiated real wage increases is likely to remain very small in coming years. This should result in a steady and sustained decrease in the nominal wage handicap vis-à-vis neighbouring countries. The reform of the wage bargaining framework also provides more guarantees that government measures to reduce non-wage labour costs will effectively benefit cost competitiveness, as it stipulates that all tax shift reductions in employers' social contributions introduced between 2016 and 2020 are not to be taken fully into account when calculating the margin for real wage increases. Instead, they are to be used to further reduce the nominal labour cost handicap with neighbouring countries. ([43]) In addition, the reformed framework expands the role of the government in preventing detrimental cost competitiveness trends as a result of excessive inflation. It is given the responsibility of taking corrective measures if negotiated wage indexation agreements or wage scale increases at sector or company level lead to nominal wage handicaps that cannot be corrected in the space of two years. Although the framework does not establish any formal link between wage and productivity trends, it provides for close monitoring of the latter as well as of non-cost competitiveness determinants by the social partner organisations represented in the Central Council for the Economy.

Productivity

While the Belgian economy is still among the most productive in the euro area, recent

([41]) The law provides a framework for biannual wage bargaining rounds among social partner organisations represented in the Central Council for the Economy, compelling them to take the international economic environment into account when discussing potential wage increases at national, industry and company level. The law requires the social partners at national level to take expected real wage trends in the three neighbouring countries into account, as well as projected domestic inflation, when setting the biannual 'wage norm', i.e. the maximum margin for real wage increases covering the entire private sector.

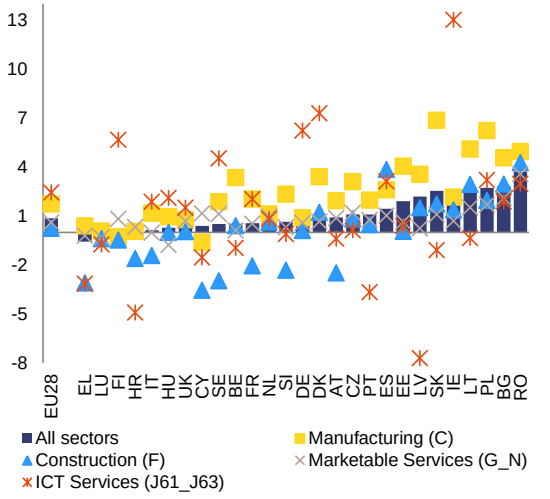
([42]) The year 1996 is chosen as reference by the law which was passed in the same year. The accumulated labour cost handicap since that year amounted to over almost 5% in 2012. As a result of the wage moderation measures taken by the previous and the current federal governments, it has gradually decreased to turn negative in 2016 when it stood at -0.3%.

([43]) Additional non-wage labour cost reductions introduced after or on top of those already decided are to account for 50 % of the reduction of the remaining nominal wage handicap.

increases have been subdued, especially in the services sector. While slower labour productivity gains in the services sector are not uncommon, this unfavourable development has been more pronounced in Belgium than in neighbouring countries. Part of this is explained by the reallocation of labour factors to sectors with comparatively lower productivity levels and slower productivity growth. Particularly in non-market, non-tradable services such as real estate activities and education, health and government activities, Belgium's productivity growth has been very slow in the last 10 years. Part of the phenomenon is explained by the rapid increase in low-productivity household help services since 2004, as a result of the government's attempt to reduce informal economic activity and raise low-skilled employment through the system of subsidised vouchers for household help. ([44]) Meanwhile, the productivity growth rate of information and communication technology (ICT) services is amongst the lowest in the EU according to the latest available data (Graph 3.4.5). The only services sector where productivity growth is more favourable in Belgium than in neighbouring countries is financial and insurance services, incidentally also one of the largest tradable services sectors. If wages rise faster than productivity (i.e. nominal unit labour costs rise), price levels may rise as firms pass on the higher labour costs — which constitute the lion's share of their total production costs — into product and service prices (cf. supra).

Within the broad group of manufacturing industries, productivity growth trends vary considerably between individual sectors. The most productive firms, the so-called global frontier firms, have not been so affected by the slowdown in productivity growth. They display more robust productivity growth rates than other businesses. Productivity growth has been very strong in the food and basic metals industries, with Belgium being a leader in the food industry, which accounts for 15 % of manufacturing gross value added. Meanwhile, productivity growth has been less good in two other leading industries: pharmaceuticals and chemicals. This partly reflects their already high productivity level, and, without considering innovation aspects, it testifies to the limits and risks of a strategy based mainly on deepening capital. Given their size in the manufacturing sector, with close to 28 % of value added and 55 % of business R&D expenditure in manufacturing, regaining productivity growth in these two sectors is crucial. In addition, Belgium has low labour productivity growth in some manufacturing industries that have the highest EU growth rates, such as motor vehicles, computers, electronics and optical products.

Graph 3.4.5: **Labour productivity in EU-28 (2006-2015) — average % annual change**



Note: Labour productivity is defined as the ratio between value added in constant prices and the labour input, the latter given by hours worked by people employed (incl. self-employed) or, in case this data is not available, by total employment in persons. Primary data on value added and labour input –both hours worked and total employment- was retrieved from Eurostat for the EU-28 aggregate and country members (data on 'value added, gross' in constant prices (chain-linked volumes) and for labour input data in terms of 'hours worked' or 'persons'). 2006-2014 average for all industries in CZ and IE, 'C', 'G_N' and 'J61_J63' in EU28, 'J61_J63' in CY, DE, ES, FR, LT, LV, PL, PT, RO, SE; 2008-2014 average in HR; 2009-2010 change excluded in HU due to methodological change; no available data for MT.
Source: Eurostat

The recent flattening of overall labour productivity growth points to a number of major challenges. First, the already high degree of capital intensity reduces the scope for future productivity gains through additional capital deepening in various sectors, except by means of radical breakthroughs in organisational or technological change. In this respect,

([44]) After the scheme started in 2004, the number of employees working in the service voucher system rose rapidly for 9 years. At its peak in 2012, some 151 000 people were employed in the sector, representing some 4 % of total employment in Belgium (Idea Consult, 2014; Marx & Vandelannoote, 2014).

manufacturing and, to a lesser extent, the services sector in Belgium seem to have benefited less from growth returns from ICT than in most neighbouring countries (FPB, 2015). This may have had the effect of hampering potential growth. More in general, investment in research and knowledge-based capital accumulation remains to a large extent concentrated in a handful of sectors. A better diffusion of innovation across industries might help to upscale the product and services mix with which Belgium competes in global markets (see Section 3.4.2). Second, future productivity growth in many sectors is constrained by persistent skills gaps and labour shortages in certain occupations. In a context of rapid technological change since the beginning of the century, labour demand in Belgium has rapidly shifted towards high-skilled occupations since the beginning of the century (close to +25 % between 2000 and 2010) (Maselli, 2012) and maintained low-skilled functions, mostly at the expense of middle-skilled functions (De Mulder & Duprez, 2015). Labour supply, however, has not adapted as swiftly. This is shown, for instance, by the low proportion of tertiary education graduates in science, technology, engineering and mathematics (see Section 3.3).

More efficient allocation of resources, especially across market services, could imply large gains in productivity (European Commission, 2015a; European Commission, 2016e). The allocative efficiency indicator uses information on employment and value added distribution across firm-size classes. It captures the extent to which productive resources are allocated to their most productive uses. Allocative inefficiencies have increased in professional, scientific and technical services ([45]) and ICT services, as well as transportation and storage (European Commission, 2015a). It suggests that regulatory restrictions and a lack of market dynamism are inhibiting further efficiency increases and that reducing barriers to innovation and entrepreneurship and improving the overall business and investment environment could positively contribute to the overall growth capacity of the Belgian economy.

([45]) This category includes: scientific research and development; legal and accounting activities; architecture and engineering; technical testing and analysis; head offices; management consultancies; advertising and market research; veterinary activities; and other professional, scientific and technical activities.

Finally, the widespread practice of wage indexation in most sectors makes full adjustment of wages to differences in productivity across firms within the same sector more difficult. Automatic indexation makes real wages more rigid and consequently works against adjustment in the labour market, thereby increasing the risk of misallocation of labour, with high wages (and low employment and value added) in low-productivity firms. Although firm-level derogations from sector-level agreements (opt-outs) are possible under specific conditions, they are rarely used.

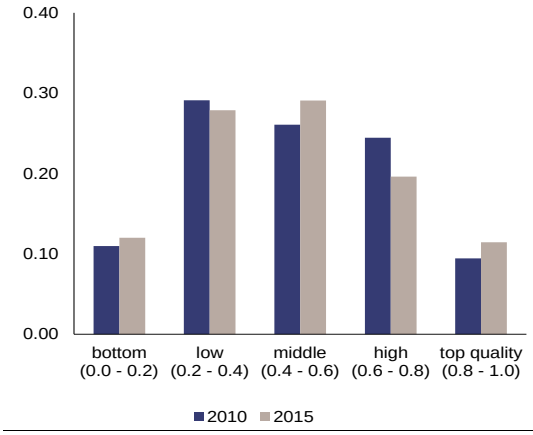
3.4.2. NON-COST COMPETITIVENESS

Upscaling the product range, enlarging the accumulation of knowledge-based capital across a wider spectrum of the economy, and improving market functioning will be crucial to safeguarding potential growth over the long-term. This depends on a broad range of conditions, linked to innovation and technology content, company creation and growth, product and process development, trade participation and factors conducive to a supportive business environment. These various factors contributing to non-cost competitiveness are discussed in more detail below.

Quality of exports

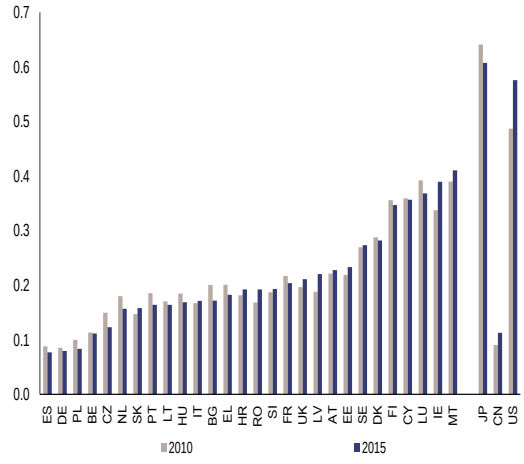
Belgium exports mainly and increasingly medium-quality goods. On average product quality, peer countries are generally found to perform better, as do most EU-15 countries: Germany and the Netherlands are situated in the middle range, while French exports are concentrated more at the upper end of the quality spectrum. Graph 3.4.6 shows the share of value that Belgium was exporting in each quality category in 2010 and in 2015. This shows that the share of the 'bottom', 'middle' and 'top' categories increased between 2010 and 2015. However, the 'high' category's share fell. Nevertheless, Belgium lags behind its neighbours in terms of the number of different top-quality products exported (Graph 3.4.7).

Graph 3.4.6: **Share of export value by quality rank, Belgium**



Source: COMEXT (Eurostat) and ORBIS

Graph 3.4.7: **Share of number of different products exported in the top-quality category, EU-28 countries plus Japan, U.S. and China**



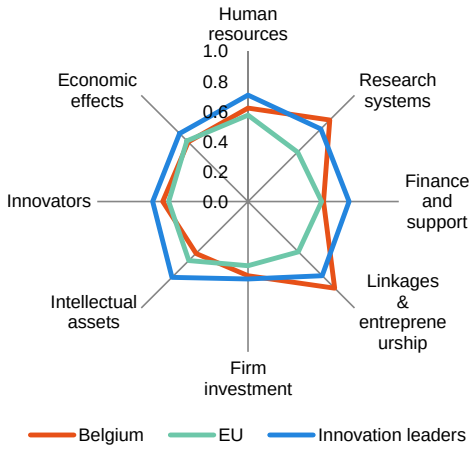
Source: COMEXT (Eurostat) and ORBIS

Generally upscaling the product range or mix would help to compensate for high labour costs and to allow future export growth. Belgium's product specialisation in the middle-quality product segments seems to be misaligned with its high labour costs. This is particularly relevant to manufacturing industries exposed to fierce global competition and facing a fall in relative prices: rubber and plastic products, transport equipment and, to a lesser extent, textiles, metallurgy, chemicals, wood, paper and printing, and electrical equipment. Producers cannot easily pass on higher input costs in the price of their products, most of which are standardised, can be easily copied and are abundantly available. Price demand for these products is also highly elastic, as they are easy to substitute. Furthermore, the value added in these industries has also evolved much less favourably than that of neighbours.

Innovation capacity

Belgium is a strong innovator with an above-EU-average performance, although it declined slightly in 2015 and remains below the group of EU innovation leaders (Graph 3.4.8). ([46]) Its good performance can be explained by the openness and quality of its science base, which is reflected in strong public-private collaborations, a high proportion of public R&D financed by the business sector and the its attractiveness to foreign doctoral students. However, the high quality of the science base is not sufficient by itself to translate into innovation output. The proportion of high-growth, innovative enterprise in the total economy remains low (0.10 %, against an EU-28 average of 0.16 %), especially compared to EU innovation leaders (which have an average of 0.24 %) (Costa *et al.*, 2016).

Graph 3.4.8: **European Innovation Scoreboard — distance to EU innovation leaders and to EU average**



(1) A score of 0 indicates the lowest performance among all countries in the sample, whereas 1 indicates the frontier of best practice.
Source: European Innovation Scoreboard (2016)

Regional innovation strategies, coupled to fiscal incentives at the federal level, have aimed at fostering innovation-led business

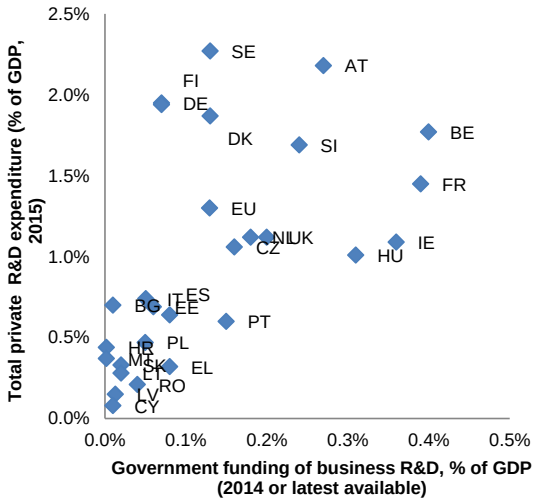
([46]) Sweden, Denmark, Finland, Germany and the Netherlands ranked as 'innovation leaders' in 2015 - European Innovation Scoreboard (European Commission, 2016).

competitiveness. Following overall evaluations, regional development strategies have expanded their initial science/technology focus to encompass innovation more broadly. Wallonia and Flanders, in their efforts to streamline and simplify research and innovation support, recently merged the agencies responsible in their regions. ([47]) The focus on boosting innovation in SMEs and start-ups has increased. ([48]) The federal government also recently aimed to increase the availability of equity financing, with the introduction of a 'tax shelter' for investment in start-ups. Federal fiscal support for business R&D has also increased to over EUR 1.2 billion, accounting for over two thirds of total public support for business R&D, in particular due to increased use of the partial salary withholding tax exemption for researchers (OECD (2015b; Belgium National Reform Programme 2016).

Total R&D intensity in Belgium reached 2.45 % of GDP in 2015, narrowing the gap both with the Europe 2020 target (3 % of GDP), and with the average of innovation leaders (3.05 %). However, public R&D intensity ([49]), at 0.68 %, remains low compared to the EU average and innovation leaders ([50]), whereas the business sector remains the largest and an expanding source of R&D investment, with spending of 1.77 % of GDP in 2015 (Belgian Court of Auditors, 2013; Dumont, M., 2012; Dumont, M., 2015).

Ensuring the efficiency and coherence of public support for research and innovation remains a challenge, especially to foster high-growth innovative enterprises (Graph 3.4.9). Total public support for private R&D has become the highest in the OECD, reaching 0.41 % of GDP (OECD, 2016c). However, reflecting its generic nature and the concentration of R&D, more than 90 % of this fiscal support goes to large companies, mostly those active in high-tech sectors (Belgian Court of Auditors, 2013; Dumont, M., 2012). The lack of evaluation of potential overlaps between the many support instruments across the regions and communities is an issue. The scope for increasing the efficiency, effectiveness and coherence of public support for R&I in Belgium is likely to be significant.

Graph 3.4.9: **Efficiency of public funding of private R&D**



Source: OECD

Furthermore, a wider base of businesses investing in knowledge-based capital (KBC) ([51]) could help boost innovation and productivity growth. Belgium has a relatively high percentage of knowledge-based capital (OECD, 2015b), of which R&D constitutes more than half. However, most business R&D spending is concentrated in a few industries ([52]) featuring a few large

([47]) In Flanders, as from January 2016, Enterprise Flanders (AO) and the Agency for Innovation by Science and Technology (IWT) merged into the Innovation and Entrepreneurship agency (VLAIO). In Wallonia, l'agence de stimulation technologique and the agence de stimulation économique were merged into the l'Agence pour l'entreprise et l'innovation (AEI) in March 2015.

([48]) Notably, initiatives in Wallonia under the 'Walloon Small Business Act', 'Creative Wallonia' and 'Digital Wallonia'; the 'Small Business Act' and the 'regional innovation plan' in Brussels; the 'Digital Belgium' action plan at the federal level; in 2016, the Flemish Government also launched the SME growth subsidy programme, managed by VLAIO.

([49]) R&D expenditure as a percentage of GDP is used as an indicator of an economy's relative degree of investment in generating new knowledge.

([50]) Sweden, Denmark, Finland, Germany, the Netherlands; see European Innovation Scoreboard 2016.

([51]) According to the OECD, knowledge-based capital encompasses all assets that lack physical substance but, like physical capital, generate economic benefits that can be retained by firms, at least to some extent, for a period that exceeds one year. Three main categories of intangible assets are usually measured: computerised information (which includes software and databases), innovative property (covering R&D, design, mineral exploration, financial innovation and artistic originals) and economic competencies (including advertising, marketing research, own-account organisational capital and training).

([52]) In particular: pharmaceuticals (28.8 % of total business R&D expenditure in 2013), manufacturing of computer, electronic and optical products (7.1 %) and IT & information services (6.3 %) (RIO Country Report Belgium 2016 - publication pending).

multinational companies. ([53]) This high concentration of business R&D suggests that much knowledge-based capital is also highly concentrated in a small number of firms, since R&D investment is one of the main assets of this kind (Biatur and Kegels, 2015), and that strong R&D performers tend to also invest more in other forms of intangibles (ICT and skills notably). Furthermore, while the stock of knowledge-based capital is high, investment mostly occurs in highly-productive innovative firms, while a large pool of firms underinvests (OECD, 2015). This decline can in future lead to a slowdown in innovation performance of certain sectors and partly explain the slowdown in total factor productivity growth. Investment in knowledge-based capital is a major driver of productivity and growth as it usually underpins innovations and their subsequent adoption (Corrado *et al.*, 2012, Corrado *et al.*, 2013, and Andrews and Criscuolo, 2013). ([54])

A skilled workforce to develop and use technology for new ideas and products is also essential to boost innovation. The comparably low percentage of students and graduates in STEM (science, technology, engineering and mathematics) might become a concern for future innovation capacity. By international comparison**,** the proportion of tertiary education graduates in STEM fields (17.8 % in 2014) has increased slightly in recent years, but is still one of the lowest in Europe. This is partly caused by the relatively low rate of new entrants. ([55]) Flemish students perform relatively well in engineering and sciences (Lambert, 2015). However, only 5 % of their 15 year-old French community peers are among the top achievers. The communities and regions are taking action to make STEM more attractive at different levels of education and training (EC, 2015b, 2016c). Monitoring of the Flemish STEM action plan ([56]) points to positive results in higher education but mixed results in secondary education. The proportion of people with high computer skills (24 %) is below the EU average (29 %), and well below the highest percentage observed in innovation leaders. ([57]) The shortage of qualified experts in ICT is expected to rise from about 8,000 in 2012 to 30,000 in 2020 (EC, 2016b).

The quality of the justice system faces serious challenges regarding monitoring tools. Recent GRECO and High Council investigation reports identify a number of shortcomings in the reliability, comparability and uniformity of court data, and on case allocation in court. ([58]) Furthermore, there is room for improvement in continuous training of judges and online publication of judgments (EU Justice Scoreboard, 2017, forthcoming). The ongoing Justice Plan reform that the government announced in March 2015 could address some of these issues, such as the use of ICT in courts. However, its impact will have to be closely monitored.

3.4.3. COMPETITION IN PRODUCT AND SERVICE MARKETS

There is strong evidence that the functioning of service sectors affects the whole economy, not only due to their sheer size but also through their links with other sectors of the economy. ([59]) Services are used as inputs in the production process of downstream firms, and service sectors are in turn a major source of demand for upstream producers. Well-functioning markets for services will thus also have a positive impact on the growth performance of the rest of the economy. While value added shares of services provide an output-based measure of their economic importance, employment shares provide further information from the input side.

In the case of Belgium, the average value added and employment growth rates in market

([53]) For instance, around 30 % of R&D expenditure in the pharmaceutical industry in 2014 was carried out by a single large multinational.

([54]) Investments in intangibles, innovation activities and productivity all appear to be intrinsically linked. It has been estimated that investment in knowledge-based capital has accounted for one fifth to one third of labour productivity growth.

([55]) In comparison with the EU-21 and OECD averages, the 2012 Belgian enrolment rates for new entrants was lower in sciences (5 % against 11 % in EU-21) and engineering (10 % against 15 % in EU-21).

([56]) STEM action plan and STEM monitor 2016.

([57]) Finland (46 %), Denmark (39 %) and Germany (30 %).

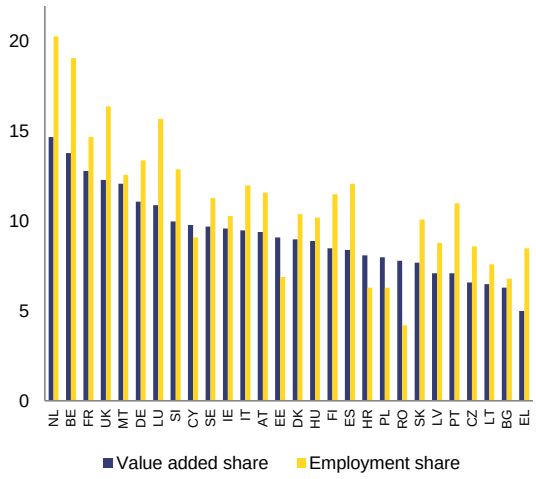
([58]) GRECO (2016) concluded that 'Belgium has not satisfactorily implemented or dealt satisfactorily with any of the 15 recommendations contained in the Fourth Round Evaluation Report.'

([59]) The services sector plays an increasingly important role in the global economy and has become crucial for a country's economic development. Services represented around two thirds of gross value added and almost three quarters of total employment in the EU-28 in 2015.

services have been falling since the 2008 crisis but, unlike in many other countries, have remained positive. Belgium has the highest value added shares in GDP in the business services subsector, as do the Netherlands and France. Moreover, in Belgium, the proportion of 'performance-enhancing business services' ([60]) by gross value added is among the highest in the EU. These are business services with a significant potential to increase productivity. ([61]) Legal and accounting services, with a share of more than 7 %, are particularly important in Belgium. Computer programming follows with a 2 % share. The professional services sector also accounts for the highest proportion of employment, above the EU average. This demonstrates that this sector is more labour-intensive.

Market services, and most notably business services, also have large supply linkages (forward linkages) ([62]) with the rest of the economy and make up the bulk of services embodied in manufactured exports. Business services, wholesale trade and financial services are at the top of the ranking of key inputs into the economy. These service sectors are also in the top ranking when intermediate inputs of manufacturers are included. Since an increasing number of services is potentially internationally tradable, or are traded indirectly as part of trade in goods, their unit labour costs can also directly affect external competitiveness. The number of workers potentially exposed to international trade in services may actually be larger than the corresponding number for manufacturing. ([63])

Graph 3.4.10: **Value added share and employment share - professional, scientific, technical, administrative and support service activities**



Source: Eurostat

Belgium's regulation framework for product markets is around the OECD average. ([64]) The World Economic Forum's Global Competitiveness Report ranks Belgium above its peers and 13th in the world, with a goods market efficiency index of 5.2 (Graph 3.4.10). ([65]) The average OECD score is the result of extremely low barriers to trade and investment (the second lowest in the OECD, after the Netherlands) on the one hand, but relatively high barriers to entrepreneurship and a high degree of State control on the other.

([60]) Business services are a set of services provided to firms to support their activities. They include more standardised business services (such as office leasing, labour recruitment and employment, security and industrial cleaning activities) and knowledge-intensive business services (such as management consultancy, accountancy and legal services, but also more technical services such as design, engineering and architectural services).

([61]) Performance-enhancing business services are: computer programming, consultancy and information service activities; architectural and engineering activities, technical testing and analysis; scientific research and development; advertising and market research; other professional, scientific and technical service activities; and veterinary activities.

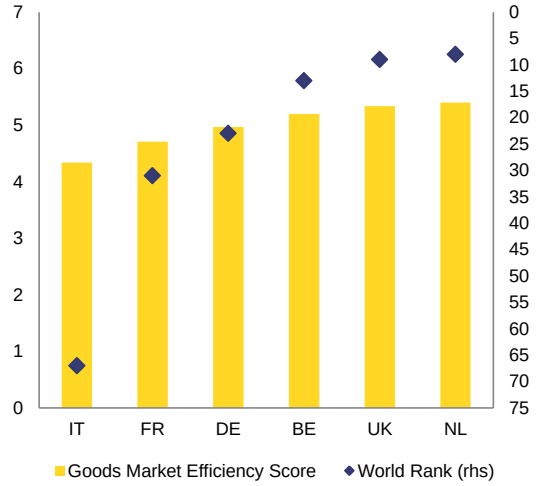
([62]) Forward linkages reveal the role of services as intermediate inputs in the production of all goods and services in the economy. It includes services' share both as direct inputs in the production of other goods and services and as indirect inputs via other industries (the 'feedback effect'). The larger the feedback effect, the larger the efficiency gains generated by well-functioning service sectors.

([63]) In Belgium, services trade has almost doubled over the past 10 years.

([64]) OECD index of product market regulation.

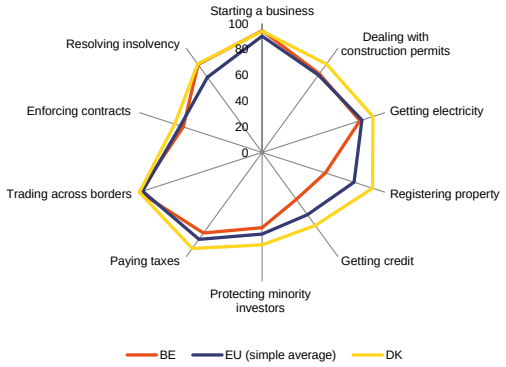
([65]) It measures, for example, the level of competition in local markets, the extent of market dominance and the effectiveness of anti-monopoly policy.

Graph 3.4.11: **Goods market efficiency indicator, 2016**



1= Very inefficient; 7= Very efficient
Source: The Global Competitiveness Report 2016/2017, World Economic Forum

Graph 3.4.12: **Ease of doing business (distance to frontier), 2017**



A score of 0 indicates the lowest performance among all countries in the sample, whereas 100 indicates the frontier of best practice.
Source: World Bank, Doing Business Report 2017.

Business environment and entrepreneurship

Little progress has been made in enhancing the business environment. Belgium continues to rank low in terms of ease of doing businesses, according to the World Bank. ([66]) Furthermore, in contrast with other Member States with relatively low ranking, Belgium's position has not significantly progressed in recent years and the distance to the best world performers remains very significant on a number of indicators (Graph 3.4.12). Belgium reports one of the highest rates of cost and time to transfer property in the EU, although steps have been taken to address this challenge. Despite favourable financing conditions for businesses, Belgium also scores under average in the World Bank's indicators on getting credit since the availability of credit information from privately owned credit bureaus –as opposed to a public registry- is more limited than in neighbouring economies. Effective credit reporting and availability of information improves the allocation of new credit. Collateral and bankruptcy laws could be adapted to further protect creditors and thus facilitate access to risk-capital.

Belgium is showing some progress in the area of entrepreneurship, although challenges remain. Although recent policy efforts and numerous initiatives to favour entrepreneurship seem to be bearing fruit, leading to a slight but noticeable change ([67]), the results in terms of entrepreneurship spirit and number of new companies could still improve further (Graph 3.4.13). Some regulatory and fiscal barriers to starting businesses remain, including the fact that the cost for starting a business is still 60% higher than the EU average; the cost to transfer property is three times as high as the EU average and takes more than twice as long. New policies and strategies at regional level ([68]) have been put in place, but their impact is still unknown. In 2016, under its 'Digital Belgium' initiative, the federal government adopted a legal framework for the 'sharing economy'. ([69])

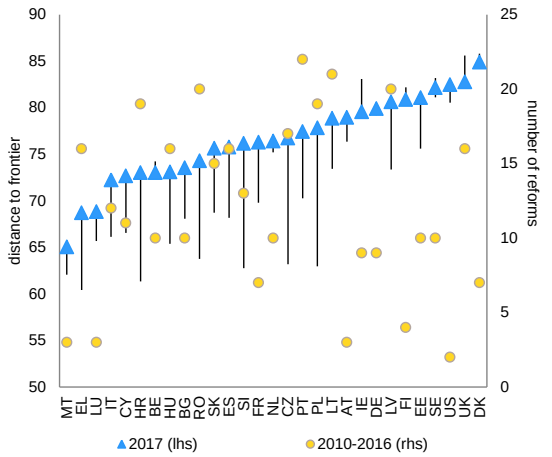
([66]) Belgium is ranked 42nd in the World Bank's Doing Business 2017, while it was ranked 43rd in the previous edition. It ranks 22nd among Member States (World Bank - Doing Business, 2017).

([67]) This is shown for example by a rise of 15 % from last year in early-stage entrepreneurial activity in general and a 60 % rise in the number of new women entrepreneurs.

([68]) Namely: the 'Small Business Act 2015-2019: Walloon Government' Strategy for fostering creation and growth of SMEs, adopted in June 2016; the 'Stimulating more and more ambitious entrepreneurship in Flanders' Strategy; and the Strategy 2025 adopted in Brussels, which includes a Small Business Act.

([69]) *Loi-programme du 1er juillet 2016, M.B., 4 juillet 2016 (éd.2) and Exposé des motifs du Projet de loi-programme du 2 juin 2016 (Chambre des représentants doc 54 1875/001.*

Graph 3.4.13: **Ease of doing business and number of reforms, 2010-2016**



Distance to frontier measures the position in relation to the reference value of 100.
The vertical segment indicates the variation in the indicator between 2010 and 2016, with the upper and minimum levels reached during the period; the rhombus indicates the value for 2016 and the circle indicates the number of reforms that were adopted in the same period.
Source: World Bank, Doing Business Database

Sector regulation

A large proportion of the service economy, in particular comprising network industries, professional services and to some extent the retail trade, remain highly regulated. Eliminating unwarranted restrictions and rigidities is a key factor to boost productivity. Anti-competitive regulation in services can result in costs on downstream industries that use the output of these sectors as intermediate inputs in the production process, and can contribute to inflation (Section 3.4.1).

In some network sectors, overall regulatory management is very extensive compared to other Member States (Égert & Wanner, 2016). This is the case mainly in electricity, gas and water supply; transport and storage; and post and telecommunications. The resulting inefficiencies not only weigh on the cost of living but also affect the competitiveness of export industries that use these services as inputs.

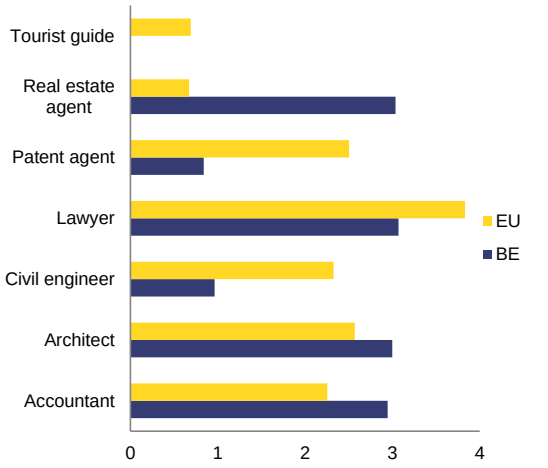
In some professional services, regulatory barriers remain significant. ([70]) A new indicator developed by the European Commission ([71]) indicates that the level of restriction is lower than the EU average for patent agents, civil engineers, lawyers and tourist guides, while it is higher for real estate agents, architects and accountants (Graph 3.4.14). In addition, for all of these (except patent agents, for which it is not calculated), the business churn (or turnover) rate ([72]) is significantly lower than the EU average. This seems to indicate relatively low dynamism and competition in professional services in Belgium. The national action plan submitted by Belgium for the purpose of mutual evaluation of professional services proposes very little change. Reducing these barriers could generate more intensive competition as a result of more firms entering the market. It could also lead to benefits for consumers in terms of lower prices, as a result of reduced profit rates. Recent research shows that lowering restrictions in the services sector could increase labour productivity (Van der Marel *et al.*, 2016).

([70]) Regulatory barriers include, for example, reserved professions or businesses; shareholding and voting requirements; restrictions on combining certain professions or businesses; compulsory membership of a professional/business association; authorisation schemes; and specific professional indemnity insurance requirements.

([71]) The European Commission has developed a new composite indicator of the restrictiveness of most existing barriers to access to and provision of professional services. It is based on data collected from Member States, complemented by desk research. This new indicator has many similarities with the Commission's indicator of barriers in business services published in 2015, but also differs from it in certain aspects (SWD (2016) 436 final).

([72]) The business churn rate is calculated as the ratio of the sum of newly founded and closed enterprises to the total number of enterprises in year t. No data are available for patent agent-related activities.

Graph 3.4.14: **Restrictiveness indicator, 2016, Belgium and the EU**



Note: Numerical values on a scale from 0 to 6 are attributed for every restriction/variable. The higher the score, the more restrictive is the assessment. For the profession of civil engineer the restriction measured is the protection of the job title.
Source: European Commission services

Differences in regulation of the collaborative economy between regions may hamper its development. Belgium's approach to regulating the collaborative economy differs between regions, ranging from facilitating new business models to being very conservative. This fragmentation and divergence is creating disparities between service providers. In accommodation, Flanders and Wallonia have adopted a regulatory framework designed to facilitate development of the short-term accommodation market in the collaborative economy. The Brussels region, on the other hand, has recently adopted a complex regulatory framework on tourist accommodation, with different market access conditions for different categories of providers. Some of the requirements risk impeding the development of short-term rental of primary residences, as they impose similar conditions to those on professional hotel providers. Belgium has adopted a ceiling for 'collaborative' income for people providing collaborative services. A reduced income tax rate of 10 % applies to annual gross income below a ceiling of EU 5,000.

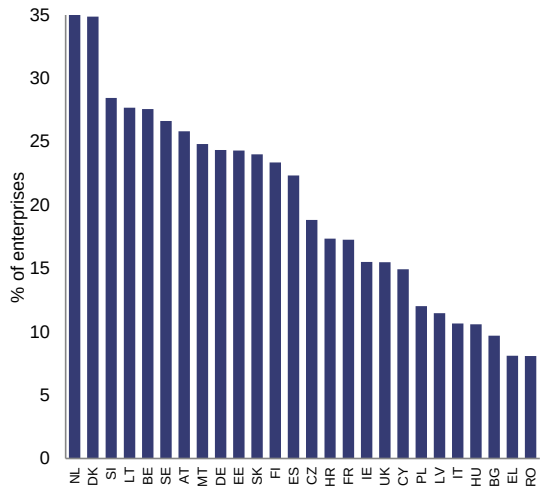
The increases in retail prices may point to regulatory restrictions and a low level of competition. The inflation has been higher in Belgium than in the neighbouring countries for both processed and non-processed food in 2016, the latter being partially explained by higher excise duties on alcohol and tobacco (Price Observatory, 2016). Estimates for the EU-27 point to relatively high, but decreasing, mark-ups ([73]) in Belgium in the retail sector (Thum-Thyssen and Canton, 2015), with higher values only for Luxemburg in 2013. These abnormal rents could be linked to shelter from competition. Also regulatory factors (such as establishment and operational restrictions) affect market functioning and could contribute to higher consumer prices. According to the OECD indicators of product market regulation (OECD, 2017) Belgium is the second most restrictive EU Member State for retail sector regulation, after Luxemburg, and the country also scores very high in the Commission assessment of retail establishment restrictiveness. Regionalising responsibility for retail establishment has simplified the regulations to a degree, but the substantive conditions for granting authorisations in the new regional laws leave a broad margin for interpretation. The concrete implementation of these rules will be important to ensure that this do not lead to market entry barriers.

The potential of e-commerce is considerable and could be further exploited. The development of new technologies is helping to offset the impact of barriers to market integration in services. As multichannel marketing is increasing in the retail market, e-commerce is challenging traditional forms of retailing in different sectors, including the groceries subsector. In Belgium, the percentage of SMEs selling online is above the EU average. This is reflected in the higher than average proportion of e-commerce in retail turnover. Belgian retailers also appear to have seized the opportunities offered by digital technologies faster than retailers in several other Member States, and are intensive users of digital technologies and processes (Graph 3.4.15). While the percentage of customers buying online is slightly below the EU average, Belgians are more likely than other EU citizens to buy online from another Member State. Further fostering the use of e-commerce, but also the business environment and the regulatory framework friendly to its development, could contribute to increasing consumer choice. A recent

([73]) I.e. the difference between the price charged for a good or service and the cost. This is an important determinant of the producer and consumer surplus.

legislative change has made night work in e-commerce possible.

Graph 3.4.15: **Enterprises with high levels of digital intensity — Retail trade, except motor vehicles and motorcycles (2015)**



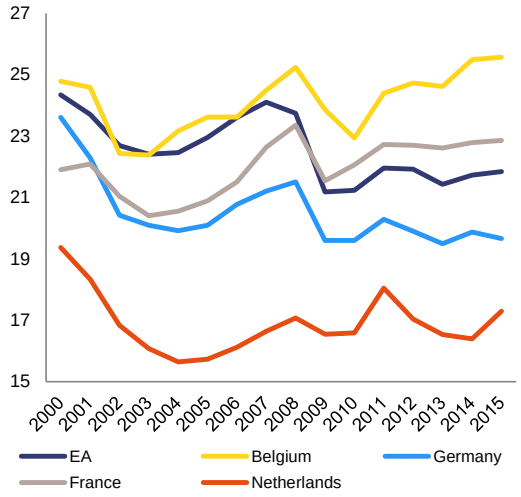
Source: European Commission, Digital Scoreboard

3.4.4. INVESTMENT

The overall investment rate in Belgium is robust and has proved resistant in recent years. Between 2000 and 2008 it averaged 22.1 % of GDP. This increased to 23 % in 2015, and modest improvements can be expected in 2016 and 2017.

Business investment has been resilient, with non-financial corporations achieving an average gross investment rate of 24.5 % from 2009 to 2015 (Graph 3.4.16). ([74]) Although there remain general and sector-specific barriers to investment in the private sector ([75]), business investment, notably in construction and other investment (e.g. R&D and software), in contrast to many other countries, has remained broadly stable since the financial crisis. Although overall investment in R&D is higher than the EU average (as a percentage of GDP), it lags behind the best-performing advanced countries. Investment has increasingly focused on services and has fallen in manufacturing since the 2000s, reflecting both a trend shift towards services and a decline in competitiveness or the effect of specialisation in some categories of products that have faced difficulties.

Graph 3.4.16: **Gross investment rate of non-financial corporations (2000–2015)**



Source: Eurostat

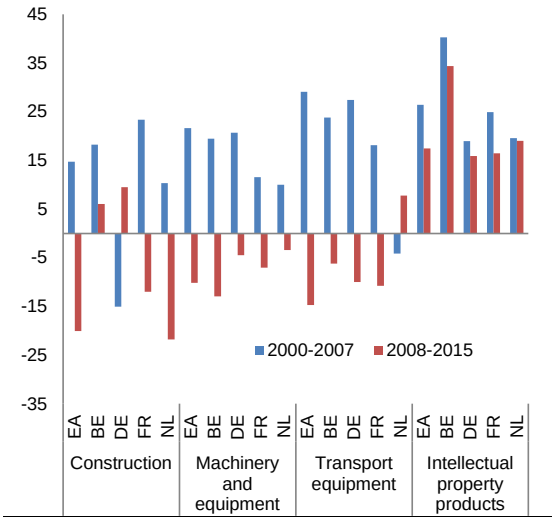
The most resilient components since the crisis are construction and intellectual property products (Graph 3.4.17). Compared with other euro area countries, it is especially the 'buildings other than dwellings' category that has pulled investment upwards. Regarding investment in knowledge, Belgium invests heavily in foreign patents, explaining part of the rapidly increasing intangible ([76]) investment to GDP ratio. The relatively large business services sector in Belgium also explains part of the substantial percentage of intangible assets (including computerised information, scientific and creative property and skills) and ICT. The least resilient investment component since the crisis is investment in machinery and equipment. This fell from an average of 8.9 % of GDP between 2000 and 2008 to 7.5 % of GDP between 2009 and 2015.

([74]) Against an average of 22.5 % for France, 19.8 % for the Netherlands and 16.9 % for Germany (Eurostat).

([75]) Box 1.1. of last year's Belgian country report lists the main barriers, including higher labour and energy costs, skill shortages and regulatory requirements.

([76]) Comprising fixed assets such as R&D, mineral exploration, software and databases, literary and artistic originals, etc.

Graph 3.4.17: **Gross fixed capital formation by asset type – evolution 2000-2007 and 2008-2015 (% of chain linked volumes 2010)**

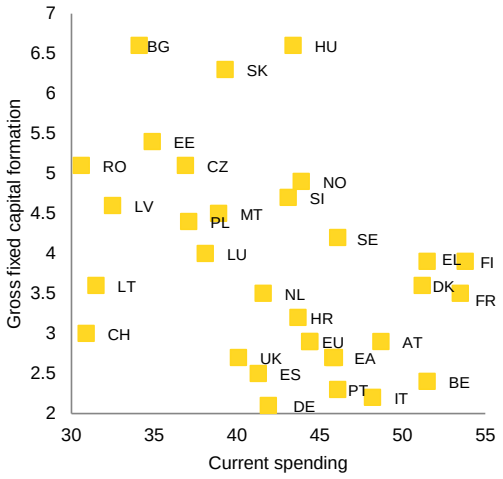


Source: Eurostat

Meanwhile, despite its potential to stimulate economic growth in the long run, ([77]) public investment is very low by European standards, in particular in relation to total public spending (Graph 3.4.18). Net public investment has been averaging zero since the 1990s. As a result, not only is the public capital stock among the lowest in Europe, but the quality of public infrastructure has been eroded. All too often, the focus has been on investment in government buildings at the expense of investments with a large potential for stimulating future growth. Given the very tight budgetary constraints for all levels of government, preserving enough room for investment hinges on improving the efficiency of public services and policies, and on reversing the rapid increase in some government spending. ([78])

Investment needs are most urgent in infrastructure (education, energy, transport) and to a lesser extent in other network sectors (digitalisation). All are essential to deepen the internal market, the transition towards a low carbon society and the digitalisation of our economies. Energy and transport infrastructure (including for managing demand) play a vital role in the Belgium's economic competitiveness, as there is a positive relationship between them, total factor productivity and economic growth (Brons *et al.*, 2014). Belgium's location, coupled with its hosting international organisations, has enabled the country to attract many distribution centres, logistics centres and international company headquarters. However, in combination with fragmented spatial planning and a steady population increase, there is a growing problem of peak hour congestion that undermines the country's foreign investment attractiveness and entails sizeable economic, social and environmental costs.

Graph 3.4.18: **Current spending vs. gross fixed capital formation, 2015 (% of GDP)**



Source: Eurostat

In his September Declaration the Prime Minister called for 'a national pact for strategic investments'. Like the European Investment Plan, this calls upon private and public investors to work together to boost investment in a number of key strategic sectors, including energy, security, transport and the digital economy. It also aims at reinforcing investment policies, while respecting the division of responsibilities between the various levels of government. To ensure that financing reaches growth-enhancing projects, the Prime

([77]) A simulation by the Federal Planning Bureau published on 27 January 2017 estimates that increasing public investments from 2.5% to 2.9% of GDP (or EUR 2 bn. in 2017) could increase GDP the first year by 0.24% due to an increased demand for goods and services. After twenty years the additional growth would rise to 2.77%. The overall effects on the economy would, however, strongly depend on how these investments are financed and how the impacts on inflation are accommodated.

([78]) Social spending is high and among the highest in the OECD. Over the last decade, social spending increased by over 5 percentage points of GDP. In the recent past, increases were especially pronounced in sickness and disability, pensions and family allowances (see Section 3).

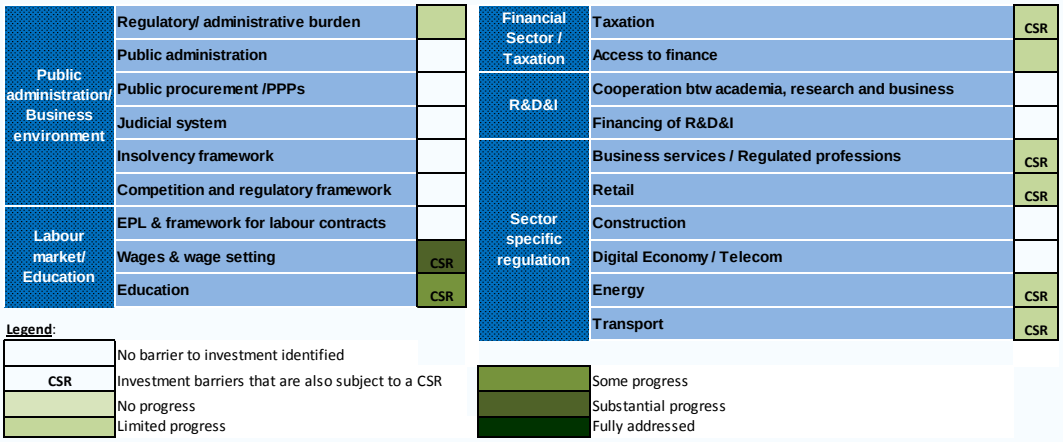
Minister envisages an independent selection committee and a steering committee to monitor and support the pact. The Prime Minister plans to set out the detailed rules in a policy note in 2017.When made operational, the pact would be aimed at providing support for implementation of the inter-federal energy pact that is to be agreed in 2017, as well as for a possible future long term inter-federal mobility strategy called for by the Federal Minister for mobility. The proposal for a national pact for strategic investments will contain measures and actions across the responsibilities and competence of the various levels of government and will be concerted.

Box 3.4.1: **Investment challenges and reforms in Belgium**

Section 1. Macroeconomic perspective

Total investment in Belgium (measured as gross fixed capital formation) proved to be quite resilient to the crisis. Together with supportive financing conditions, improving competitiveness relative to peer-countries further underpins business investment, with risks surrounding this positive outlook mainly rooted in the external environment. Construction investment has also been dynamic, due to housing and public infrastructure projects, such as school buildings. While historically low mortgage interest rates and comparatively low yields for alternative investment assets create the setting for a continuation of housing investment, the investment cycle of local governments is forecast to drive public investment.

Section 2. Assessment of barriers to investment and ongoing reforms



Barriers to private investment in Belgium are overall relatively moderate as confirmed by the European Commission assessment. Substantial progress was made on wage setting. Some progress was also made on education. More ambitious liberalisation of regulated professions and business services and the retail sector could spur investment in the affected sectors as well as economy-wide.

Main barriers to investment and priority actions underway:

1. Unjustified restrictions in the services sectors give rise to low productivity and uncompetitive pricing which affects also the costs and performance of recipient sectors.

2. Public sector investment remains a major challenge, both in terms of levels as well as orientation of investment in order to boost the country's potential growth. Since the '80s not only did overall investment levels decrease, there was also a shift away from network infrastructure towards building construction. This has created scope for redirecting public investment towards more productive projects.

3. The scope for public investment tends to be narrowed by a mismatch between the available resources of the different governments and their individual investment responsibilities. There is also scope for improvement of the efficiency and coherence of public support for research and innovation policies.

3.4.5. TRANSPORT

Given the high concentration of economic activity around the capital and the port cities, the most urgent challenges are upgrading basic rail and road transport infrastructure. Current capacity usage could be optimised through demand-side measures, Intelligent Transport Systems (ITS) and shifts between transport modes, and by eliminating missing links between the main economic hubs. Investments in inland waterways, removing bottlenecks and allowing better use of the dense waterway network, have great potential to achieve modal shifts. Belgium is working on this but in the short term this has not yet resulted in curbing the ever-growing road congestion problem.

Within transport infrastructure, the priority appears to be maintenance and better use of existing infrastructure and to achieve as soon as possible the planned investment in the rail network (e.g. RER-GEN), rather than expanding the size of the networks, as Belgium already has an extremely dense road and rail network. The quality of Belgium's transport infrastructure is perceived as lower than in neighbouring countries and as deteriorating faster, mostly due to insufficient maintenance spending and the ageing of networks (IMF, 2016). Consumer assessment of train services is very poor. According to the Consumer Markets Scoreboard 2016 Belgian consumers gave them the fifth lowest score for train services in the EU.

Belgium remains Europe's most congested country in terms of hours wasted and delays, especially around Antwerp and Brussels. Transport also causes significant air pollution problems. In 2014 it was responsible for 22.2% of greenhouse gas emissions (20.8 in EU28), 54.6% of NOx emissions (45.4% in EU28) and 16.4% of PM2.5 emissions (14.92% in EU28). A 2011 study by CE Delft (Van Essen *et al.*, 2011) referred to in the 2013 OECD economic survey of Belgium estimates the costs of congestion at 1-2% of GDP. Since then structural traffic jams have more than doubled. In 2013, 78.5% of transport was by private car (FPB, 2016) and in Flanders, 75% of commuters still use their private car (European Commission, 2014, p.5-6). By 2030 transport demand is expected to grow by another 11% for passengers and 44% for goods (Federal Planning Bureau, 2015). Meanwhile, according to OECD data on Transport infrastructure investment and maintenance spending, Belgium has among the lowest share of investment in inland transport infrastructure in the EU. Over the period 2000-14, annual inland transport infrastructure investment (0.44% of GDP) was well below the EU average (1.01%).

The intention to tackle congestion announced in the federal and regional government agreements is still to be turned into tangible measures. Positive developments include road-pricing for lorries, the extension of the car-free zone in central Brussels, the green tax in Brussels on excessive car parks for office buildings, an increase in sharing schemes — mostly in Brussels, Antwerp, Ghent and Leuven — and initiatives to help cities to become more sustainable. ([79]) Antwerp has introduced a low-emission zone in February 2017, Ghent is proposing to extend its pedestrianized zone further in 2017, and Brussels is preparing to introduce a single low-emission zone covering the entire regional territory. In addition, EUR 5.2 billion will be invested over the next 10 years in Brussels through a multiannual investment plan for public transport..

Several activities are ongoing or planned to deploy Intelligent Transport Systems using applications for optimum road use, traffic and travel data, road safety and security. Flanders is also participating in three Connecting Europe Facility projects dealing with cooperative ITS, and working on standardising these services in Europe to provide continuity of service. Such cooperative systems have the potential to improve road safety and congestion, two topics that are intrinsically related (because of the saturation level of Belgian roads, even small incidents create massive delays). Although some measures have been taken to deal with the excessive use of company cars, progress remains limited. No decision has been taken to extend road pricing to passenger cars.

The inland waterway network in Belgium, one of the densest in the EU, requires major infrastructure work. There appears to be ample scope for renewal of locks and canals and upgrades

([79]) Stadsontwikkelingsprojecten; duurzaamheidsmeter; natuur in je buurt.

of bridges and cargo-handling facilities, to cope with heavy-load traffic between the Benelux, France and Germany. The lack of investments threatens to reduce the quality of service and aggravate even more the chronic road congestion problem affecting key production centres (Antwerp, Brussels and Ghent in particular).

3.4.6. ENERGY, RESOURCES AND CLIMATE ACTION

A major challenge is to ensure that power supply remains adequate and becomes flexible, and is aligned with Belgium's commitments under the Paris agreement and the five dimensions of the energy union. Having receded when the operational lifetime of the Doel 1 & 2 and Tihange 1 nuclear reactors was extended, short-term supply concerns have recently come back strongly. The temporary outage of 22 nuclear plants in France and 2 in Belgium, combined with cold weather, resulted in day-to-day prices for electricity peaking far above those in neighbouring countries, excluding France. In the longer term, Belgium has high investment needs ([80]), partly in view of the nuclear phase-out that is now planned to take effect between 2022 and 2025. Structural shortages may occur if investment in new and replacement capacity is further delayed, but the repeatedly revised timetable for the nuclear phase-out has deterred investors, in particular those looking to invest in renewables and gas-fired power plants, and has created a climate not conducive to long-term investment decisions. A strategic reserve has been created, keeping potentially mothballed plants online and pushing the development of demand-side management. Belgium's interconnection level in 2016 was 17 % of installed generation capacity, and ongoing projects will increase this percentage further.

A decrease in primary and final energy consumption is needed to achieve the indicative national 2020 targets on energy efficiency. Although some actions have been taken, progress remains limited. A strategic reserve has been created, keeping potentially mothballed plants online and pushing the development of demand-side management. Belgium's interconnection level in 2016 was 17 % of installed generation capacity, and ongoing projects will increase this percentage further. The idea of creating an 'energy norm' (by analogy with the salary norm) is still being studied. In 2015, Belgium had a primary energy consumption of 45.7 Mtoe ([81]), still far from the 2020 indicative target of 43.7 Mtoe. Some improvements have been observed in industry's final energy intensity and in final energy consumption per m^2 for the residential sector. However, actions are needed in transport and other sectors to achieve energy efficiency improvements in 2014-2020 faster than in 2005-2013. Some progress has been made on the 2020 renewable target of 13%. At 8 % of gross final energy consumption in 2014, the Belgium's renewable energy percentage is above its 2013/2014 interim target of 5.4 % and 2015/2016 interim target of 7.1 %, but there is a need to assess whether the tools are sufficient and efficient to meet the 2020 target. Agreement has been reached on dividing responsibility for meeting the 13% target between the different regions, but attention should be paid to monitoring implementation of the sub-targets.

There is currently no suitable legal framework to promote the required increase in generation capacity, interconnections, smart grids and other demand-side measures, plus decarbonisation of the whole energy system. There is a considerable lead time for large projects in the energy sector and a great need for replacement capacity in the next decade. The Federal Energy Ministry is working on a new study that explores further steps towards a sustainable energy supply by 2050. In parallel, a steering group composed of federal and regional representatives has been tasked with preparing an integrated climate and energy plan for 2030, as set out in the energy union strategy. The regional authorities are also preparing their own energy vision. In Flanders, this is being shaped through a participatory process (*stroom-versnelling)*. Five working groups, chaired by the electricity regulator VREG and with representatives from civil society, are discussing needs for flexibility, finance, renewables, energy efficiency and governance. Citizens are also consulted through a series of workshops and online tools. Wallonia's

([80]) In its 2014 publication on energy and emissions projections for 2050, the Federal Planning Bureau assessed investment needs and the overall direction in the power sector in the reference scenario at EUR 62 billion by 2050. This would rise to EUR 71 billion in a high GDP scenario.

([81]) Eurostat: Gross inland consumption of energy, 1990-2014.

energy vision will be based on the *Plan air, climat, énergie 2030* adopted in April. In 2017, these visions will have to be combined to form a common vision that results by the end of the year in an energy pact containing common targets and complementary, mutually reinforcing measures and an overall policy vision for the power sector.

The measures put in place for gas security of supply are sufficient at the moment. Total demand for consumption that can be satisfied if a large disruption of gas occurs is very high (246 %). However, like other Member States, Belgium is facing a new challenge in view of the phase-out of Dutch gas deliveries (from the Groningen field). Price reductions in the gas sector are in line with those seen in other Members States, and the gas market is functioning well.

Belgium has made substantial progress on promoting a circular economy. The 2014 federal roadmap (SPF Santé Publique & SPF Economie, 2014) led to 21 draft government proposals in 2016, The *Plan Marshall 4.0* presented in May 2015, promoting clean energy and the circular economy, is one of five priority areas for action. In March 2016, Flanders approved a transition policy, 'Vision 2050', with the circular economy as one of seven proposed transitions. The policy is being developed with the continuation of the Flemish materials programme as a circular economy platform focused on innovation. In March 2016, the regional government of Brussels adopted a circular economy regional plan, laying out a transition strategy containing 111 measures in 4 fields.

Belgium is among the top performers in the EU with regard to waste management, with a recycling rate for municipal waste of 55 % in 2014 (EU average 44 % in 2014). **At the same time, air quality in Belgium continues to give rise to serious human health concerns, which also have a substantial bearing on the budget** (EEA, 2016). Sizeable breaches of EU air quality standards ([82]) are due to traffic congestion, in the context of national policy on company cars and fuels. The extension of the car-free zone in central Brussels and the planned low-emission zones in Antwerp and Brussels are positive measures in this respect. Belgium has also seen a steep increase of alternative-fuel vehicles in recent years, though absolute numbers are still very low and large regional differences exist. Targets have been set for 2020 on both number of vehicles and supporting infrastructure for alternative fuels.

Belgium is expected to miss its greenhouse gas emission reduction target for 2020, compared to 2005, by 5 percentage points. ([83]) More resolute action has long been hindered by the lack of an internal climate agreement between federal and regional authorities. This was only reached in December 2015. On 11 October 2016, the federal and regional authorities agreed on the legal transposition of this earlier political internal climate agreement. Now that a legally binding agreement has been reached, the accumulated revenues from auctioning emission allowances under the EU emissions trading system (according to Belgium's own reporting amounting to around EUR 354 million) will be distributed between the federal and regional governments to be used for climate-related purposes. For the long term, there is no policy vision in place on matters such as decarbonising the power sector. The authorities aim to agree on an 'energy pact' for the next 20-25 years, though little progress has been made so far. It is vital to implement the internal climate agreement for 2020, to update existing policies in light of that agreement, and to develop a long-term policy vision.

([82]) Directive 2008/50/EC and Directive 2004/107/EC.

([83]) Under the EU 2020 strategy, BE has committed to reduce its greenhouse gas emissions from sectors not covered by the EU Emissions Trading System (ETS) by 15 % below 2005 levels by 2020.

ANNEX A
Overview Table

2016 Country-Specific recommendations (CSRs)	
Commitments	**Summary assessment ([84])**
CSR 1: Achieve an annual fiscal adjustment of at least 0.6 % of GDP towards the medium-term budgetary objective in 2016 and in 2017. Use windfall gains to accelerate the reduction of the general government debt ratio. Agree on an enforceable distribution of fiscal targets among all government levels. Simplify the tax system and remove distortive tax expenditures.	Belgium has made **limited progress** in addressing country-specific recommendation 1 (this overall assessment of country-specific recommendation 1 does not include an assessment of compliance with the Stability and Growth Pact): **Limited progress** has been made towards an enforceable distribution of fiscal targets among the various levels of government. The lack of any formal commitment by the regions and communities to disaggregated fiscal trajectories at their own level undermines the credibility of Belgium's overall trajectory and hampers debt reduction efforts. **Some progress** has been made in reforming the tax system: • The federal government has announced its intention to reform corporate taxation in the direction of reducing the nominal statutory rate. A report of the High Council for Finance was published in July 2016 analysing options. As yet, no firm plans have been brought forward. • Measures included in the draft budgetary plan: – a further increase of the withholding tax rate, from 27 % to 30 %; – an increase (ceiling is doubled) and broadening (foreign

([84]) The following categories are used to assess progress in implementing the 2016 country-specific recommendations:
No progress: The Member State has not credibly announced nor adopted any measures to address the country-specific recommendation. Below a number of non-exhaustive typical situations that could be covered under this, to be interpreted on a case by case basis taking into account country-specific conditions:
• no legal, administrative, or budgetary measures have been announced in the National Reform Programme or in other official communication to the national Parliament / relevant parliamentary committees, the European Commission, or announced in public (e.g. in a press statement, information on government's website);
• no non-legislative acts have been presented by the governing or legislator body;
• the Member State has taken initial steps in addressing the country-specific recommendation, such as commissioning a study or setting up a study group to analyse possible measures that would need to be taken (unless the country-specific recommendation explicitly asks for orientations or exploratory actions), while clearly-specified measure(s) to address the country-specific recommendation has not been proposed.
Limited progress: The Member State has:
• announced certain measures but these only address the country-specific recommendation to a limited extent; and/or
• presented legislative acts in the governing or legislator body but these have not been adopted yet and substantial non-legislative further work is needed before the country-specific recommendation will be implemented;
• presented non-legislative acts, yet with no further follow-up in terms of implementation which is needed to address the country-specific recommendation.
Some progress: The Member State has adopted measures that partly address the country-specific recommendation and/or the Member State has adopted measures that address the country-specific recommendation, but a fair amount of work is still needed to fully address the country-specific recommendation as only a few of the adopted measures have been implemented. For instance: adopted by national parliament; by ministerial decision; but no implementing decisions are in place.
Substantial progress: The Member State has adopted measures that go a long way in addressing the country-specific recommendation and most of which have been implemented.
Full implementation: The Member State has implemented all measures needed to address the country-specific recommendation appropriately.

	platforms also taxed) of the stock-exchange tax; – the abolition of the 'speculation tax'; – the introduction of a mobility budget for employees as an alternative to a company car and of a fixed levy imposed on employers for company fuel cards. • Other measures legislated or announced since July 2016: – Abolition of existing patent income deduction regime (1 July 2016); approval by Council of Ministers of draft bill on Innovation Income Deduction regime (2 December 2016); – Legislation for the specific fiscal treatment of income received by private individuals providing services through the sharing economy under certain circumstances (1 July); – Online betting and gambling activities no longer exempt from VAT (1 August); – New single annual bank tax replaces four existing taxes (act passed on 3 August).
CSR 2: Carry out the intended review of the Law of 1996 on the promotion of employment and the safeguarding of competitiveness in consultation with the social partners. Ensure that wages can evolve in line with productivity. Ensure the effectiveness of labour market activation policies. Move forward with education and vocational training reforms and provide training support for disadvantaged groups, in particular people from a migrant background.	Belgium has made **substantial progress** in addressing country-specific recommendation 2: **Substantial progress** has been made in making wage formation more responsive to the business cycle and changes in productivity. The law on the revision of the 1996 Law on employment and competitiveness is to be voted by parliament in February 2017. It has already been taken into account in the Inter Professional Agreement agreed between the Social Partners on 31/01/2017. **Some progress** has been made on ensuring the effectiveness of labour market activation policies. • Taxes on labour are being progressively decreased and eligibility conditions for pre-retirement and retirement are progressively being tightened. These ongoing reforms are producing positive effects on take home pay for low and average wage earners as well as on the participation rate of the older workers. • The law on flexible and workable work includes a number of measures to increase the flexibility of working time arrangements and to promote in-company training. It also reintroduces the possibility of a lower minimum wage for young people.

	• The three regions and the German-speaking Community have started to reform the recently devolved competences in the area of activation. The existing employment incentive schemes are being rationalised to focus financial support on a limited number of priority groups and to better integrate employment support with other types of activation measures. The reformed employment support systems are already operational in Flanders as of January 2017 and will become fully operational in Wallonia and Brussels in the course of 2017. • In November 2016 the "Individualised Project for Social Integration" of the Federal government became compulsory for all new living wage beneficiaries. • At the end of 2016 the federal government introduced a number of measures to make resuming work after work incapacity financially more attractive. **Some progress** has been made on educational and vocational reforms. • In May 2016, the Flemish Community launched two concept notes 'Modernising secondary education, measures for primary education and the first stage' and 'The second and third stage of secondary education'. This started the rollout of the final measures of the master plan secondary education. • After a consultation, the Flemish government adopted in January 2017 the final measures of the Flemish modernisation of secondary education. Key measures plan for a new ordering of the study offer and the rationalisation from 29 to 8 study areas. In 2017 a first draft a new parliamentary act for the modernisation of secondary education will be presented to the government. The legislative framework will be elaborated with the aim of reaching a progressive implementation school year by school year from 1st of September 2018 onwards (starting with the first grade of the first stage). • On learning outcomes, the 2016 societal debate on the attainment targets resulted in final reports which have been handed over to the Flemish Parliament. In the phased rollout of the renewed attainment targets, the update and development of attainment targets for a selection of sets of targets for primary education and the first stage of secondary education will start in 2017. • The French Community has launched a process to reform its compulsory education system over the period 2015-2030 *(Pacte pour un Enseignement d'Excellence).* Based

	on the main orientations approved by the government mid-2016 and on an impact assessment, the December 2016 draft advice of the steering group sets the proposed five strategic axes, objectives and priorities. Great attention is given to early childhood education. Initial Vocational Education and Training (IVET) would be reduced to one track with fewer study options and apprenticeships integrated into the education system. After a two months consultation period, the advice is expected to be finalised in view of its adoption by the government, early 2017. The implementation period has been extended from 2025 till 2030; • Independently of the *"Pacte"*, first measures have been approved namely with the so-called *"Décret fourre-tout"* adopted in 2016. Mandatory support to starting teachers has been introduced in September 2016. Each school will also be required to establish by 2018/2019 a 6-year pilot plan with objectives in more than 10 key areas. The heads of underperforming schools have to draw up a remedial action plan with the support of their umbrella organisation; • Both communities are pursuing the preparation of their reform of initial teacher education launched under the previous governments. On teachers' careers, the Flemish education minister and social partners are still pursuing their negotiations on a 'career pact' *(Loopbaanpact)*. The reform of teacher's careers is part of the school reform of the French Community.
CSR 3: Boost the capacity to innovate, in particular by fostering investment in knowledge-based capital. Increase competition in the business services sector and the retail sector by removing unwarranted operational and establishment restrictions. Address shortfalls in investment in transport infrastructure and energy generation capacity.	Belgium has made **limited progress** in addressing country-specific recommendation 3. **Limited** progress has been made to boost the capacity to innovate: • Major multi-annual plans for R&I include successive versions of the 'Marshall plan' complemented by 'Creative Wallonia' and 'Digital Wallonia' in Wallonia; regional innovation plan in Brussels; and 'VISIE 2050: a long-term strategy for Flanders' in Flanders. These main regional strategies reflect a broad political commitment to boost productivity and address societal challenges through research and innovation. • In July 2016, the Brussels region updated its innovation strategy plan for the period 2016-2020. • In July 2016, the federal government introduced a fiscal regime for workers of the "Collaborative economy". This was introduced under the "Digital Belgium" initiative, which aims to stimulate entrepreneurship and new

	economic activities, while providing a clear legal framework. The regime foresees an effective 10% tax rate under 5.000 EUR gross income for individuals providing services via a recognized collaborative platform (Loi-Programme/Programmawet 01/07/2016 and two Royal Decrees 24/01/2017). • The Belgian 'Patent Box' regime has effectively been abolished on 1 July 2016. It will be accompanied by a transitory regime of five years. The federal government is working on a new regime entitled 'deduction for innovation income' to bring it in line with the 'modified nexus approach' as introduced by the OECD (BEPS/action 5). The draft law has been submitted to the State Council for its opinion. Adoption is expected early 2017. • Flanders and the French Community agreed on the future of the Interuniversity attraction poles whose current financing commitment ends in September 2017 (managed at Federal level before the 6th State Reform). A new programme will start in 2018, co-managed by FWO and CNRS with a dedicated budget of 17.7 million (Flanders) and 13.9 million (French Community) starting in 2018. • The Brussels *Small Business Act* is a plan/vision structured around 77 measures within five development pillars to be implemented between 2016 and 2025. It covers enabling an environment for creation, regardless of the life stage of the company or its model; improving access to finance, using a credit intermediary (development of a regional strategy for microcredit, increase the microfinance capacity); supporting the diversity of entrepreneurs and businesses through segmented measures; improving the relations between SMEs and the Brussels capital region by making the administration more "business friendly"; supporting companies in their development (innovation, internationalization, digitization, circular economy). Most of the implementation should start in 2017. • In October 2016 the Flemish region adopted a new action plan for innovation procurement. The new action plan is based on a combination of pre-commercial procurement (PCP) and public procurement of innovative solutions (PPI). It foresees co-financing for Flemish procurers to kick-start 5 new PCP and 10 PPI lighthouse projects in 2017. • As announced in its 2017 budget, Flanders will structurally increase its public R&D budget, mostly to the benefit of Public Research Organisations, in line with its commitment that public R&D intensity should reach 1% in

	Flanders (currently 0.78%). **Limited** progress has been made on increasing competition in the business and professional services: End of 2016, a proposal for on the transposition of the Directive 2013/55/EU was voted in the Belgian parliament. For intra-Belgian consistency reasons, a cooperation agreement will be drafted. For Flanders, an implementation law has been submitted to the Flemish parliament. According to the Walloon representative, an orientation note is submitted to the Walloon government, presenting the screening of existing legislation in the area of regulated professions. In the Brussels region, the regional government needs to decide on the proposal for the implementation law. **Limited** progress has been made on removing unwarranted operational and establishment restrictions in the retail sectors: • Further to the 6th State reform transferring competences on retail establishment, the three regions have adopted acts regulating this field (Flanders, as the last region, adopted the relevant act in July 2016, however the provisions relating to authorisations for retail outlets will not enter into force before 2018). The new regional laws provide for some simplification of administrative procedures, but the substantive conditions for granting authorisations leave a broad margin for interpretation. The concrete implementation of these rules will be important to ensure that these do not lead to market entry barriers. • As regards e-commerce, the Royal Decree from March 2016 has made night work related to on-line sales in the retail sector possible. **Some** progress has been made on addressing shortfalls in investment: • In September 2016, the federal government proposed to implement a National Pact for Strategic Investments, calling upon private and public investors to work together in order to boost investment in a number of key strategic sectors, namely energy, security, transport and the digital economy. The roll-out of the plan is foreseen over the period 2017-2030. The governance and policy choices will be determined in more detail in cooperation with the concerned government levels in order to ensure the speedy implementation of the Pact, with respect for the division of competences between the various entities. A steering committee to monitor and support the Pact will be installed within the Chancellery (of the Prime Minister). The detailed rules will be defined in 2017 on the basis of a

	policy note.
Europe 2020 (national targets and progress)	
Employment rate (20-64): 73.2 %.	The employment rate for 20-64 years old workers marginally decreased from 67.3 % in 2014 to 67.2 % in 2015, remaining almost 3 pps. below the EU average. Signs of improvement on job creation can be observed since 2015. Should this trend take further pace, they could contribute to strengthening the employment rate. However, the 73.2 % target remains still out of reach at this stage and could require further job-rich economic impetus.
R&D: 3 % of GDP.	R&D intensity has pursued its increase to reach 2.45 % in 2015. This is due to increasing private R&D (1.77 %) while public R&D remains relatively stable (0.68 %).
Greenhouse gas emissions: -15% in 2020 compared to 2005 (in the sectors not covered by the EU Emissions Trading System (ETS)).	According to the latest national projections submitted to the Commission and taking into account existing measures, it is expected that the target will be missed: -10 % in 2020 compared with 2005 (i.e. projected shortfall of 5 percentage points).
Renewable energy: 13%, with a share of renewable energy in all modes of transport equal to 10 %.	The renewable energy share in Belgium has decreased from 8% in 2014 to 7.1% in 2015. ([85])
Energy efficiency: 43.7 Mtoe primary consumption and 32.5 Mtoe final energy consumption	Belgium increased its primary energy consumption from 45.2 Mtoe in 2014 to 45.7 Mtoe in 2015. Final energy consumption increased from 34.2 Mtoe in 2014 to 35.8 Mtoe in 2015.
Early school leaving: 9.5 %.	Early school leaving remains below the EU-28 average (10.1% compared with 11.0%) but above the 2020 target of 9.5%: • 11.0% in 2013; • 9.8% in 2014; • 10.1 % in 2015.

([85]) Renewable energy shares for 2015 are approximations and not official data, reflecting the available data (04.10.2016). See the Öko-Institut Report: Study on Technical Assistance in Realisation of the 2016 Report on Renewable Energy, http://ec.europa.eu/energy/en/studies.

	This average masks large disparities between population sub-groups and regions. The rate among young people with a migrant background is twice the overall rate. Rates are significantly higher in Wallonia (13.1%) and Brussels (15.8%) than in Flanders (7.2%).
Tertiary education: 47 % of the population aged 30-34 years old.	Belgium's rate significantly exceeds the EU average (38.7% in 2015): 42.7% in 2013; • 43.8% in 2014; • 42.7% in 2015. • The rate of 42.7% in 2015 is 4.3 pps. short of the 47 % national target set for 2020. Women outperform men by 48.7 % to 36.7 % — a gender gap wider than the EU average. Whilst narrowing, the gap between EU-born and non-EU-born students is still large at 44.8 % to 35.6 %.
Target for reducing the number of people at risk of poverty or social exclusion: - 380 000 compared to 2008.	The number of people at risk of poverty or social exclusion has been increasing. The cumulative difference from 2008 stood at (in thousands): • + 92 in 2013; • + 146 in 2014; • + 143 in 2015. Belgium is therefore unlikely to achieve its target of reduction by 380 000.

ANNEX B
MIP Scoreboard

Table B.1: **The MIP Scoreboard for Belgium**

			Thresholds	2010	2011	2012	2013	2014	2015
External imbalances and competitiveness	Current account balance, (% of GDP)	3 year average	-4%/6%	-0.1	-0.1	0.2	-0.5	-0.3	-0.2
	Net international investment position (% of GDP)		-35%	65.2	60.9	51.8	51.9	59.4	61.3
	Real effective exchange rate - 42 trading partners, HICP deflator	3 years % change	±5% & ±11%	0.5	-1.6	-4.2	-0.2	-0.6	-1.2
	Export market share - % of world exports	5 years % change	-6%	-11.1	-7.2	-14.9	-12.4	-12.1	-11.3
	Nominal unit labour cost index (2010=100)	3 years % change	9% & 12%	7.5	5.3	5.6	8.6	5.5	1.5
Internal imbalances	Deflated house prices (% y-o-y change)		6%	1.4	1.0	0.2	0.3	-1.3	1.3p
	Private sector credit flow as % of GDP, consolidated		14%	3.2	21.3	14.4	9.4	0.9	4.5
	Private sector debt as % of GDP, consolidated		133%	161.6	174.1	186.7	163.8	163.5	166.3
	General government sector debt as % of GDP		60%	99.7	102.3	104.1	105.4	106.5	105.8
	Unemployment rate	3 year average	10%	7.7	7.8	7.7	7.7	8.2	8.5
	Total financial sector liabilities (% y-o-y change)		16.5%	-0.5	7.4	-6.3	-1.3	3.5	-1.0
New employment indicators	Activity rate - % of total population aged 15-64 (3 years change in p.p)		-0.2%	0.6	-0.4	0.0	-0.2	1.0	0.7
	Long-term unemployment rate - % of active population aged 15-74 (3 years change in p.p)		0.5%	0.2	0.2	-0.1	-0.1	0.8	1.0
	Youth unemployment rate - % of active population aged 15-24 (3 years change in p.p)		2%	3.6	0.7	-2.1	1.3	4.5	2.3

1) Unemployment rate: for 2005 i = Eurostat back-calculation to include 2011 Population Census results.
2) Youth unemployment rate: for 2005 i = Eurostat back-calculation to include 2011 Population Census results
3) b: break in time series.
Note: Figures highlighted are those falling outside the threshold established in the European Commission's Alert Mechanism Report. For REER and ULC, the first threshold applies to euro area Member States.
Source: European Commission, Eurostat and Directorate General for Economic and Financial Affairs (for Real Effective Exchange Rate), and International Monetary Fund

ANNEX C
Standard Tables

Table C.1: **Financial market indicators**

	2011	2012	2013	2014	2015	2016
Total assets of the banking sector (% of GDP)	316.7	280.1	260.8	274.9	261.6	264.2
Share of assets of the five largest banks (% of total assets)	70.8	66.3	64.0	65.8	65.5	-
Foreign ownership of banking system (% of total assets)	64.3	64.1	65.4	65.6	63.3	-
Financial soundness indicators:[1)]						
- non-performing loans (% of total loans)	4.2	5.1	5.3	3.3	3.0	2.8
- capital adequacy ratio (%)	18.5	18.2	18.7	17.6	18.7	18.3
- return on equity (%)[2)]	1.4	3.3	6.2	7.8	10.3	4.9
Bank loans to the private sector (year-on-year % change)	-1.4	-1.2	6.2	9.9	7.0	5.9
Lending for house purchase (year-on-year % change)	-1.9	6.0	10.1	19.5	12.1	8.9
Loan to deposit ratio	60.1	56.6	58.2	59.5	62.3	65.2
Central Bank liquidity as % of liabilities	6.9	5.4	2.5	1.6	1.0	1.8
Private debt (% of GDP)	174.1	186.7	163.8	163.5	166.3	-
Gross external debt (% of GDP)[1)] - public	50.1	55.0	56.6	67.7	65.5	70.3
- private	103.6	103.3	103.8	102.4	103.8	112.4
Long-term interest rate spread versus Bund (basis points)*	162.5	150.5	84.0	55.0	34.4	38.8
Credit default swap spreads for sovereign securities (5-year)*	173.2	124.8	36.3	31.0	30.0	28.8

1) Latest data Q2 2016.
2) Quarterly values are not annualised
* Measured in basis points.
Source: European Commission (long-term interest rates); World Bank (gross external debt); Eurostat (private debt); ECB (all other indicators).

Table C.2: **Labour market and social indicators**

Table II. Labour market and social indicators						
	2011	**2012**	**2013**	**2014**	**2015**	**2016 [4]**
Employment rate (% of population aged 20-64)	67.3	67.2	67.2	67.3	67.2	67.2
Employment growth (% change from previous year)	1.4	0.4	-0.3	0.4	0.9	1.2
Employment rate of women (% of female population aged 20-64)	61.5	61.7	62.1	62.9	63.0	62.5
Employment rate of men (% of male population aged 20-64)	73.0	72.7	72.3	71.6	71.3	72.0
Employment rate of older workers (% of population aged 55-64)	38.7	39.5	41.7	42.7	44.0	45.1
Part-time employment (% of total employment, aged 15-64)	24.7	24.7	24.3	23.7	24.3	24.6
Fixed-term employment (% of employees with a fixed term contract, aged 15-64)	8.9	8.1	8.1	8.6	9.0	9.0
Transitions from temporary to permanent employment	32.5	43.2	38.2	33.4	35.2	:
Unemployment rate[1] (% active population, age group 15-74)	7.2	7.6	8.4	8.5	8.5	8.1
Long-term unemployment rate[2] (% of labour force)	3.5	3.4	3.9	4.3	4.4	4.2
Youth unemployment rate (% active population aged 15-24)	18.7	19.8	23.7	23.2	22.1	20.6
Youth NEET[3] rate (% of population aged 15-24)	11.8	12.3	12.7	12.0	12.2	:
Early leavers from education and training (% of pop. aged 18-24 with at most lower sec. educ. and not in further education or training)	12.3	12.0	11.0	9.8	10.1	:
Tertiary educational attainment (% of population aged 30-34 having successfully completed tertiary education)	42.6	43.9	42.7	43.8	42.7	:
Formal childcare (30 hours or over; % of population aged less than 3 years)	20.0	27.0	25.0	26.0	:	:

1 Unemployed persons are all those who were not employed but had actively sought work and were ready to begin working immediately or within 2 weeks.
2 Long-term unemployed are peoples who have been unemployed for at least 12 months.
3 Not in education employment or training.
4 Average of first three quarters of 2016. Data for total unemployment and youth unemployment rates are seasonally adjusted.
Source: European Commission (EU Labour Force Survey).

Table C.3: **Labour market and social indicators (continued)**

Expenditure on social protection benefits (% of GDP)	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Sickness/healthcare	8,0	8,1	8,2	8,3	8,4	:
Disability	2,1	2,1	2,2	2,4	2,4	:
Old age and survivors	11,0	11,3	11,3	11,7	11,7	:
Family/children	2,2	2,2	2,1	2,2	2,2	:
Unemployment	3,7	3,6	3,4	3,4	3,4	:
Housing	0,2	0,2	0,2	0,2	0,2	:
Social exclusion n.e.c.	0,8	0,8	0,7	0,7	0,7	:
Total	27,9	28,4	28,3	28,9	29,0	:
of which: means-tested benefits	1,4	1,4	1,5	1,5	1,5	:
Social inclusion indicators	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
People at risk of poverty or social exclusion[1] (% of total population)	20,8	21,0	21,6	20,8	21,2	21,1
Children at risk of poverty or social exclusion (% of people aged 0-17)	23,2	23,3	22,8	21,9	23,2	23,3
At-risk-of-poverty rate[2] (% of total population)	14,6	15,3	15,3	15,1	15,5	14,9
Severe material deprivation rate[3] (% of total population)	5,9	5,7	6,3	5,1	5,9	5,8
Proportion of people living in low work intensity households[4] (% of people aged 0-59)	12,7	13,8	13,9	14,0	14,6	14,9
In-work at-risk-of-poverty rate (% of persons employed)	4,5	4,2	4,5	4,4	4,8	4,6
Impact of social transfers (excluding pensions) on reducing poverty	45,3	45,0	44,8	42,6	43,6	44,2
Poverty thresholds, expressed in national currency at constant prices[5]	10979	11029	10815	11164	11140	11061
Gross disposable income (households; growth %)	0,7	2,0	1,9	0,9	1,0	1,0
Inequality of income distribution (S80/S20 income quintile share ratio)	3,9	3,9	4,0	3,8	3,8	3,8
GINI coefficient before taxes and transfers	48,1	49,0	49,3	48,7	49,5	:
GINI coefficient after taxes and transfers	26,0	26,3	26,5	25,9	25,9	:

1 People at risk of poverty or social exclusion : individuals who are at risk of poverty and/or suffering from severe material deprivation and/or living in households with zero or very low work intensity.
2 At-risk-of-poverty rate : proportion of people with an equivalised disposable income below 60 % of the national equivalised median income.
3 Proportion of people who experience at least four of the following forms of deprivation: not being able to afford to i) pay their 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) enjoy a week of holiday away from home once a year, vi) have a car, vii) have a washing machine, viii) have a colour TV, or ix) have a telephone.
4 People living in households with very low work intensity: proportion of people aged 0-59 living in households where the adults (excluding dependent children) worked less than 20 % of their total work-time potential in the previous 12 months.
5 For EE, CY, MT, SI and SK, thresholds in nominal values in euros; harmonised index of consumer prices = 100 in 2006 (2007 survey refers to 2006 incomes)
Source: For expenditure for social protection benefits ESSPROS; for social inclusion EU-SILC.

Table C.4: **Product market performance and policy indicators**

Performance indicators	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Labour productivity (real, per person employed, year-on-year % change)						
Labour productivity in industry	6.86	-0.32	-0.06	2.56	6.00	5.07
Labour productivity in construction	0.47	-1.69	1.48	0.25	0.02	4.08
Labour productivity in market services	1.74	0.22	-1.31	-0.22	0.92	0.37
Unit labour costs (ULC) (whole economy, year-on-year % change)						
ULC in industry	-5.56	2.82	3.86	0.28	-3.59	-5.24
ULC in construction	-0.14	1.36	1.40	0.87	-0.49	-4.90
ULC in market services	-0.62	1.46	3.71	2.03	0.06	0.08
Business environment	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Time needed to enforce contracts[1] (days)	505.0	505.0	505.0	505.0	505.0	505.0
Time needed to start a business[1] (days)	4.0	4.0	4.0	4.0	4.0	4.0
Outcome of applications by SMEs for bank loans[2]	0.45	0.48	0.68	0.54	0.36	0.46
Research and innovation	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
R&D intensity	2.05	2.16	2.36	2.44	2.46	2.45
Total public expenditure on education as % of GDP, for all levels of education combined	6.58	6.55	6.59	6.67	na	na
Number of science & technology people employed as % of total employment	50	50	50	50	52	51
Population having completed tertiary education[3]	31	30	31	32	33	33
Young people with upper secondary education[4]	83	82	83	83	84	84
Trade balance of high technology products as % of GDP	0.37	0.22	0.14	0.33	0.52	0.50
Product and service markets and competition				**2003**	**2008**	**2013**
OECD product market regulation (PMR)[5], overall				na	1.52	1.39
OECD PMR[5], retail				4.68	4.56	4.06
OECD PMR[5], professional services				2.52	2.47	2.47
OECD PMR[5], network industries[6]				2.84	2.08	1.84

1 The methodologies, including the assumptions, for this indicator are shown in detail at: http://www.doingbusiness.org/methodology.
2 Average of the answer to question Q7B_a. "[Bank loan]: If you applied and tried to negotiate for this type of financing over the past six months, what was the outcome?". Answers were codified as follows: zero if received everything, one if received most of it, two if only received a limited part of it, three if refused or rejected and treated as missing values if the application is still pending or if the outcome is not known.
3 Percentage population aged 15-64 having completed tertiary education.
4 Percentage population aged 20-24 having attained at least upper secondary education.
5 Index: 0 = not regulated; 6 = most regulated. The methodologies of the OECD product market regulation indicators are shown in detail at: http://www.oecd.org/competition/reform/indicatorsofproductmarketregulationhomepage.htm
6 Aggregate OECD indicators of regulation in energy, transport and communications.
Source: European Commission; World Bank — Doing Business (for enforcing contracts and time to start a business); OECD (for the product market regulation indicators); SAFE (for outcome of SMEs' applications for bank loans).

Table C.5: **Green growth**

Green growth performance		2010	2011	2012	2013	2014	2015
Macroeconomic							
Energy intensity	kgoe / €	0,17	0,15	0,15	0,15	0,14	0,14
Carbon intensity	kg / €	0,40	0,36	0,35	0,35	0,33	-
Resource intensity (reciprocal of resource productivity)	kg / €	0,49	0,51	0,46	0,45	0,47	0,44
Waste intensity	kg / €	0,19	-	0,20	-	0,19	-
Energy balance of trade	% GDP	-3,7	-4,6	-5,0	-4,5	-3,9	-
Weighting of energy in HICP	%	11,24	11,02	11,71	11,29	10,91	11,02
Difference between energy price change and inflation	%	4,7	14,6	3,3	-5,8	-8,0	-5,5
Real unit of energy cost	% of value added	14,4	17,2	17,6	16,5	16,8	-
Ratio of environmental taxes to labour taxes	ratio	0,09	0,09	0,09	0,08	0,08	-
Environmental taxes	% GDP	2,2	2,3	2,2	2,1	2,0	-
Sectoral							
Industry energy intensity	kgoe / €	0,21	0,20	0,20	0,20	0,20	0,19
Real unit energy cost for manufacturing industry excl. refining	% of value added	23,4	28,4	27,7	25,8	26,0	-
Share of energy-intensive industries in the economy	% GDP	12,03	11,85	11,62	12,31	12,73	14,86
Electricity prices for medium-sized industrial users	€ / kWh	0,11	0,11	0,11	0,11	0,11	0,11
Gas prices for medium-sized industrial users	€ / kWh	0,03	0,03	0,03	0,04	0,03	0,03
Public R&D for energy	% GDP	0,01	0,01	0,01	0,01	0,01	0,01
Public R&D for environmental protection	% GDP	0,02	0,01	0,01	0,01	0,01	0,02
Municipal waste recycling rate	%	54,9	54,3	53,1	52,7	53,2	53,4
Share of GHG emissions covered by ETS*	%	41,1	40,4	39,1	37,9	38,5	38,0
Transport energy intensity	kgoe / €	0,59	0,57	0,55	0,56	0,57	0,60
Transport carbon intensity	kg / €	1,53	1,47	1,37	1,42	1,46	-
Security of energy supply							
Energy import dependency	%	78,2	75,4	76,1	77,4	80,0	84,3
Aggregated supplier concentration index	HHI	17,0	19,2	14,1	16,2	14,5	-
Diversification of energy mix	HHI	0,28	0,27	0,27	0,27	0,28	-

All macro intensity indicators are expressed as a ratio of a physical quantity to GDP (in 2005 prices)
Energy intensity: gross inland energy consumption (in kgoe) divided by GDP (in EUR)
Carbon intensity: greenhouse gas emissions (in kg CO2 equivalents) divided by GDP (in EUR)
Resource intensity: domestic material consumption (in kg) divided by GDP (in EUR)
Waste intensity: waste (in kg) divided by GDP (in EUR)
Energy balance of trade: the balance of energy exports and imports, expressed as % of GDP
Weighting of energy in HICP: the proportion of "energy" items in the consumption basket used for the construction of the HICP
Difference between energy price change and inflation: energy component of HICP, and total HICP inflation (annual % change)
Real unit energy cost: real energy costs as a percentage of total value added for the economy
Environmental taxes over labour taxes and GDP: from European Commission's database, 'Taxation trends in the European Union'
Industry energy intensity: final energy consumption of industry (in kgoe) divided by gross value added of industry (in 2005 EUR)
Real unit energy costs for manufacturing industry excluding refining : real costs as a percentage of value added for manufacturing sectors
Share of energy-intensive industries in the economy: share of gross value added of the energy-intensive industries in GDP
Electricity and gas prices for medium-sized industrial users: consumption band 500–20 00MWh and 10 000–100 000 GJ; figures excl. VAT.
Recycling rate of municipal waste: ratio of recycled and composted municipal waste to total municipal waste
Public R&D for energy or for the environment: government spending on R&D for these categories as % of GDP Proportion of greenhouse gas (GHG) emissions covered by EU Emissions Trading System (ETS) (excluding aviation): based on greenhouse gas emissions (excl. land use, land use change and forestry) as reported by Member States to the European Environment Agency
Transport energy intensity: final energy consumption of transport activity (kgoe) divided by transport industry gross value added (in 2005 EUR)
Transport carbon intensity: greenhouse gas emissions in transport activity divided by gross value added of the transport sector
Energy import dependency: net energy imports divided by gross inland energy consumption incl. consumption of international bunker fuels
Aggregated supplier concentration index: covers oil, gas and coal. Smaller values indicate larger diversification and hence lower risk.
Diversification of the energy mix: Herfindahl index over natural gas, total petrol products, nuclear heat, renewable energies and solid fuels
* European Commission and European Environment Agency
Source: European Commission (Eurostat) unless indicated otherwise

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