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2018 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

The favourable economic environment provides a window of opportunity to boost the reform momentum tackling long-term challenges in the area of public finances, labour market participation and investment([1]). Recent structural reforms have borne fruit in terms of an improved competitiveness and a job-rich recovery. Potential growth is trending upward since it bottomed out in 2013. Nevertheless, it remains below its pre-crisis estimates as remaining barriers to competition in market services and a narrow innovation base weigh on productivity growth. While recent government measures have spurred employment growth, a high inactivity rate combined with a high vacancy rate is suggesting a high level of skills mismatches. The quality of the transport network is low and reflects the low level of public investment.

Economic growth is expected to have accelerated to 1.7 % in 2017 underpinned by robust domestic demand for both private consumption and investment purposes. Household consumption is expected to gain momentum in 2017-2019 in line with the projected increase in disposable income. Business investment is expected to continue expanding over the forecast period, supported by sizeable liquidity reserves and favourable financing conditions with persistently low interest rates. The contribution of net exports is estimated to have improved after being a drag on growth in the previous year.

Recent developments suggest that the inflation differential with the euro area is decreasing Between 2018 and 2019 Belgium's economic growth is projected to accelerate, progressing to an average annual pace of 1.8 %. This compares with an average growth of 1.4 % between 2014 and 2016.

Though falling public debt is still high. Since peaking in 2014 at 106.8 % of GDP, public debt has been falling very gradually. The general government deficit is expected to have dropped significantly in 2017. In 2018, only a moderate progress is expected unless additional budget measures are taken. There remains a wide gap between the estimated structural deficit in 2017 and the country's medium-term objective of a balanced budget in structural terms.

Belgium has made limited progress in addressing the 2017 country-specific recommendations. There has been limited progress with distributing fiscal targets among the various levels of government in a way that can be enforced and with improving the composition of public expenditure. Some progress has been made with eliminating tax breaks that causes distortions. There are no plans at federal level to introduce a systematic review of public spending as a permanent feature of budget planning. However, the National Plan for Strategic Investment provides for an increase in infrastructure investment. Some progress has been made as regards equal opportunities to participate in quality education and vocational training, as Communities are phasing in major school reforms, but progress on equal access to the labour market remains limited. There has been some progress with encouraging investment in knowledge-based capital, even if measures vary in scope at the regional, community and federal levels. Progress on sectoral regulation has been overall limited. For certain professional services regulatory restrictions impact competition. Limited progress has been made in improving the functioning of the retail sector for the benefit of businesses and consumers and in improving market mechanisms in network industries.

Regarding Belgium's progress towards its national targets under the Europe 2020 strategy, the employment rate target of 73.2 % is still out of reach, despite substantial job creation. It is at risk of failing to meet the targets for greenhouse gas emissions, renewable energy, energy efficiency and reducing the risk of poverty. By contrast, Belgium reached its early school leaving target in 2016 and is broadly on track to reach the targets for R&D intensity and increasing tertiary educational attainment.

Belgium performs globally well on the indicators of the Social Scoreboard supporting the European Pillar of Social Rights, whilst challenges remain. Participation in adult learning is relatively low and educational outcomes show

([1]) This report assesses Belgium's economy in the light of the European Commission's Annual Growth Survey, published on 22 November 2017. In the survey, the Commission calls on EU Member States to implement reforms to make the European economy more productive, resilient and inclusive. In so doing, Member States should focus their efforts on the three elements of the virtuous triangle of economic policy — boosting investment, pursuing structural reforms and ensuring responsible fiscal policies.

considerable variations linked to socio-economic status and migrant background. Some population groups including people with a migration background could be better integrated in the labour market. Belgium has one of the largest gaps between the risk of poverty or social exclusion for persons with disabilities and those without. Belgium has good outcomes in terms of gender equality and childcare.

Key structural issues analysed in this report, which point to particular challenges for Belgium's economy, are the following:

- **Sustainability of public finances remains a challenge.** The pension reforms enacted in 2015 were a first significant step to address risks related to the long-term cost of ageing. Nevertheless, recent projections point to a large increase in long-term expenditure for both pensions and long-term care. Fully implementing the different steps envisaged by the reform would help reduce these risks. In particular, plans to introduce a credit based public pension system may improve long-term fiscal sustainability, by providing for automatic adjustment mechanisms in response to structural demographic or economic changes. Risks of fiscal stress appear to be contained in the short term. Furthermore, contributions to the Belgian Deposit Guarantee Scheme are not invested in a separate portfolio of low-risk assets.

- **There is scope to give spending restraint a larger role in fiscal consolidation.** Total public expenditure as a percentage of GDP is above the euro area average. At present, no level of government in Belgium is bound by domestic expenditure rules, with the exception of a ceiling for healthcare spending. This prevents spending-based fiscal consolidation.

- **Low productivity growth remains a challenge, for future economic prosperity.** Investment in research and innovation and other 'intangibles' assets, which have the most potential for innovation output, is high but rather narrowly focused.Innovation must be better diffused and the innovation base must be broadened. There is a wide and increasing productivity gap between the most productive firms and the rest. The share of firms directly connected to foreign markets, which appear to have higher productivity, is small. Public support for R&D has grown much faster than business R&D spending. This raises questions about the efficacy of the schemes, in the absence of in-depth evaluations.

- **Mobility in Belgium suffers from insufficient public investment in infrastructure, distortive tax incentives, lack of competition in transport services, causing major congestion and hindering productivity growth.** Shortfalls in infrastructure investment, especially in the road, waterways and rail networks, reflect the persistently low level of public investment. Combined with perverse tax incentives (for company cars), this contributes to aggravating Belgium's traffic congestion, which is already Europe's heaviest. The environmental gains of the planned change in the system of company cars may be very limited. Belgium remains Europe's most congested country in terms of hours wasted in traffic and delays, in particular around Antwerp and Brussels. This is unlikely to change in the short run, partly because of long delays in several major public infrastructure projects. Several transport services markets are also not open to competition.

- **Belgium ranks among the poorest performers in the EU on entrepreneurship.** A still heavy administrative burden weighs on businesses and digitisation of public services, including courts. Although several policy measures have been adopted in recent years to foster entrepreneurship, there is evidence that start-ups or businesses without a mature balance sheet have difficulty accessing traditional bank financing.

- **High restrictions in some professional services and the construction sector hold back competition, and the retail sector still faces challenges.** Belgium's productivity would benefit from tackling barriers in services. Low competitive pressures in services markets are also harming manufacturing industries, which increasingly depend on services inputs. Retail prices remain relatively high despite recent measures to improve the

functioning of the retail sector. Recent legislatives changes, such as the regulation of night work, are welcome, but more flexibility is needed to fully exploit their potential.

- **Employment growth has recently been sound, but labour market participation remains low**. Unemployment has declined to pre-crisis levels. Nevertheless, the employment rate remains low and a relatively large proportion of the labour force is inactive. Disincentives to work remain high in spite of efforts to reduce the labour tax wedge (the difference between the total employer's labour cost and the worker's take-home pay). At the same time, the vacancy rate is among the highest in the EU. This suggests major skills mismatches related to, among other factors, historical high labour costs and taxation, low mobility and inadequate language skills. There are also persistent strong regional disparities in labour market performance. Inactivity and unemployment are largely concentrated among low-skilled, young, people with a migrant background, older workers and people with disabilities. There is evidence that activation measures are not equally effective for all population groups. Some specific groups, such as persons in quasi jobless households with children, show higher poverty rates than the EU average.

- **Belgium combines good overall education performance with high educational inequalities.** Children with a disadvantaged background including those with a migrant background do not have equal opportunities to access quality education. The proportion of graduates in science, technology and mathematics is one of the lowest in the EU. Top performance is declining, particularly in mathematics. There are wide performance gaps between schools and major differences between the Communities. Growth in the school population is one of the highest in the EU. The share of disadvantaged groups will increase, making challenges in education more difficult to address. Both the Flemish and the French Communities have embarked on major reforms of their education systems. Their implementation is planned over the next decade and beyond.

- **In spite of recent reforms, the Belgian tax system remains complex**. The reform of the corporate income tax will lower statutory rates and help simplify the system. Nevertheless, many exemptions and distortionary incentives remain, as the rising trend in the total amount of tax breaks shows. The opportunity to shift taxes to more growth-friendly bases could be further used. Revenues from environment related taxes are still among the lowest in the EU. Finally, some features of the Belgian taxation system, in particular the lack of specific anti-abuse rules for the notional interest deduction regime may facilitate aggressive tax planning via 'cascading'.

- **The distribution of debt and assets across households reveals some pockets of vulnerability, despite their overall favourable wealth position.** A prolonged period of house prices increasing faster than households' disposable income has made the financial situation of households more fragile through an almost mechanical increase in their debt. Although measures have been announced, the complex national macro-prudential decision-making process may leave financial stability risks unaddressed. House prices appear currently to be slightly overvalued.

- **Belgium's environment and climate policies, although performing well in some areas, are still not doing enough to reduce local air pollution and greenhouse gas emissions**. Belgium is not fully exploiting its potential to become a low-carbon innovation leader. Plans to decarbonise the economy while guaranteeing the security of supply will require significant investment in the energy system and in innovation. The EU's investment instruments could be deployed to support these efforts.

1. ECONOMIC SITUATION AND OUTLOOK

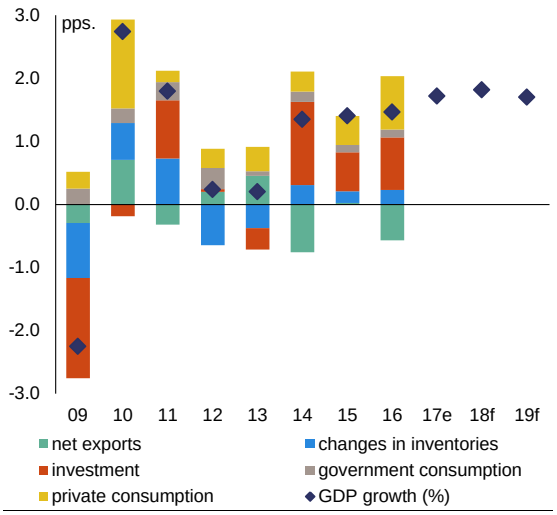
Economic growth

Economic growth is expected to have accelerated to 1.7 % in 2017, underpinned by robust domestic demand, both in terms of consumption and investment. The contribution of net exports is expected to become flat after being a drag on growth in 2016. In the absence of a positive contribution from net exports, growth in economic activity is projected to remain comparable in 2018 at 1.8 % and 2019 at 1.7 % (see Graph 1.1). Between 2017 and 2019 economic growth in Belgium is projected to accelerate, progressing at an average annual pace of 1¾ %. This compares with an average growth of 1½ % over the previous three years.

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. That recovery period was followed by near stagnation, in 2012 and 2013. Economic activity rebounded over the next two years, with growth reaching 1.4 % both in 2014 and 2015. In 2016 GDP grew by 1.5 %, despite the drag from the March terrorist attacks and their aftermath, which is nevertheless assessed as limited and transient.

Economic growth is expected to rise to 1.7 % in 2017 and 1.8 % in 2018. As in the recent years, domestic demand is expected to be the main driver of growth. Households' purchasing power is projected to pick up as a new collective wage agreement comes into effect and the job market continues to develop favourably. Investment by both business and households is also expected to contribute significantly to growth. The local investment cycle, the start of major infrastructure works and defence investments are expected to drive public investment growth in 2018. Public investment is projected to slightly edge up to 2.3 % of GDP in 2018. The contribution of net exports to growth is expected to remain broadly neutral, as stronger domestic demand will raise the demand for imports, with exporters making only modest market share gains.

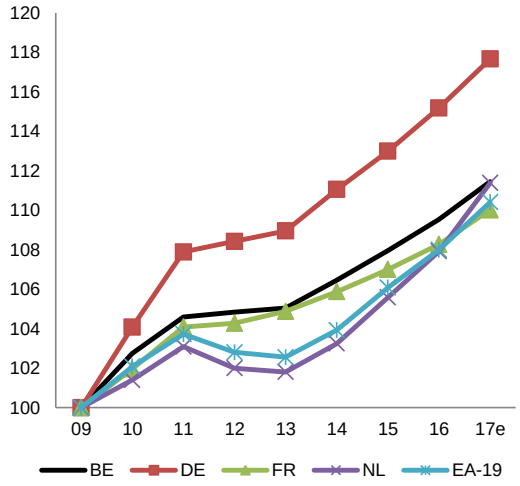
Graph 1.1: **Breakdown of GDP growth**



Source: European Commission

Belgium has done better on average than the euro area as a whole, even though it has lagged behind Germany, since the global economic recession broke (see Graph 1.2). Nevertheless, Belgium's economic performance, though robust, has recently underperformed compared to the euro area where growth has averaged 2 % between 2015 and 2017 (compared to 1.5 % in Belgium). In this regard, it is important to recall that the euro area aggregate includes countries, which have experienced large swings in their economic performance during and after the recent economic crisis. By contrast Belgium's growth has been much more resilient with a fairly stable pace of growth in recent year. This is a sign of an economy with broadly based fundamentals. Moreover, the recent consolidation measures imposed by the government (see the section on public finances) are likely to have depressed domestic demand to some extent, at least in the short term.

Graph 1.2: **GDP - comparison across countries, index 2009=100**

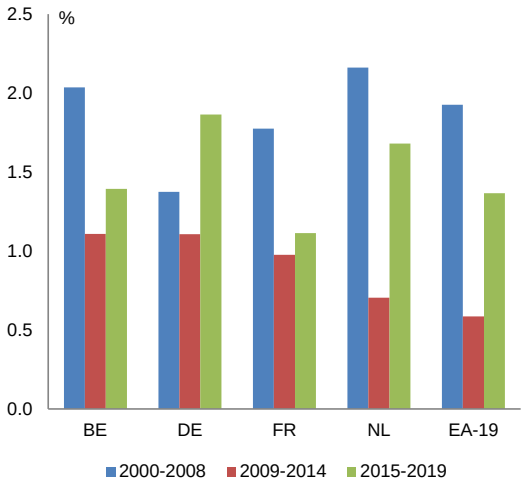


Source: European Commission

Actual economic output already exceeds potential growth, estimated at around 1.5 % over 2017-2019. Potential growth bottomed out at around 0.8 % in 2013 and has since been trending upward. Nevertheless it remains below the pre-2009 estimates for potential growth. This is a feature Belgium shares with several member states and, in general, the euro area as whole. The major exception is Germany, where potential growth is predicted to accelerate in the near future (see Graph 1.3).

The decline in Belgium's potential growth compared to the pre-2009 period is broad-based across its determinants (see European Commission, 2017a). The low potential growth is mainly driven by declining long-term trend in gains in total factor productivity, which are estimated to have stabilised at a low level in recent years. The contribution of labour has also fallen as result of slower growth in the working-age population, without any change in the average hours worked. Finally, capital accumulation has been somewhat lower than in the pre-crisis period. As for the post-crisis period between 2015 and 2019, potential growth is projected to make a subdued recovery, mainly because total factor productivity (TFP) growth remains relatively low compared with the pre-crisis period. Demographic ageing (see section 3.1), which is projected to affect Belgium and almost all European countries, will increasingly depress labour's contribution to potential growth. This means that potential growth is rather unlikely to return to the pre-crisis level (see section 3.4.1).

Graph 1.3: **Potential growth across time and countries**



Source: European Commission

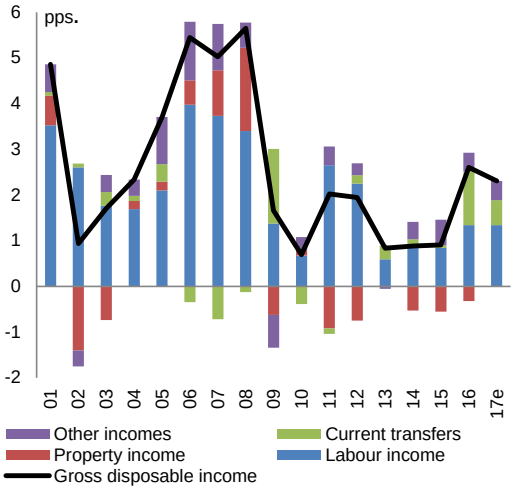
Since 2014 domestic demand has been the main driver of growth, with the contribution of net export going from negative to neutral. Within domestic demand, the contribution of public consumption has declined over time, in line with the authorities' recent consolidation efforts. Real current public consumption growth (deflated by GDP deflator) slowed from an average of 2.4 % over 2000-2013 to an average of 0.4 % between 2014 and 2017. By contrast, private consumption growth has proved fairly resilient even during the recession years, and it has picked up recently.

Household consumption is expected to gain momentum in 2017-2019 in line with the projected increase in disposable income. Following the financial crisis, the purchasing power of Belgian households abated, growing by an average of 1.4 % between 2010 and 2014 (compared with 3.7 % between 2000 and 2009). This trend mostly reflects a sustained effort by successive governments to moderate wage growth in order to correct for past losses in cost competitiveness. In response to the erosion of their purchasing power, households cut their spending, but not enough to keep pace with the fall in their disposable income resulting in a gradual reduction in the savings ratio. Income growth has picked up since 2016. Following a real wage freeze and a

temporary suspension of nominal wage indexation schemes, wages are again being adjusted for the cost of living. Some real wage increases are again being allowed, while income tax reductions have also been introduced since 2016 as part of a multiannual tax reform (see Section 3.1). A relatively strong labour market performance is also contributing to growth in households' purchasing power. By contrast, the recent sharp downturn in nominal interest rates has substantially reduced net household interest income (see the section on household indebtedness). Overall, household consumption is estimated to have grown by 1.8 % in 2017 and to rise to 1.9 % in 2018 and 1.8 % in 2019.

Business investment is shored up by favourable financing conditions, and more specifically by the sizeable liquidity reserves and the persistently low interest rates. Recent government measures to rein in wage growth are expected to have improved the cost competitiveness of Belgian companies, resulting in a steady increase in profit margins. Given the projected favourable international environment, business investment is expected to continue expanding in the forecast horizon.

Graph 1.4: **Breakdown of households disposable income growth**



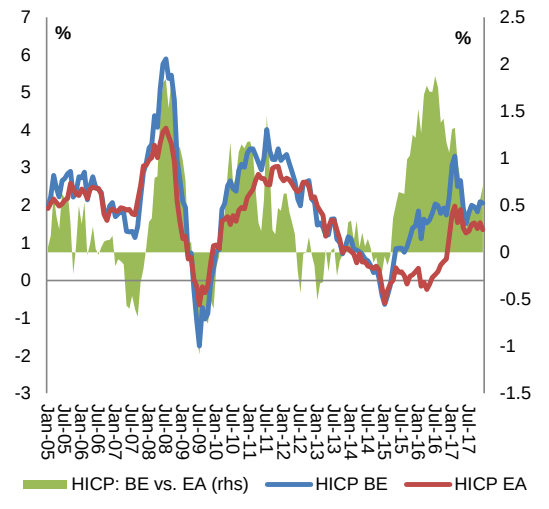
Source: European Commission

Investment in construction has also been buoyant thanks to housing and public infrastructure projects. Historically low mortgage interest rates and low yields on alternative investment assets are attracting mounting investment flows. At the same time, the local government investment cycle in the run-up to local elections in 2018 and the start of large infrastructure works are forecast to drive public investment in 2017-2019. However, 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).

Inflation

After peaking in February 2017 at 3.3 % y-o-y, headline inflation growth slowed in the rest of the year. Headline inflation rose to 2.2% in 2017, up from 1.8% in 2016, mainly due to higher energy prices. The inflation gap between Belgium and the euro area narrowed to 0.7 pps. in 2017 (see Graph 1.5). Comparatively high headline and core inflation has been a recurrent feature of the Belgian economy in the recent past. However, as the impact of the specific government measures contributing to the gap is fading out, the difference with the euro area inflation is expected to further narrow over the forecast period. The headline inflation gap with the euro area is discussed in Section 3.4.

Graph 1.5: **Harmonised consumer price inflation**



Source: European Commission

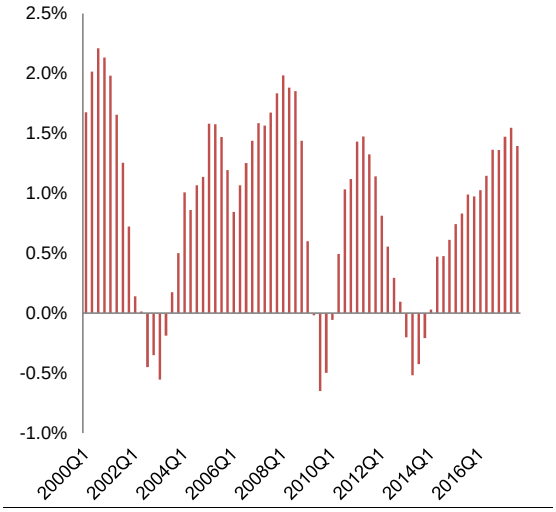
Labour market and social developments

Employment growth has recently been sound. In 2016, robust economic growth, supported by competitiveness gains, resulted in sound

employment growth (1.3 % in 2016) and a drop in the unemployment rate (7.2 % in 2017Q3), which is now close to the pre-crisis level (7.0 % in 2008**)**. The employment is rate well below the EU average (68.5 % vs. 72.6 % in the EU in 2017Q3).

High inactivity and low employment rates in some population groups pose risk to the sustainability of public finances in the context of an ageing population. Belgium combines a low employment rate with a high inactivity rate (26.7 % in Belgium vs 22.5 % in the EU). The average working life in Belgium is one of the shortest in the EU: 32.6 years, versus 35.6 years in the EU28 in 2016. The labour market remains highly fragmented across the regions and population groups. Older and low-skilled workers and people with a migrant background are particularly affected by poor labour market outcomes. The number of people living in households with very low work intensity is among the highest in the EU (see section 3.3).

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



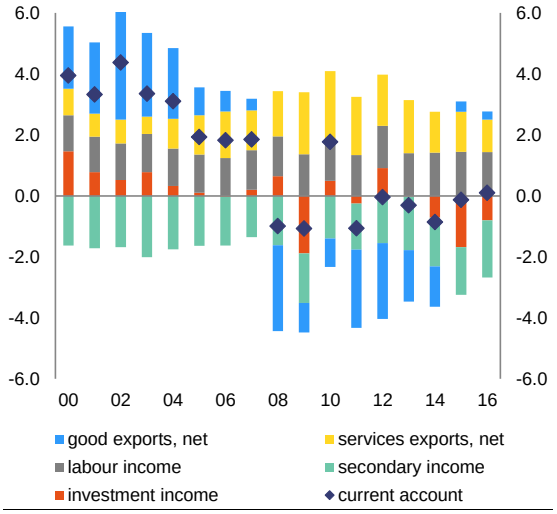
Source: European Commission

Though income and wealth inequality remain stable and below the EU average, children from disadvantaged backgrounds suffer from inequality of opportunity. The combination of a highly progressive personal income tax and generous cash benefits reduces inequality of household income to below the EU average, while the Gini coefficient for net wealth is below the average for the euro area countries ([2]). However, the variation in 2015 PISA science score by parental background remained much higher than in other EU countries, indicating a lack of equal opportunities to quality education and specific concerns for children with a migrant background (see Section 3.3 on Skills and Education). This inequality is compounded by the high and rising poverty risk facing the children of low-skilled parents (58.3 % in 2016, as compared with an EU average of 52.4 %).

External position

In 2016 the current account balance moved to a small surplus position after 5 years of deficit. The deficit gradually shrank from -1.1 % of GDP in 2011 to -0.1 % of GDP in 2015, and in 2016 it moved to a surplus of 0.1 % of GDP, (see Graph 1.7). The main component of the improving trend has been the trade balance. By contrast, while the services and the investment income balance went through a gradual but steady decline, the surplus of the labour income has increased over time.

Graph 1.7: **Breakdown of the current account balance**



Source: European Commission

After seven years of deficit, the goods balance returned to surplus in 2015 and this surplus remained broadly stable in 2016. Changes in the

([2]) As measured by the headline indicator of the Social Scoreboard, the S80/S20, which for Belgium was 3.8 in 2016, below the EU average of 5.2. Data on net wealth is calculated based on the households financing and consumer survey (HFCS) of the ECB (2015).

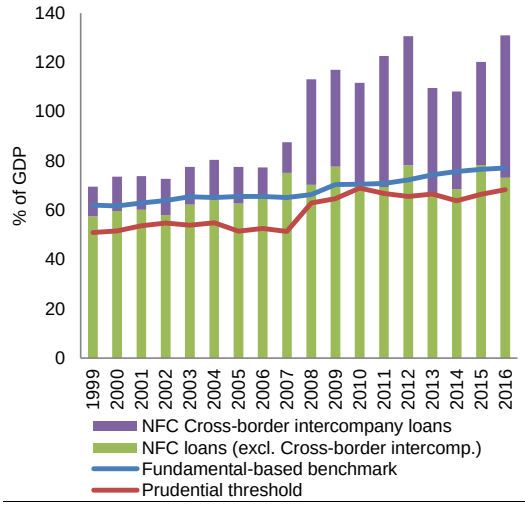
oil price go a long way in explaining developments in the goods balance. Nevertheless there was also a marked volume effect in recent years. Following a steady decline in global export market shares by volumes since 2002 — only interrupted in 2003, 2007 and 2013 — significant gains have been measured in 2016 (mostly linked to the reorganisation of the commercial activity of one large enterprise).

Belgium's net international investment position (NIIP) maintains a solid net creditor position in relation to the rest of the world. The balance between external financial assets and liabilities is about 50 % of GDP, one of the highest figures 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.

Private indebtedness

Private debt was relatively high at 190.1 % of GDP in 2016. The bulk of it is constituted by corporate debt. At 131 % of GDP in 2016 is much higher than fundamental drivers would suggest. It is also above the level generally associated with higher risks of a banking crisis. A closer analysis shows that most of the increase since 2007 is actually linked to cross-border intra-group lending, which is included in the consolidated figures in national accounts. The increase in liabilities as a result of intra-group lending (estimated at around 100 % of GDP) pushes up the debt-to-GDP ratio, though these liabilities are matched by an almost equivalent amount of assets and thus bear a lesser degree of risk (National Bank of Belgium, 2017a). Excluding debt from other companies, be they domestic or foreign, the debt of Belgian non-financial corporations is actually much closer or below the various benchmarks suggesting that deleveraging needs are actually modest (Graph 1.8) ([3]). The practice of cross-border intra-group lending has been stimulated by the notional interest deduction, an allowance for corporate equity within corporate income taxation. Nevertheless, the recent changes introduced by the government in the notional interest scheme are likely to make it less interesting for corporations.

Graph 1.8: **NFC debt and benchmarks**



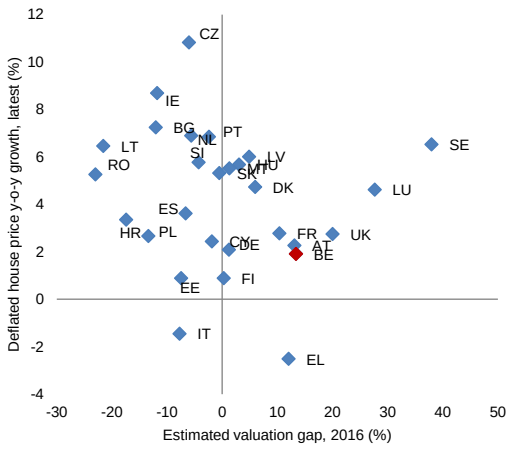
Source: National Bank of Belgium, European Commission

Household debt stood at 60 % of GDP in 2016. This represents an increase of about 20 percentage points of GDP since 2000, when it stood at 40 % of GDP. One of the main reasons for the rise is the rapid increase in lending for housing purchases. This lending is underpinned by the recent sharp drop in interest rates, although mortgage interest tax deductions have been made less beneficial.

House prices rose sharply in real terms before 2008, and there are now indications of price overvaluation in the Belgian real estate market (cfr. Section 3.2). They increased by around 70 % in 1997-2008 or 5 % on average annually (see Graph 1.9). They have been broadly flat since, increasing by an average of 0.5 % annually. A prolonged period of housing prices increasing at a quicker pace than households' disposable income has made the financial situation of households more fragile and contributed to their indebtedness. Massive refinancing of mortgage loans and the closing of new loans at lower rates have brought down interest payments from around 3 % of disposable income in 2007-2008 to below 1 % in recent years. While supportive financing conditions thus appear to have prevented a house price correction, this also suggests how rising interest rates might put pressure on house prices.

([3]) Fundamental-based benchmarks are derived from regressions capturing the main determinants of credit growth and taking into account a given initial stock of debt. Prudential thresholds represent the debt threshold beyond which the probability of a banking crisis is high, minimising the probability of missed crisis and that of false alerts. See also European Commission (2017), "Benchmarks for the assessment of private debt", Note for the Economic Policy Committee.

Graph 1.9: **Valuation levels and latest housing price growth**



Source: European Commission

As a result of the rapid increase in household indebtedness and price developments, the European Systemic Risk Board (ESRB) has warned of medium-term vulnerabilities in the Belgian residential real estate sector ([4]). Although 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 large 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, following the depreciation of the collateral held by the banks. The National Bank of Belgium proposed a new macro-prudential measure in November 2017, consisting of a flat 5 percentage points add-on (prolongation of the original measure) and a multiplier of 1.33 on mortgage risk weights. However, the ESRB has pointed out that no measures have been taken to directly address vulnerabilities due to highly indebted households,, 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.

([4]) The ESRB has issued warnings for eight Member States, see: https://www.esrb.europa.eu/pub/pdf/reports/161128_vulnerabilities_eu_residential_real_estate_sector.en.pdf.

Public finances

According to the Commission's 2017 Autumn forecast, the general government deficit is expected to have dropped to 1.5 % of GDP in 2017 ([5]), continuing the process of consolidation of Belgium's public finances which started in 2009, when the fiscal deficit was recorded at 5.4 % of GDP. This process halted in 2016 when the deficit stalled at 2.5 % of GDP, and the terrorist attacks temporarily affected the economic environment, with generally disappointing tax collection and revenue measures that fell short of expectations. Conversely, additional spending to improve security and cope with the influx of asylum-seekers hampered the government consolidation strategy. Higher than-initially-anticipated inflation led, due to the indexation mechanism, to higher spending for public wages and social benefits. The authorities have postponed their originally planned objective of achieving a balanced budget for general government until 2019.

Public debt peaked at 106.8 % of GDP in 2014, falling to 105.7 % in 2016 and 103.8% in 2017[6]. The Commission 2017 autumn forecast predicts a continuation of this trend, with the debt-to-GDP ratio falling to 102.5 % and 101.2 % of GDP in 2018 and 2019, respectively. The authorities organised a partial sale of the Belgian state's share in BNP Paribas in May 2017, a transaction representing 0.45 % of GDP. The most recent budget made no mention of future divestments in the financial sector. Public finances are discussed in Section 3.1.

([5]) Recent figures point to a lower general government deficit of around 1 % of GDP.

([6]) Recent figures point to a lower public debt of 103% of GDP in 2017

Table 1.1: **Key economic and financial indicators – Belgium**

	2004-07	2008-12	2013-14	2015	2016	forecast 2017	2018	2019
Real GDP (y-o-y)	2,9	0,6	0,8	1,4	1,5	1,7	1,8	1,7
Potential growth (y-o-y)	1,9	1,3	0,8	1,2	1,4	1,5	1,5	1,5
Private consumption (y-o-y)	1,5	1,2	0,7	0,9	1,7	.	.	.
Public consumption (y-o-y)	1,3	1,5	0,5	0,5	0,5	.	.	.
Gross fixed capital formation (y-o-y)	5,9	-0,3	2,2	2,7	3,6	.	.	.
Exports of goods and services (y-o-y)	5,6	1,7	3,0	3,3	7,5	.	.	.
Imports of goods and services (y-o-y)	5,7	2,1	3,2	3,3	8,4	.	.	.
Contribution to GDP growth:								
Domestic demand (y-o-y)	2,3	0,9	1,0	1,2	1,8	.	.	.
Inventories (y-o-y)	0,5	0,0	0,0	0,2	0,3	.	.	.
Net exports (y-o-y)	0,1	-0,2	-0,2	0,0	-0,6	.	.	.
Contribution to potential GDP growth:								
Total Labour (hours) (y-o-y)	0,5	0,5	0,1	0,3	0,5	0,4	0,4	0,3
Capital accumulation (y-o-y)	0,6	0,5	0,4	0,5	0,6	0,6	0,7	0,7
Total factor productivity (y-o-y)	0,8	0,4	0,3	0,3	0,3	0,4	0,4	0,4
Output gap	1,4	-0,1	-1,0	-0,6	-0,5	-0,3	0,1	0,3
Unemployment rate	8,2	7,6	8,5	8,5	7,8	7,3	7,0	6,8
GDP deflator (y-o-y)	2,1	1,7	0,9	1,1	1,6	1,8	1,6	1,7
Harmonised index of consumer prices (HICP, y-o-y)	2,1	2,5	0,9	0,6	1,8	2,2	1,5	1,6
Nominal compensation per employee (y-o-y)	2,7	2,5	1,7	0,0	0,1	1,3	1,9	2,2
Labour productivity (real, person employed, y-o-y)	1,6	-0,2	0,7	0,5	0,2	.	.	.
Unit labour costs (ULC, whole economy, y-o-y)	1,1	2,6	1,0	-0,5	-0,1	0,7	1,0	1,2
Real unit labour costs (y-o-y)	-1,0	0,9	0,1	-1,6	-1,7	-1,1	-0,6	-0,5
Real effective exchange rate (ULC, y-o-y)	0,3	0,3	1,3	-4,2	-0,4	0,9	1,2	-0,5
Real effective exchange rate (HICP, y-o-y)	0,3	-0,2	0,9	-2,9	2,8	1,2	1,5	.
Savings rate of households (net saving as percentage of net disposable income)	9,0	8,3	5,0	4,4	3,7	.	.	.
Private credit flow, consolidated (% of GDP)	9,3	12,8	2,7	12,2	12,4	.	.	.
Private sector debt, consolidated (% of GDP)	124,6	171,7	165,7	178,9	189,2	.	.	.
of which household debt, consolidated (% of GDP)	43,9	52,7	56,8	58,8	59,2	.	.	.
of which non-financial corporate debt, consolidated (% of GDP)	80,7	119,0	108,9	120,2	130,1	.	.	.
Gross non-performing debt (% of total debt instruments and total loans and advances) (2)	2,6	4,2	4,3	3,0	2,6	.	.	.
Corporations, net lending (+) or net borrowing (-) (% of GDP)	1,9	2,5	2,3	1,6	2,5	1,4	1,4	1,6
Corporations, gross operating surplus (% of GDP)	24,8	24,7	24,5	25,7	26,4	27,2	27,6	28,0
Households, net lending (+) or net borrowing (-) (% of GDP)	2,5	2,8	1,1	0,5	0,2	-0,7	-0,9	-0,9
Deflated house price index (y-o-y)	6,7	0,7	-0,5	1,4	1,0	.	.	.
Residential investment (% of GDP)	5,9	6,1	5,8	5,8	5,9	.	.	.
Current account balance (% of GDP), balance of payments	2,3	-0,3	-0,6	-0,1	0,1	-1,0	-1,1	-0,9
Trade balance (% of GDP), balance of payments	2,5	-0,1	0,0	1,7	1,3	.	.	.
Terms of trade of goods and services (y-o-y)	-0,5	-0,5	0,2	0,9	0,7	0,0	0,1	0,1
Capital account balance (% of GDP)	-0,2	-0,1	-0,2	0,0	0,1	.	.	.
Net international investment position (% of GDP)	35,5	57,4	48,5	47,2	51,2	.	.	.
Net marketable external debt (% of GDP) (1)	.	63,8	57,1	52,9	48,6	.	.	.
Gross marketable external debt (% of GDP) (1)	.	232,4	190,6	199,8	206,0	.	.	.
Export performance vs. advanced countries (% change over 5 years)	0,4	-2,2	-6,8	-10,6	-5,0	.	.	.
Export market share, goods and services (y-o-y)	-2,5	-3,2	0,9	-5,4	7,9	.	.	.
Net FDI flows (% of GDP)	-2,0	-3,5	1,2	3,5	-1,7	.	.	.
General government balance (% of GDP)	-0,7	-3,8	-3,1	-2,5	-2,5	-1,5	-1,4	-1,5
Structural budget balance (% of GDP)	.	-3,8	-3,0	-2,2	-2,1	-1,5	-1,5	-1,7
General government gross debt (% of GDP)	92,3	99,7	106,1	106,0	105,7	103,8	102,5	101,2
Tax-to-GDP ratio (%)	45,3	45,7	47,8	47,3	46,5	46,6	46,2	45,9
Tax rate for a single person earning the average wage (%)	42,0	42,3	42,4	42,0	40,8	.	.	.
Tax rate for a single person earning 50% of the average wage (%)	25,8	26,6	26,0	25,0	21,6	.	.	.

(1) NIIP excluding direct investment and portfolio equity shares
(2) domestic banking groups and stand-alone banks, EU and non-EU foreign-controlled subsidiaries and EU and non-EU foreign-controlled branches
Source: European Commission for forecast figures (Winter forecast 2018 for real GDP and HICP, Autumn forecast 2017 otherwise)

2. PROGRESS WITH COUNTRY-SPECIFIC RECOMMENDATIONS

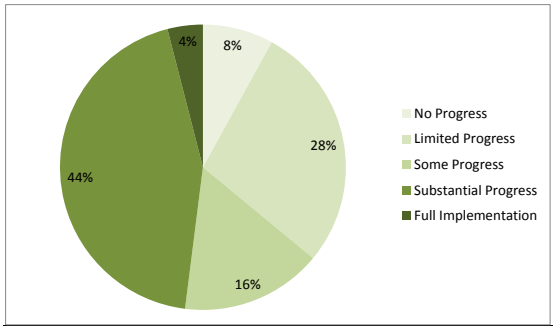
Progress with the implementation of the recommendations addressed to Belgium in 2017 has to be seen as part of a process which started with the introduction of the European Semester in 2011([7]). Looking at the multi-annual assessment of the implementation of the CSRs since these were first adopted, 64 % of all the CSRs addressed to Belgium have recorded at least 'some progress'. In particular, substantial progress has been made in safeguarding the country competitiveness by ensureing that wages evolve in line with productivity. First steps to ensure the long-term sustainability of the public finances have also been adopted. Nevertheless, 36 % of these CSRs recorded 'limited' or 'no progress' (see Graph 2.1).

The general government deficit has declined from 4.1 % to 1.5 % of GDP between 2011 and the end of 2017. However, the achievement of the target of a structurally balanced budget has been postponed to 2019, with only limited progress projected in 2018. The public debt-to-GDP ratio has entered a declining trend since it peaked at 106.8 % of GDP in 2014 and contributes to soften long-term sustainability concerns related to expected rise in population ageing costs. In this regard, the full implementation of the different steps of the reform of the pension system decided in 2014 will be a significant step towards addressing the long-term cost of ageing. Legislation already passed has tightened 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.

Measures have taken to reverse previous losses in competitiveness. Between 2013 and 2017, various wage moderation policies have been implemented to improve the gradually eroding cost-competitiveness, including a real wage freeze, parametric changes to the indexation calculation mechanism and a temporary suspension of wage indexation agreements. In addition, in the framework of the on-going tax reform 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.

The recently adopted reform of the corporate income tax system, once enacted, would further reinforce the cost-competitiveness of the Belgian economy. The move towards a system with lower statutory rates and fewer tax deductions and exemptions will also help simplify an overall complex tax system and increase the attractiveness of the Belgian economy for doing business. The extension of the tax shelter scheme to SMEs lifts one of constrains to the development of dynamic fast growing firms, providing easier access to financing.

Graph 2.1: **Overall multiannual implementation of 2011-2017 CSRs to date**



* The overall assessment of the country-specific recommendations related to fiscal policy excludes compliance with the Stability and Growth Pact.
** 2011-2012: Different CSR assessment categories.
*** The multiannual CSR assessment looks at the implementation since the CSRs were first adopted until the 2018 Country Report.
Source: European Commission

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.

([7]) For the assessment of other reforms implemented in the past, see in particular section 3.

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.

Belgium has made limited progress in addressing the 2017 country-specific recommendations. There has been no progress on distributing fiscal targets among various levels of government in a way that can be enforced. The federal government has announced steps to reinforce the autonomy of the High Council and the independence of its members. Some progress has been made with regard to the removal of distortive tax expenditure. Limited progress has been made on improving the composition of public expenditure. There are no plans at federal level to introduce a systematic review of public spending as a permanent feature of the budget planning. Nevertheless, through the National Plan for Strategic Investment, an increase in infrastructure investment is projected. There is also some progress on vocational training, quality of education reforms and labour market with regard to disadvantaged groups, as communities are phasing in major school reforms (e.g. French-speaking community's Pacte d'Excellence). Some progress has been recorded to foster investment in knowledge based capital, even if measures vary in scope at regional, community and federal level. Progress on sector regulation has been overall limited. For certain professional services regulatory restrictions continue to hamper competition. Also, limited progress has been made in improving the functioning of the retail sector for the benefit of businesses and consumers. Finally, limited progress has been made in enhancing market mechanisms in network industries.

Table 2.1: **CSRs progress**

Belgium	**Overall assessment of progress with 2017 CSRs: Limited progress**
CSR 1: *Pursue a substantial fiscal effort in 2018 in line with the requirements of the preventive arm of the Stability and Growth Pact, taking into account the need to strengthen the ongoing recovery and to ensure the sustainability of Belgium's public finances. Use windfall gains, such as proceeds from asset sales, to accelerate the reduction of the general government debt ratio. Agree on an enforceable distribution of fiscal targets among government levels and ensure independent fiscal monitoring. Remove distortive tax expenditures. Improve the composition of public spending in order to create room for infrastructure investment, including on transport infrastructure.*	Belgium has made **limited progress** in addressing the fiscal-structural part of CSR1(1): • **Limited progress** in agreeing on an enforceable distribution of fiscal targets. • **Some progress** in removing distortive tax expenditure. • **Limited progress** in improving the composition of public spending.
CSR 2: *Ensure that the most disadvantaged groups, including people with a migrant background, have equal opportunities to participate in quality education, vocational training, and the labour market.*	Belgium has made **some progress** in addressing CSR2 • **Some progress** in ensuring that most disadvantaged groups, including people with a migrant background, have equal opportunities to education and vocational training. • **Limited progress** in ensuring that most disadvantaged groups, including people with a migrant background, have equal opportunities to labour market.
CSR 3: *Foster investment in knowledge-based capital, notably with measures to increase digital technologies adoption, and innovation diffusion. Increase competition in professional services markets and retail. Enhance market mechanisms in network industries.*	Belgium has made **limited progress** in addressing CSR3 • **Some progress** in fostering investment in knowledge-based capital • **Limited progress** in increasing competition in professional services market and retail • **Limited progress** in enhancing market mechanisms in network industries

(1) This does not include an assessment of compliance with the Stability and Growth Pact.
Source: European Commission

ESI Funds are important in addressing key challenges to inclusive growth and convergence in Belgium, notably by investing in research, development and innovation, redressing educational inequality, fighting early school leaving and boosting the employment rate of the young. The funds are instrumental in fighting poverty and social exclusion as well as helping the country to reach its Europe 2020 targets for greenhouse gas emissions.

Box 2.1: Tangible results delivered through EU support to structural change in Belgium

Belgium is a beneficiary of the European Structural and Investment Funds (ESI Funds) support and can receive up to EUR 2.7 billion until 2020. This represents around 3 % of annual public investment ([1]) over the period 2014-2018. By 31 December 2017, an estimated EUR 1.9 billion ([2]) (69 % of the total) was allocated to projects on the ground. This has paved the way for 15 669 enterprises to receive support with an increase of about additional 8 000 full time job equivalents created.

ESI Funds help address structural policy challenges and implement country-specific recommendations. In this way, the Funds contribute to reaching the 2020 targets for reducing greenhouse gas emissions from non-ETS activities especially as regards buildings and urban transport. About 38 % of the ESI Funds are devoted to supporting actions in the field of employment, social inclusion and education, helping Belgium to reach its Europe 2020 targets (reduction of poverty, reduction of early school leaving 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.

Various reforms were undertaken already as precondition for ESI Funds support ([3]). ESI Funds helped implement a number of structural reforms in 2015 and 2016 via ex-ante conditionalities and targeted investment. These included establishing regional Smart Specialisation Strategies.

Belgium is advancing the take up of the European Fund for Strategic Investments (EFSI). As of December 2017, overall financing volume of operations approved under the EFSI amounted to EUR 1.9 billion, which is expected to trigger total private and public investment of EUR 5.8 billion. More specifically, 16 projects have been approved so far under the Infrastructure and Innovation Window (including 10 multi-country projects), amounting to EUR 1 billion in EIB financing under the EFSI. This is expected to trigger nearly EUR 4.6 billion in investments. Under the SME Window, 8 agreements with financial intermediaries have been approved so far. European Investment Fund financing enabled by the EFSI amounts to EUR 256 million, which is expected to mobilise more than EUR 1.1 billion in total investment. Over 4 400 smaller companies or start-ups will benefit from this support. Energy ranks first in terms of operations and volume approved, followed by RDI, SMEs and Digital.

Funding under Horizon 2020, the Connecting Europe Facility and other directly managed EU funds is additional to the ESI Funds. By the end of 2017, Belgium has signed agreements for EUR 482 million for projects under the Connecting Europe Facility. Belgium also benefitted from EUR 341 million from Horizon 2020 project grants signed in 2017. https://cohesiondata.ec.europa.eu/countries/BE

([1]) Public investment is defined as gross fixed capital formation + investment grants + national expenditure on agriculture and fisheries.
([2]) Update financial figures are available at beginning February 2018 and will be included in the final version by 9 February.
([3]) Before programmes are adopted, Member States are required to comply with a number of so-called ex-ante conditionalities, which aim at improving conditions for the majority of public investments areas.

3. REFORM PRIORITIES

3.1. PUBLIC FINANCES AND TAXATION

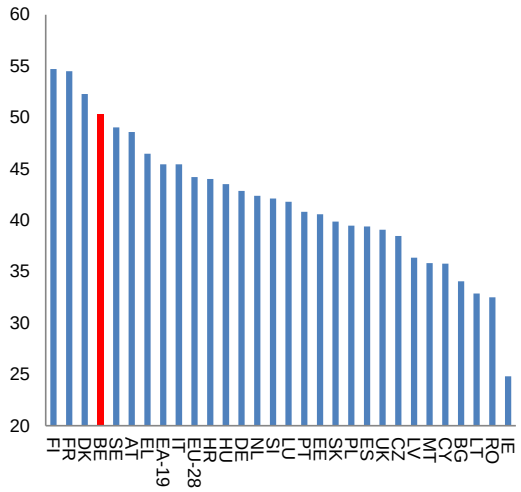
3.1.1. FISCAL POLICIES

After stalling in 2016, the Belgian general government deficit is expected to have dropped significantly in 2017 thanks to favourable cyclical conditions one-off factors as well as a structural adjustment. According to the Commission 2017 autumn forecast, the deficit is estimated to have decreased from 2.5 % of GDP in 2016 to 1.5 % in 2017. Both revenue (+0.2 pps of GDP) and expenditure (-0.8 pps) are expected to have contributed to this improvement. In 2018, the headline deficit is forecast to decline only moderately, to 1.4 % of GDP. The revenue-to-GDP ratio is projected to decline by 0.6 pps. The drop mostly reflects the implementation of additional reductions in personal income taxation and social security contributions in the context of the tax reform to lower the tax pressure on labour. This decline is counterbalanced by a comparable reduction in expenditure. The latter stems from lower expenditure on social benefits, interest payments, public sector wages and subsidies.

In structural terms, the budget consolidation is expected to halt in 2018, with the structural balance remaining broadly unchanged. Since 2011, when it peaked at 4.0 % of GDP, the structural balance improved by 2.5 % of GDP (up to 2017), whereas the primary ([8]) structural balance over the same period improved by only 1.5 % of GDP. It means that almost half of the structural improvement is due to interest windfalls. Belgium thus appears to have partly missed the opportunity to use the accommodative monetary policy for a more ambitious and timely budget consolidation.

Total public expenditure remains well above the EA average; this is also true for the primary expenditure (see Graph 3.1.1). While in the early 2000s, primary government expenditure in Belgium stood at a level fairly similar to the EA average, since then a gap has opened up. For instance, primary expenditure increased from 42.4 % of GDP in 2000 to 50.3 % in 2016. This rise of 7.9 pps of GDP compares to a more modest average increase in the EA of around 4 pps of GDP. Capital expenditure, commonly considered key in boosting the economy's long-term growth potential, was one of the few declining spending categories in the considered period (National Bank of Belgium, 2014).

Graph 3.1.1: **Government primary expenditure in 2016, % of GDP**



Source: European Commission

The high level of public expenditures offers scope for larger spending restraint in fiscal consolidation. In this regard, the introduction of expenditure rules setting multi-year ceilings on broad spending aggregates at each level of government would support a spending-based consolidation and medium-term expenditure control (European Commission, 2015a). At present, however, with the exception of a ceiling for health care spending, no level of government in Belgium is applying domestic expenditure rules. At regional level, Flanders is planning to introduce a spending review approach in its budgetary process. This contrasts with the increasing adoption of such rules across the EU. Nevertheless, the largest portion of public spending is not mandated by discretionary annual budget decisions but by permanent legislation, which limits legislatures' ability to review and change spending priorities in several ways.

([8]) Total expenditure net of interest expenditure.

The general government debt peaked at 106.8 % of GDP in 2014, increasing from 87 % of GDP in 2007. This development followed from the absence of primary budget surpluses, unfavourable interest-growth differentials, substantial support to the financial sector, loans to Greece and contributions to the European Stability Mechanism and its precursor. A gradual reduction of the public debt level is ongoing, which should allow for a debt-to-GDP ratio of 101.2 % in 2019 according to the Commission 2017 autumn forecast.

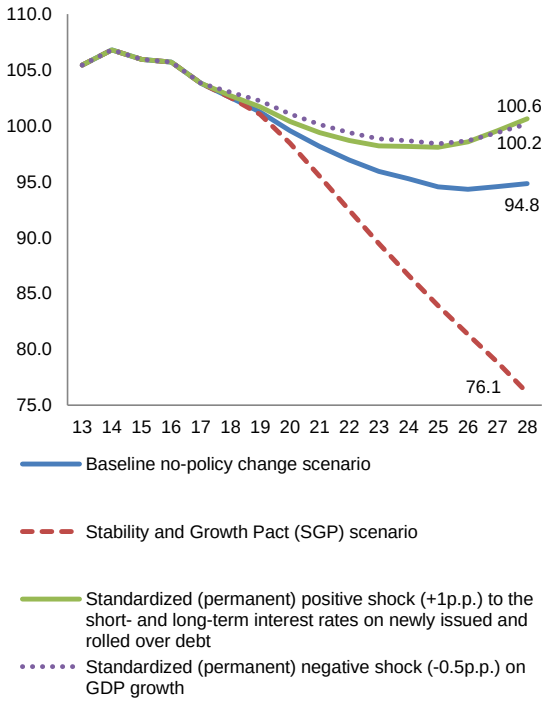
The high level of public debt increases economic vulnerabilities. Combined with the lasting budget deficit, it limits the authorities' margin for initiating new or countercyclical policies in case of a downturn. Not tackling the projected increase in age-related spending would amplify those risks (see following section). Moreover, Belgium will have to cope with important public investments in defence and infrastructure in the years to come.

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. The active management of the debt stock has led to an extension of the average maturity of the existing debt (9.3 at the end of 2017 compared to 8.7 at the end of 2016). Its cost has also decreased with its average yields falling to 2.5% in 2017. As a result, Belgium is more protected in case of a sudden hike in the interest rates. For instance a linear increase by 100 basis points would imply higher costs of EUR 0.5 billion (0.1 % of GDP) in 2017, and of EUR 1.6 billion (0.4 % of GDP) by 2020 (Stability programme 2017).

3.1.2. SUSTAINABILITY OF PUBLIC FINANCES

In the medium term Belgium faces high fiscal sustainability risks as measured by both the debt sustainability analysis and the S1 indicator ([9]). This is due to the high level of public debt and to a lesser extent to the projected increase in age-related expenditure. Reaching a debt ratio of 60 % of GDP by 2032 would require a fiscal adjustment of as much as 4.4 pps of GDP between 2019 and 2024 relative to the baseline scenario assuming no policy change. Adhering to the existing fiscal rules (full compliance with the requirements of the preventive arm of the SGP and convergence to the Medium-Term Objective) would bring about a significantly higher decrease in gross public debt over GDP relative to the baseline scenario at unchanged fiscal policy. Indeed, in this case, public debt would reach 76.1 % of GDP in 2028, a level around 18.7 percentage points of GDP lower than what is projected under the baseline scenario (Graph 3.1.2). Conversely, potential shocks in nominal growth and interest rates would project public debt at around 100.6 % of GDP.

Graph 3.1.2: **Public debt medium-term projection and scenarios (% of GDP)**



Source: European Commission (Debt Sustainability Monitor 2018)

In the long term, sustainability risks are assessed at medium level. As indicated by the S2 indicator ([10]), an upfront fiscal adjustment of 4.5

([9]) The S1 indicator measures the required fiscal adjustment needed between 2019 and 2024 to bring the public debt ratio down to 60 % of GDP by 2032.

([10]) The S2 indicator shows the adjustment to the current structural primary balance required to fulfil the infinite horizon inter-temporal budget constraint, including paying for any additional expenditure arising from an ageing

pps of GDP would be needed to ensure the sustainability of the public finances in the long term. This is mainly driven by the projected impact of the age-related costs (3.8 pps of GDP), with an additional contribution from the initial budgetary position (0.7 pps of GDP).

T**he 2018 Ageing Report (European Commission – EPC (AWG), 2018) projects pension expenditure to increase by 2.9 pps of GDP in 2070.** This compares with an increase of 1.3 pps of GDP in the previous update and a decrease of 0.1 ppt of GDP on average for the EA (2015 Fiscal Sustainability Report). The substantial upward revision is mostly grounded on the new demographic projections (European Commission, 2017b). Compared to the previous vintage, the increase in total population for Belgium in 2060 has been revised downward ([11]), with a significant and unfavourable impact on the dependency ratio.

The pension reforms enacted in 2015 were a significant first step towards addressing the long-term cost of ageing. Nevertheless, because of the sustainability risks outlined above, various still pending issues in the government's reform roadmap require further action. This is the case, for instance, for the introduction of a credit-based pension system as of 2030, which would allow automatic adjustments to changes in life expectancy or the dependency ratio. The pension reform also helped reducing the poverty risk for pensioners according to the analysis carried out for the forthcoming Pension Adequacy Report.

Expenditure projections for health and long-term care contribute to the sustainability challenge in the long term. According to the findings of 2018 Ageing Report, health and long-term care expenditure would increase by 2070, adding to the sustainability challenge. Notably, according to the AWG Reference Scenario, expenditure on long-term care is, as a proportion of GDP, projected to increase by 1.7 pps during the period from 2016 to 2070, above the EU average increases of 1.2 pps. According to the Risk Scenario this increase becomes more pronounced, with 3.5 pps (above the EU average of 2.7 pps). This would bring expenditure up to 5.8 % of GDP by 2070 and pose an important challenge to the future fiscal sustainability of Belgium (2018 Ageing Report, forthcoming).

3.1.3. FISCAL FRAMEWORK

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 Public Sector Borrowing Requirement Section of the High Council of Finance to propose multiannual budget targets for each government in preparation for the annual Stability Programme. On the basis of this proposal, the federal, regional and community governments are expected to reach a binding agreement on overall and individual multiannual fiscal paths. The High Council of Finance 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.

Implementation of the 2013 cooperation agreement has been poor. In 2017 as in 2015 and 2016, the federal government, 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 MTO as laid down in the Stability Programme.

population. However, the adjustment implied by the S2 indicator could lead to debt stabilising at relatively high levels. Consequently, the indicator has to be treated with caution for high-debt countries in relation to the SGP requirements.

([11]) Total population in 2060 would increase to 13.6 million compared to 15.4 million expected according to the previous vintage.

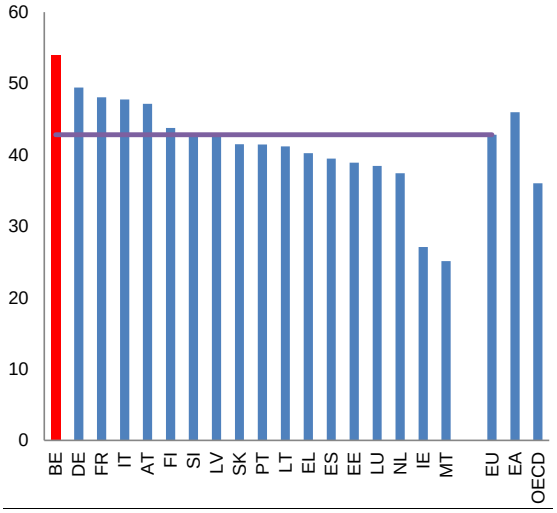
The federal government has announced steps to reinforce the autonomy of the High Council of Finance and the independence of its members. The adoption of the necessary amendments (including to the Royal Decree of 3 April 2006 on the High Council of Finance) requires prior consultation with the federated entities. The calendar for consultation and adoption has however not been communicated.

3.1.4. TAXATION

In spite of the on-going efforts to reduce the tax burden on labour, it is still comparatively high. The tax reform initiated in 2014 is currently being phased in. 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 (European Commission, 2016a and 2017a). Despite labour tax wedge reductions, average income earners in Belgium remain the most taxed in the EU and in the euro area (see Graph 3.1.3). The 2016 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 funding the tax cuts, although the overall budget-neutrality of the reform does not seem assured ([12]). Additional positive effects are expected from reductions targeting small and medium-sized enterprises (SMEs) and self-employed people.

In 2016, the tax wedge for low income earners (67 % of the average wage) decreased by 1.9 percentage points compared to 2015, although it remains one of the highest in the EU. For very low income earners (50 % of the average wage) a larger reduction of 4.1 percentage points could be seen. While it remains above the EU average, the tax wedge at 50 % of the average wage has moved from being the 3rd highest in the EU in 2014 to the 10th highest in 2016 ([13]). Despite labour tax wedge reductions, average income earners in Belgium remain one of the highest taxed in the EU (see section 3.3).

Graph 3.1.3: **Tax burden on labour for a single person at the average wage (2016)**



The average wage indicator is 100 % of the average wage. No recent data is available for Cyprus. The line in the graphs represents the GDP-weighted EU average (benchmark used in the Eurogroup).
Source: European Commission Tax and Benefit Indicator Database based on OECD data

The Belgian tax system remains complex, with tax bases eroded by numerous exemptions, deductions and reduced rates. These may entail revenue losses, economic distortions and additional administrative burden. The latest figures for the federal government show that the total amount of tax expenditures is sizeable, and that the rising trend as a percentage of GDP continues ([14]).

Belgian revenues from environmentally related taxes remain among the lowest in the EU. Environmental taxes accounted for 2.2 % of GDP in 2016 against an EU28 average of 2.4 %, and energy taxes to 1.4 % of GDP against an EU average of 1.9 %. In the same year environmental tax revenues accounted to 5.0 % of total revenues from taxes and social security contributions against

([12]) Cumulated non financed balance 2015-2020 of 4786 million EUR *ex ante* and 627 million EUR *ex post* according to NBB, 2017 ("Incidence macroéconomique et budgétaire du scénario de tax shift révisé par le cabinet du ministre des Finances et comparaison avec l'exercice de novembre 2015" – BNB 10/8/2017).

([13]) Tax wedge at 67 % was 47.47 compared to 49.39 (2015) and 49.87 (2014). Tax wedge at 50 % was 36.17 compared to 40.31 (2015) and 41.14 (2014).

([14]) Chambre des représentants, 24 octobre 2017. Inventaire 2015 des exonérations, abattements et réductions qui influencent les recettes de l'Etat, annexe au projet de loi contenant le budget 2018.

an EU28 average of 6.3 %, excluding imputed social contributions ([15]). Fossil fuel subsidies showed no decrease in the past decade, with even some increasing trend in the last year ([16]).

Belgium has adopted at the end of 2017 ([17]) **a reform of its corporate income tax system.** The current corporate income tax system is characterised by a high statutory rate of 33.99 %, including the 3 % crisis surcharge (with lower rates for SMEs), with numerous exemptions and deductions. .It provides for a move towards a system with lower statutory rates and fewer exemptions. The statutory tax rate should be reduced to 29.58 % in 2018 and to 25 % in 2020 (for SMEs: 20 % on the first 100.000€ as from 2018).

The reform introduces a de facto minimum tax with the limitation to a deductible basket of the new incremental notional interest deduction and of the carry forward of the following items: deduction of the notional interest, innovation income, losses and deduction of dividends received. However the Conseil d'Etat/Raad van State expressed doubts on the compatibility with EU law of the limitation of RDT deduction.

Belgium has taken measures to amend some aspects of its tax system that facilitated aggressive tax planning (ATP) ([18]). The Code of Conduct on Business Taxation Group has approved the replacement of the Belgium patent box by an innovation box. The old patent box is subject to a grandfathering clause which last until June 2021. The new "nexus" regime requires a stronger link between the intellectual property (IP) that can benefit from the regime, and the R&D that created this IP. While the economic evidence on the effectiveness of patent/innovation boxes as a means to encourage R&D remains limited, it may be used as a tax competition tool (cf. 3.4.1). The excess profit rulings scheme, which had the potential to facilitate aggressive tax planning, was put on hold by Belgium since 2015 and effectively abolished in 2017. Finally, Belgium will have to transpose the provisions of the Anti-Tax Avoidance Directive (ATAD) into national law by the end of 2018 and 2019. This is covered by the project that provides for new anti-abuse rules including an alignment of the thin cap rule (limitation based on the highest of 30 % of the EBITDA and EUR 3 million) on the recent ATAD Directive. An assessment of the extent to which the new measures, in conjunction with the effect of the transposition of the EU ATAD, limit the scope for aggressive tax planning in Belgium would be warranted.

The former Notional Interest Deduction (NID) regime that was based on the stock of equity has been replaced by an incremental system. The new NID, which shares an incremental baseline with the Allowance for Growth and Investment (AGI) proposed in the common corporate tax base (CCTB) will be limited to incremental equity capital calculated on the basis of a 5-year average. This change is meant to contribute to the budget-neutrality of the corporate tax reform while addressing the potential use of the regime in ATP and still alleviating[19] the debt/equity bias issue. It has to be noted that the absence of some specific anti-abuse rules to address the cascading of deductions and notably targeting transactions between related parties are features of the tax system which may facilitate aggressive tax planning by multinational groups that locate financial companies in Belgium. At the current stage of the reform, the anti-abuse framework seems to remain unchanged under the new system.

([15]) Source ESTAT: http://ec.europa.eu/eurostat/web/environment/environmental-taxes/database.

([16]) OECD Inventory of Support Measures for Fossil Fuels 2015: http://stats.oecd.org/Index.aspx?DataSetCode=FFS_BEL.

([17]) "Projet de loi portant sur le réforme de l'impôt des sociétés".

([18]) 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.

([19]) Contrary to the AGI, the new Belgian NID cannot be negative and therefore does not incentivise corporations to sustain their equity

3.2. FINANCIAL SECTOR

The financial sector appears relatively stable, but low interest rates, digitalisation, clients' evolving preferences and intense competition remain a challenge for the traditional business model. Banks are moderately profitable, with a return on equity close to 9 % in 2016. Their solvency is good, with a capital adequacy ratio stable at 18.5 % in June 2017 (see Table 3.2.1). Credit quality is at a high, with low non-performing loans (NPL) ratios for both non-financial corporations and households. Because of the persistent low interest rate environment, credit growth remains substantial. State ownership remains significant, and still represents a sizeable risk for the public finances and the financial sector, although the expected progressive privatisation of Belfius would partly address the issue. Banks' challenges remain the same as last year: a high cost-to-income ratio, a relatively high banking tax only partially compensated by the exoneration of savings accounts, the obligation to pay a minimum interest rate (0.11 %) on regulated savings accounts which puts net interest margins under pressure in the current low interest rate environment, digitalisation, compliance costs, clients' evolving preferences and intense competition. Dexia still constitutes a sizeable, but relatively stable contingent liability of EUR 35 billion (8.2 % of GDP) for the Belgian state.

The contributions to the Belgian Deposit Guarantee Scheme (DGS) are not invested into a segregated and diversified portfolio of low-risk assets. The contributions to the Belgian DGS (around EUR 3.4 billion in December 2017) directly enter the budget of the state as tax revenues and contribute to reduce the deficit. As a consequence, they cannot be invested in a segregated and diversified portfolio of low-risk assets. If the DGS needs to intervene and compensate depositors, the Belgian state will have to finance the entire cost of the intervention from its budget. It will not be able to rely, like other Member States, on the accumulated contributions paid by the banks into a safe ring-fenced fund. It should be noted that the issue is of a temporary nature. Under the Commission´s proposal on a European Deposit Insurance Scheme (EDIS) all banks in the Banking Union are (gradually) contributing to a single European fund. Depending on the level of financial means a national DGS has already raised, it may compensate its member banks by reimbursing previously received contributions.

Traditional life business is suffering, mostly due to the 2 % tax on life-insurance premiums and the low interest rate environment. Many insurers have decided to stop, or at least significantly reduce, the underwriting of traditional life contracts. In parallel, they are taking various measures to increase their profitability and strengthen their capital position. Faced with the legacy of old contracts with a high guaranteed interest rate, some insurers have carried out quite successful buy-back operations, sometimes facilitated by the uncertainty surrounding the state guarantee on life insurance contracts (up to EUR 100,000, like for banking deposits) after the sale of an insurance portfolio to a foreign entity.

Many insurers benefit to some extent from the volatility adjustment ([20]) of the long-term guarantee package. For one insurer, the volatility adjustment raises the Solvency II ratio from 97 % to 165 %. On average, the value adjustment allows Belgian insurers to improve their Solvency II ratio by 20 percentage points. The 2 % tax on life insurance premiums is also a handicap to efficiently compete with accumulating investment funds ("SICAV de capitalisation") that are only

([20]) The volatility adjustment is part of the so-called Long-Term Guarantee (LTG) package. It aims at dealing with so-called "artificial" credit spread fluctuations not related to an increased probability of default of the counterparty. It consists in a (upward) correction that can be applied to the risk-free curve under certain conditions. It allows to lower the value of technical provisions and, consequently, to increase the value of own funds but, even more, to reduce the Solvency Capital Requirement. These two effects increase the solvency ratio and may underestimate the "true" risks. According to article 77d of the Solvency II directive 2009/138/EC, "Member States may require prior approval by supervisory authorities for insurance and reinsurance undertakings to apply a volatility adjustment to the relevant risk-free interest rate term structure to calculate the best estimate referred to in Article 77(2). For each relevant currency, the volatility adjustment to the relevant risk-free interest rate term structure shall be based on the spread between the interest rate that could be earned from assets included in a reference portfolio for that currency and the rates of the relevant basic risk-free interest rate term structure for that currency. The reference portfolio for a currency shall be representative for the assets which are denominated in that currency and which insurance and reinsurance undertakings are invested in to cover the best estimate for insurance and reinsurance obligations denominated in that currency". Note that in Belgium insurers can apply the volatility adjustment without prior approval by the NBB.

Table 3.2.1: **Financial soundness indicators, all banks in Belgium**

Financial soundness indicators, all banks in Belgium								
(%)	2010	2011	2012	2013	2014	2015	2016	2017Q2
Non-performing debt	3.9	4.2	5.1	5.3	3.3	3.0	2.6	2.4
Non-performing loans	-	-	-	-	4.3	3.8	3.2	2.8
Non-performing loans NFC	-	-	-	-	6.5	5.8	4.8	4.8
Non-performing loans HH	-	-	-	-	4.5	3.9	3.7	3.4
Coverage ratio	29.3	31.6	28.1	29.3	40.5	42.2	43.7	44.3
Loan to deposit ratio*	62.4	60.1	56.6	58.2	59.5	62.3	66.2	66.1
Tier 1 ratio	15.5	15.1	15.9	16.4	15.3	16.0	16.2	16.1
Capital adequacy ratio	19.3	18.5	18.2	18.7	17.6	18.7	18.8	18.5
Return on equity**	10.5	1.4	3.3	6.2	7.8	10.3	8.9	-
Return on assets**	0.5	0.1	0.2	0.4	0.5	0.7	0.6	-

**ECB aggregated balance sheet: loans excl to gov and MFI / deposits excl from gov and MFI*

***For comparability only annual values are presented*

Source: ECB CBD

subject to a stock exchange transaction tax of (typically) 0.12% at the purchase and the sale of the shares in the fund.

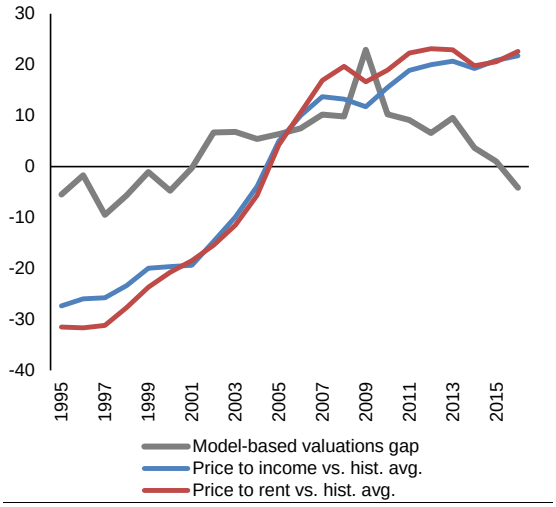
The taxation reform of financial investments reduces some economic distortions but also creates new ones, and generates more complexity. On the positive side, the reduction by half of the exonerated amount of interests from regulated savings accounts (from EUR 1 880 to EUR 940) and the exoneration of the first EUR 627 of dividends reduces the taxation gap between deposits and equity. The reduction of the nominal corporate income tax rate also reduces the taxation gap between debt instruments and equity. On the negative side, the increase of the different stock exchange transaction tax rates works in the opposite direction, by penalising investment in securities. Likewise, the exoneration of dividends only benefit to individual shares, and not to funds, which penalises diversification and encourages concentration risk. Finally, the new tax of 0.15 % on securities accounts exceeding EUR 500 000 is based on solidarity principles. It likely creates distortions given the number of products excluded from its scope (life insurance, pension products, nominal shares, term savings options, liquidity). The efficiency and efficacy seem questionable, given the small amounts concerned, the possibilities to circumvent the tax and the administrative burden it imposes on banks and brokers. Moreover, it suffers from a cliff effect: since the tax applies from the very first euro as soon as the threshold of EUR 500 000 is reached, net income decreases as the gross income increases in the neighbourhood of the threshold.

Housing

House prices have continued to steadily increase recently, showing some signs of overvaluation, and currently they stand at a level, in nominal terms, above to their peak before the financial crisis. It is difficult to measure overvaluation and undervaluation in property markets, since the results depend on the underlying assumptions. Traditional indicators (price to income, i.e. affordability and price-to-rent i.e. dividend), used to assess over-valuation on the housing market, suggest that Belgium's housing prices might be around 20% above their long term average. However, taking into account a broader set of factors, a model-based approach actually finds that house prices are currently in line with their fundamental value, providing a more benign assessment of recent price developments (Graph 3.2.1). Overall, house prices are assessed to be slightly overvalued (Philiponnet and Turrini, 2017).

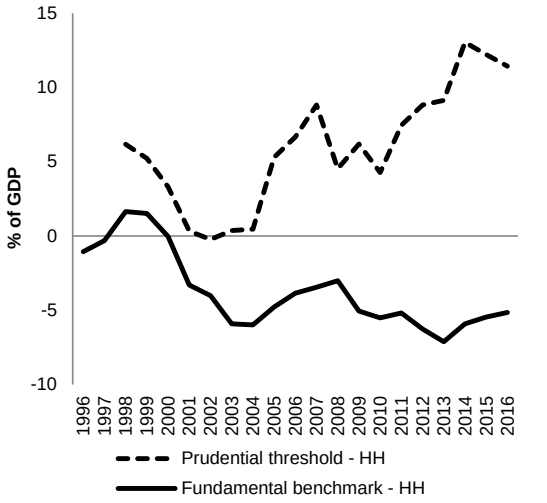
The prolonged increase in the price-to-income ratio has made the financial situation of households more fragile through an almost mechanic increase in their debt. Between 2001 and 2016 households' disposable income has increased at annual average rate of 2.4 %, while over the same period of time nominal house prices have increased at an annual average rate of 4.6 %. The mortgage related indebtedness of the Belgium household is steadily increasing since 2002, and stood at the start of 2016 at around 103 % of their disposable income.

Graph 3.2.1: **Overvaluation gap with respect to price/income, price/rent and fundamental model valuation gaps**



Source: European Commission

Graph 3.2.2: **Gap to the fundamental-based and prudential benchmarks**



Source: European Commission

Despite the favourable wealth position of Belgian households, the distribution of debt and assets reveal some pockets of vulnerability. Belgium households hold on average more assets than in EA and have positive net assets positions. However, micro-level data shows that for around one mortgage out of five, the service of debt absorbs more than half of the households' disposable income (National Bank of Belgium, 2017b). Figures from the National Bank of Belgium (NBB) also show that the banks' lending criteria have not tightened and that the share of risky mortgages in overall banks assets has stopped falling since 2015. Those risky credits are characterised by a high loan-to-value ratio, or a high debt service-to-income ratio, longer than average maturity or a combination of the previous risks factors. The time-to-maturity length of the average mortgage debt is shorter than in the EA, but it has recently started to lengthen.

The increase in households' debt since 2000 is substantial although in line with fundamentals. Households' debt is close to but below the level suggested by the economic fundamentals. Nevertheless its level is above the estimated prudential threshold, which indicates that current households' debt level could have amplifying impact in the case of a financial crisis (Graph 3.2.2) (Bricongne, J.-C., L. Coutinho and N. Philiponnet, 2018).

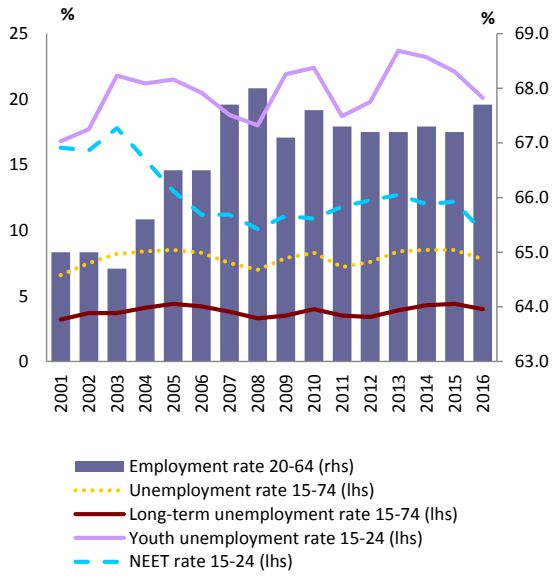
The complex national macroprudential decision-making process may leave financial stability risks unaddressed. A macroprudential measure addressing financial stability risks originating in the residential real estate (RRE) was implemented in Belgium in 2014. The measure was based on Article 458 of the CRR and consisted of a general 5 percentage points add-on on risk weights for mortgage exposures. In the light of increasing RRE risks (see ESRB 2016), the NBB proposed to replace that measure, following its expiration in May 2017, by a more stringent measure. The latter was not enacted by the Belgian government, effectively resulting in the temporary absence of a formal macroprudential measure to address RRE risk. The NBB proposed a new macroprudential measure in November 2017, consisting of a flat 5 percentage points add-on (prolongation of the original measure) and a multiplier of 1.33 on mortgage risk weights. This stricter measure has the support of the government and is currently in the notification process with European institutions.

3.3. LABOUR MARKET, EDUCATION AND SOCIAL POLICIES

3.3.1. LABOUR MARKET

Employment growth has recently been sound but overall labour market participation remains low. In 2016, robust economic growth, supported by competitiveness gains and wage moderation (see page 29), has resulted in sound employment growth (1.3 % in 2016). The unemployment rate fell to 7.2 % in 2017Q3, which is only slightly above the pre-crisis level (7.0 % in 2008). However, serious challenges persist. The employment rate is well below the EU average (68.5 % vs. 72.6 % in the EU in 2017Q3) (Graph 3.3.1) and disincentives to work remain relatively high.

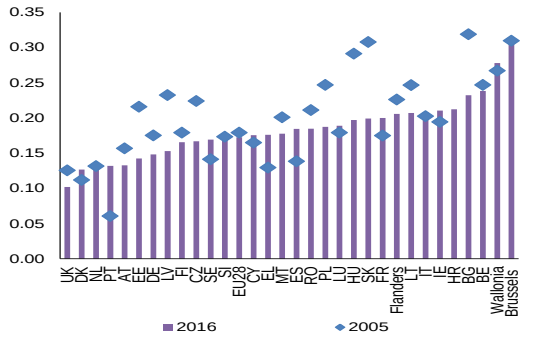
Graph 3.3.1: **Key labour market indicators**



Source: European Commission

High inactivity coincides with a high vacancy rate, suggesting a high level of skills mismatches. Belgium's inactivity rate, at 26.7 % in 2016, is higher than that of its neighbours (FR: 22.5 %; DE: 18.0 % and NL: 18.4 % for population aged 20-64 year olds). This is also reflected in a large number of very-low-work-intensity households concentrated among single adult households (Vandenbroucke & Corluy, 2015). At the same time, the vacancy rate was among the highest in the EU (3.6 % in 2017Q3), and matching efficiency ([21]) has dropped by a long way (European Commission, 2017f). The gap between the employment rates of low-, medium-, and high-skilled workers was among the widest in the EU in all three Regions, well above the level in the neighbouring countries (Graph 3.3.2) (Kiss & Vandeplas, 2015). Skills mismatches are, among other factors, associated high labour costs and taxation, including taxation on low wage employment (see section 3.1), low mobility and inadequate language knowledge (especially in Brussels), as well as historical factors, such as shifts in economic activity.

Graph 3.3.2: **Relative dispersion of employment rates by education level, 2005 and 2016**



Source: Eurostat Labour Force Survey, European Commission

Disincentives to work remain relatively high. In recent years, the targeted measures to reduce the tax wedge on labour have significantly increased the net income of employees especially those on low wage (Graph 3.3.3). Despite these measures the tax wedge for a single household earning the average wage remained among the EU's highest in 2016 (54 %), although it has declined since 2015 (55.3 %) (see section 3.1). The unemployment trap for low wage earners (67 % of the average wage for a single household) is also one the EU's highest. Belgium is also the only country where unemployment benefits are not limited in time ([22]). In addition, high tax disincentives for second earners – mainly women – remain (see Box 3.3.1).

([21]) Matching efficiency measures the relative efficiency of the process of matching job-seekers with available jobs. Using the Beveridge curve, which equalises flows into and out of unemployment, allows for the computation.

([22]) According to the benchmarking exercise in the area of unemployment benefits and active labour market policies. See the draft Joint Employment Report 2018 for details.

Box 3.3.1: Monitoring performance in light of the European Pillar of Social Rights

The European Pillar of Social Rights, proclaimed on 17 November 2017 by the European Parliament, the Council and the European Commission, sets out 20 principles and rights to benefit citizens in the EU. In light of the legacy of the crisis and changes in our societies driven by population ageing, digitalisation and new ways of working, the Pillar serves as a compass for a renewed process of convergence towards better working and living conditions.

Belgium performs well on the indicators of the Social Scoreboard[1] supporting the European Pillar of Social Rights. This is notably the case for gender equality, active support to employment and social protection and inclusion, in particular childcare.

BELGIUM		
Equal opportunities and access to the labour market	Early leavers from education and training (% of population aged 18-24)	On average
	Gender employment gap	To watch
	Income quintile ratio (S80/S20)	Better than average
	At risk of poverty or social exclusion (in %)	On average
	Youth NEET (% of total population aged 15-24)	Better than average
Dynamic labour markets and fair working conditions	Employment rate (% population aged 20-64)	To watch
	Unemployment rate (% population aged 15-74)	On average
	GDHI per capita growth	On average
Social protection and inclusion	Impact of social transfers (other than pensions) on poverty reduction	Better than average
	Children aged less than 3 years in formal childcare	Best performers
	Self-reported unmet need for medical care	On average
	Individuals' level of digital skills	On average

Members States' are classified according to a statistical methodology agreed with the EMCO and SPC Committees. The methodology looks jointly at levels and changes of the indicators in comparison with the respective EU averages, and classifies Member States in seven categories (from "best performers" to "critical situations"). For instance, a country can be flagged as "better than average" if the level of the indicator is close to EU average, but it is improving fast. For methodological details, please consult the draft Joint Employment Report 2018, COM (2017) 674 final.

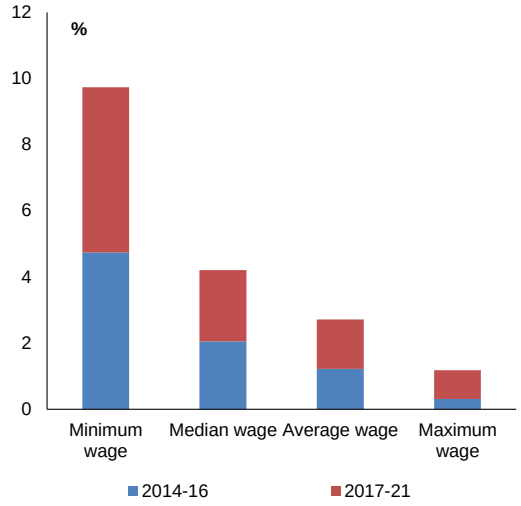
The low employment rate and the high share of part-time working of women remain challenges. Belgium combines a relatively low employment rate (67.7 %) with a high inactivity rate (26.7 %). In particular labour market outcomes for the low-qualified, older workers, single parent households and people with a migration background are far below the levels recorded for similar groups in other Member States. This is largely explained by structural and group specific factors hindering integration on the labour market. Since 2015, several measures, such as the tax shift and the revision of the 1996 Law on wage formation, are implemented to reduce labour costs, improve cost competitiveness and strengthen incentives to work. While a relative high share of women is engaged in the labour market, the share of part-time work of women is high as well. In addition, women are more likely to work with flexible contracts than men. The high marginal effective tax rate and joint taxation system create disincentives for second earners, mainly women, to work longer.

The effectiveness of social transfers in reducing poverty and promoting social inclusion is comparatively high. Childcare is particularly important to enhance equal opportunities and promote social inclusion of children from disadvantaged background. It has reached the Barcelona targets, with half the children younger than 3 in childcare, and 99 % of those between 3 and the minimum compulsory school age. Several factors contribute to this result but some capacity problems seem to be emerging, particularly in the larger cities. It is culturally acceptable to put very young children in child care. Affordable full coverage is an important policy objective in all communities and from 2.5 years onwards, child care is basically free and linked to the school system. There is a formal and well-regulated system of care for very young children with child minders who operate from their private home.

[1] The Social Scoreboard includes 14 headline indicators, of which 12 are currently used to compare Member States performance. The indicators "participants in active labour market policies per 100 persons wanting to work" and "compensation of employees per hour worked (in EUR)" are not used due to technical concerns by Member States. Possible alternatives will be discussed in the relevant Committees. Abbreviation: GDHI – gross disposable household income.

As a result, part-time work is relatively widespread in particular among women (41.9 % of the female employees worked part-time in 2016 compared to 9.3 % of the male employees) (see Box 3.3.1).

Graph 3.3.3: **Change in average take-home pay after the tax-shift**



Source: OECD, Tax-Benefit Models; OECD, Taxing Wages database obtained from the 2017 Belgium economic survey

At federal level measures have focussed on controlling the cost of labour, strengthening financial incentives to work and making the labour market more flexible. The government amended the Competitiveness Law, which regulates the wage formation process in Belgium. The principal aim of the reform was to better safeguard cost competitiveness and keep wage growth in line with that in Belgium's main trading partners (the Netherlands, France and Germany), but without interfering with wage indexation clauses in collective bargaining agreements, cf. Section 3.4 (see also European Commission, 2017a). The new law on "workable and flexible work" allows for more flexible worktime arrangements and is designed to promote in-company training.

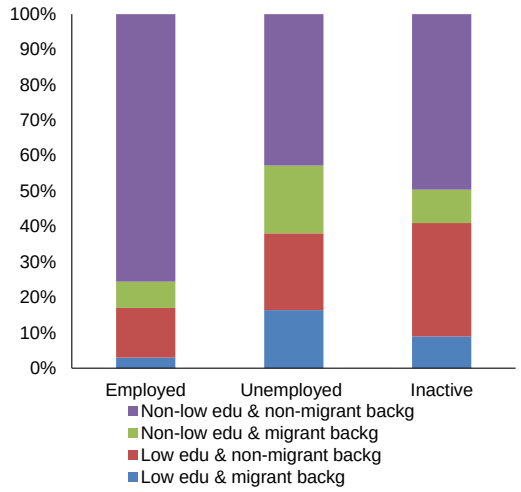
Further measures aim at improving labour market flexibility, but some entail risks regarding the social security. They include revising the labour law to facilitate e-commerce; revising the notion of 'suitable job' for recipients of unemployment benefits; making provisions to lower gross salaries for young workers between 18 and 21 while keeping net salaries unchanged; and a slower build-up of the notice period and extending "flexi-jobs" to new sectors and opening them up for pensioners. The government also plans introducing a tax-free professional income up to EUR 6 000 per year for employees who work at least 80 %, self-employed and pensioners. This only applies on voluntary work and services in the peer-to-peer economy. Both the extension of flexi-jobs and the envisaged EUR 6 000 of tax-free additional income could provide financial incentives to shift some professional activities from regular full-time employment or from part-time self-employment to less taxed or even tax-exonerated statures. In particular the latter measure could entail reduced financing of the social security and slower build-up of social rights. Other measures that have been announced include combining a partial pension with part-time work, lowering employer charges in the construction business, a system of 'soft-end-of career' jobs and the option of part-time retirement. To the extent that some of the measures (flexi-jobs, EUR 6 000 tax free) seem to target mainly those already on the labour market they may have little impact on activity or employment rates.

At subnational level, governments have reformed and simplified the employment incentives and the monitoring and guidance activities of their respective public employment services (PES). The new schemes were introduced in the course of 2016 and 2017 (see European Commission, 2017a). It is not yet possible to evaluate whether the newly reformed schemes are properly targeted and cost-effective. The capacity of the various public employment services to carry-out the necessary monitoring and act on the information generated seems uneven. The Walloon public employment service (Le Forem) has started an ambitious reorganisation project to improve its efficiency and effectiveness. The Flemish government and social partners reached an agreement on reforming training for employees. The Flemish Region aims to improve employment performance through a new policy approach called 'Focus on Talent', which provides bespoke guidance to workers and jobseekers. Implementation of the Upskilling Pathways Recommendation offers an opportunity for all those who are disadvantaged in adulthood due to educational inequalities and skills deficits.

Inactivity and unemployment are largely concentrated among specific population groups.

There are differences depending on age, educational attainment level and origin (Graph 3.3.4). People with a migrant background and young are overrepresented among the unemployed, while low-skilled and older workers are more likely to be inactive. In 2014, the unemployment rate for foreign-born immigrants (17.1 %) and for native-born with foreign-born parents (14.0 %), which together account for 27.4 % of the working age population, was much higher than for native-born with native-born parents (5.6 %) ([23]). The inactivity rate of low skilled, which represent 24 % of the working age population, is 45.9 % (2016; 20 to 64 years).

Graph 3.3.4: **Characteristics of the employed, unemployed and inactive (20-64), 2014**



The graph represents the proportion of different groups according to educational attainment and origin. Low-edu refers to educational attainment (ISCED 0-2) as compared to non-low edu (ISCED 3-6). Migrant background refers to individuals born outside the EU or who have at least one parent who is born outside the EU as compared to non-migrant background.
Source: Commission calculation based on the Eurostat AHM Labour Force Survey

Youth unemployment is falling. The youth (<25 years) unemployment fell from 23.7 % in 2013 to 20.1 % in 2016 but is still above the EU average (18.7 %)[24]. The rate of young people not in education, employment, or training (NEETs) is below the EU average (9.9 % vs 11.5 %)[25]. There are very large regional differences, with major challenges in the Brussels Region[26].

On average, more than seven in ten NEETs aged 15-24 years were registered with the Youth Guarantee Scheme. Three in five of those leaving the scheme were known to be in employment, education or training 6 months later. Abolishing of the reductions of the minimum wage for young people does not seem to have affected employment (European Commission, 2017f). The number of recipients of an 'insertion allowance' has dropped sharply over the past four years, as a consequence of their limitation in time. The number of people making the transition into employment has risen even if some of those coming to the end of their rights move on to other forms of social security support (Rijksdienst voor Arbeidsvoorziening, 2017).

The employment rate of older workers remains low. The employment rate of older workers (50-64) is increasing but still well below the EU average (56.6 % vs 63.4 %). The low employment rate of older workers reflects high inactivity in this age group. A large proportion (12.1 %) of the inactive older workers who are not yet retired is discouraged and not looking for a job as they believe there is nothing available (the rate is 2.4 % for 20-49 year-olds).

Generous early exit schemes used to provide the wrong incentives to both employers and employees. These have been addressed by earlier reforms which tightened age and career requirement and strengthened availability to work requirements. Low activity of older workers may also be linked to the higher pay for older workers in Belgium (Cockx, Dejemeppe and Van der Linden, 2017). In 2014 workers aged over 50 years earned 23 % more than 30 to 39 year-olds, controlling for educational attainment, type of contract, occupation and sector of employment, see Graph 3.3.5. Only 7 % of the 25-64 population engage in life-long learning activities. This is lower than the EU average (11 %) and

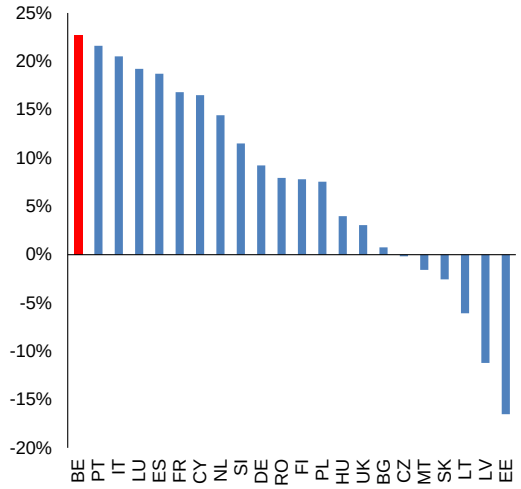
([23]) Source: LFS 2014 ad hoc module – Migration and labour market (see European Commission, 2017a for details per region and origin).
([24]) Regional youth unemployment rates: 14.1% Flanders, 27.9% Wallonia and 35.9% in Brussels
([25])Regional NEET rates: 7.5 % in Flanders, 12.2 % In Wallonia and 15.2 % in Brussels.
([26])Data available for Flanders suggests that a long-term trend of falling activity rates is now also linked to the fact that young people need more time to complete their studies (OECD, 2016).

considerably below top innovators such as Sweden, Denmark and Finland (which are on average above 25 %). The March 2017 law on 'workable and feasible work' is designed to encourage firms to step up their efforts to provide training.

Non-EU born migrants are less well integrated in the labour market than persons with Belgian origin. In 2016, the employment rate of non-EU born was 49.1 %, which is 21.1 percentage points lower than for native born. This is one of the highest gaps in the EU (and even more pronounced for women at 27.4 percentage points). Several factors drive the unfavourable labour market outcomes of immigrants, notably an overrepresentation of lower education and skills levels. Moreover, employment outcomes of immigrants differ strongly across origin, gender and reason for migration (FOD Werkgelegenheid, Arbeid en Sociaal Overleg, 2017). In particular those having arrived for family reasons are less likely to be employed (40 % on average, 35 % among women) ([27]). Factors impeding integration include the lack of recognised qualifications, limited professional networks and insufficient language skills.

([27]) This strongly matters as 54 % of non-EU born migrants residing in Belgium came for family reasons (and up to 66 % among women).

Graph 3.3.5: **Pay gap between older (50+) and younger (30-39) workers , 2014**



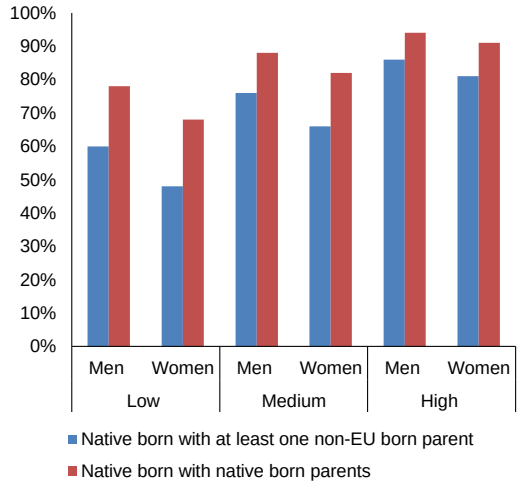
The results are based on Mincer equation that controls for educational background, type of contract, working hours, sector of employment and occupation. When limiting the sample to only private firms the pay gap decreases to 20 % which is still the highest among the Member States included in the sample.
Source: Commission calculations based on the 2014 Structure of Earnings Survey

This adverse employment situation is found among immigrants as well as among native-born people with at least one foreign-born parent ('second generation') (see European Commission, 2017a). Part of this gap can be partly explained by the fact that they have less favourable educational outcomes ([28]). However, even after adjusting for differences in individual characteristics (age, sex, education level), native-born people with non-EU born parents remain less likely to be in employment ([29]), although the gap narrows with education (Graph 3.3.6).

([28]) Among those aged 25-54, native-born people with at least one foreign born parent were (in 2014) more likely not to have completed higher secondary education (18.0 %, and up to 28.9 % for those with two foreign born parents) than native born with native background (16.3 %).

([29]) People with a 'second-generation migrant' background are less likely to find jobs, even if adjustments are made to take account of different literacy levels, see OECD (2014), 'International Migration Outlook 2015', Table A.7.

Graph 3.3.6: **Likelihood of employment by origin, gender and educational attainment**



Based on a logit regression, which allows estimating the adjusted probability of employment controlling for age, education and gender.
Source: Commission calculations based on the 2014 AHM of the Labour Force Survey

The lower probability of employment for people with a migrant background suggests that discriminatory practices may be involved. Existing studies based on tests conclude that being of foreign origin directly affects a person's chance to be hired, all other things being equal (OECD, 2013) though the effect seems to decline with experience (Baert et al, 2017). There is also evidence that activation measures do not reach all the sectors of the population equally efficiently. Participation in activation measures varies markedly depending on people's origin (FOD Werkgelegenheid, Arbeid en Sociaal Overleg, 2017). In Flanders, taking part in activation measures helps people with a migrant background of the second generation find a job, although to a lower extent than for people with a Belgian origin (Vandermeerschen et al, 2018). This is also corroborated by measurements of subjective perception of discrimination, which are higher in Belgium than in other EU countries (Fundamental Rights Agency, 2017).

A few measures to help newly arrivals integrate and to tackle discrimination, including discrimination on the basis of ethnic origin, have been adopted. The three Regions have now adopted integration measures that are compulsory for newly arrived non-EU nationals. Belgium adopted a federal law designed to make it easier to prove "discriminatory" infringements through testing (based on fake CVs) or 'mystery calls'. The Flemish Region updated its action plan to combat work-related discrimination while, the Brussels Region adopted a specific decree to tackle discrimination in recruitment practices through 'mystery calls'. However, little progress has been made towards setting the diversity objective for the federal public services that was announced in the government agreement. There is still a lack of coordination across policy domains and political levels to address the challenge of integrating people with a migrant background into work.

3.3.2. POVERTY AND SOCIAL INCLUSION

Social transfers are very effective in Belgium ([30]). Pre-transfer poverty was reduced by 41 pp thanks to social transfers, whereas the EU28 average was 33 pp (in 2016). A uniform 'right to social integration' covers all aspects from eligibility conditions to governance arrangements. The right to social integration main aims are being a pathway to employment and the provision of a guaranteed minimum income. However, for a country with a relatively low level of income inequality and a comparatively high level of social spending, Belgium has a comparatively high level of relative income poverty ([31]). At 15.5 % it is lower than the EU and EA averages (17.3 % and 17.4 % respectively). It is also lower that the figure for Germany (16.5 %) but above those for the Netherlands (12.7 %) and France (13.6 %).

Certain groups have higher poverty rates than the EU average. This is notably the case for people in quasi jobless households with children (80.7 % versus an EU average of 68.3 %) or for people born outside of the EU (44.9 % versus an EU average of 30.8 %). This at-risk-of-poverty rate among people born outside of the EU has risen to 44.9 % in 2016 (when it was 41.5 % in 2015) and is four times higher than among native Belgians (11.1 %). Severe material deprivation was found to be more than five times higher

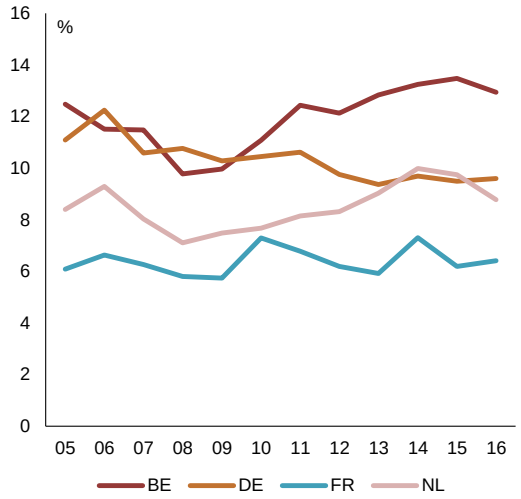
([30]) The inequality reducing effect of taxes and transfers on the Gini coefficient is 23.6 percentage points, one of the highest in the EU.
([31]) People who are at-risk-of poverty (AROP): in a household with an equivalised disposable income below 60 % of the national median.

(18.3 % versus 3.6 % among native Belgians). The main reason for this is the lower employment rates among people born outside of the EU but another reason is higher in work poverty within this group (19.5 % versus 3.3 %). Child poverty is also comparatively high and driven mainly by the number of children in quasi-jobless households. This applies particularly for children with parents educated to less than lower secondary level. The poverty rate for this group is above the EU and EA averages and the rates for the Netherlands and France though lower than for Germany. Belgium has one of the largest gap between the risk of poverty or social exclusion for persons with disabilities and those without. Among people of working age, the poverty risk rises significantly for those with low educational attainment. It is worth noting that it is also increasing for those with a 'medium' educational attainment (FOD Sociale Zekerheid, 2017).

Despite increased employment the rate of very low working intensity households has barely decreased. Many people find themselves excluded from the labour market and, despite a slight decrease in 2016, the proportion of the working age population (25-54) living in very low work intensity households remains high by comparison with the neighbouring countries (Graph 3.3.7). The proportion of women at risk of poverty increased in 2016, probably because of the increase in relative poverty among single-parent households which reached 41.4 % ([32]). The risk of very low work intensity in these households has increased in recent years. The federal government announced that it will automatically grant social rights to beneficiaries who meet the criteria and increase the tax deductibility of child care costs for working parents at the bottom of the pay scale. It has restated its intention to raise the level of benefits to the level of the poverty threshold.

([32]) 83 % of the heads of single-parent households were women in 2014.

Graph 3.3.7: **Share of the population (25-54) living in very low work intensity households, 2005-2016**



Source: Eurostat

Belgium has a well-developed social protection system for the self-employed but differences with employees remain. Social contributions are lower than for employees but also confer fewer rights. Belgium is one of the nine countries where the self-employed are not entitled to unemployment benefits[33]. Public provision can be complemented by private insurance. Self-employed people and family workers are much more likely than employees to be at risk of poverty. This can hamper the attractiveness of entrepreneurship (see section 3.4.3 and 3.4.4). In recent years, the authorities have taken important steps to harmonise the protection levels for the self-employed and the employed. The federal government has announced a number of measures, and a few have been adopted, notably additional support for pension build-up of self-employed individuals and a reduction of the social security contribution limit for self-employed at the start of their activities. The lag time at the beginning of a work incapacity period during which no substitution income is granted was cut by half to two weeks.

Access to quality healthcare is an issue for vulnerable groups. The level of unmet needs for medical care is high in the lowest income quintile

([33])However, in 2016 the federal government introduced a "bridging right", with which social rights are maintained and allowances are provided under certain circumstances, while the payment of social contributions is suspended.

compared to other EU countries and has been rising in recent years ([34]). The difference between the 5th and the 1st income quintile in self-reported unmet health needs has increased steadily since 2011, reaching 6.8 pps in 2015 (6th highest in EU) and 7.4 pps in 2016. It is not clear what caused the increase. Non take up or deteriorated income situations could be possible causes.

3.3.3. EDUCATION, TRAINING AND SKILLS,

Belgium combines an overall good education performance with major education inequalities; this is intricate with wide performance gaps between schools and differences between the Communities. The two main education systems face longstanding structural problems relating to equal opportunities and inclusive education. However reforms are being implemented. The challenges could increase as the strong growth of the school population should be concentrated in disadvantaged groups (European Commission 2016a). Both communities had lower than average results than the EU-average at the 2016 Progress in International Reading Literacy Study (PIRLS), with the French Community score being the EU's lowest one and with the sharper downward trend recorded for the Flemish Community.

Participation in life-long-learning is very low (7.0% against an EU average of 10.8%). In the Cedefop's European Skills index ([35]) and on the Skills Matching pillar Belgium ranks amongst the lowest with a poor performance for structural vacancies (27th) and for Skils obsolescence (19th). To prevent skills obsolescence and to enable people to handle transitions, more commitment by individuals and employers to continuous adult learning would be important. The March 2017 law on 'workable and feasible work' is designed to encourage firms to step up their efforts to provide training.

Whilst Belgium performs well on top achievers, the downward trend and differences among communities are raising concerns. The PISA 2015 survey confirms that the Belgian share of top performers is above the OECD in all tested areas with a downward trend in mathematics and communities' differences (see European Commission, 2017a). Moreover, disadvantaged groups are much underrepresented amongst top achievers in science, mathematics and reading.

The proportion of tertiary graduates is high. Yet, educational inequalities, skills shortages and regional disparities are observed. At 45.6 % in 2016, the percentage of 30 to 34 year-old graduates is high. The Brussels Region attracts highly skilled young people, but it has the lowest proportion of students likely to successfully complete tertiary education (Statistics Belgium, 2015). Inequalities linked to socioeconomic status, family and migrant background persist in tertiary education. The attainment gap between people with disabilities and those without far exceeds the EU average (18.3 pps. vs. 13.7 pps., EU-SILC 2015). The share of STEM graduates is one the lowest in the EU (see section 3.5.3). The different language Communities face different levels of teaching staff shortages[36].

Large performance gaps between schools go hand-in-hand with unequal educational opportunities. Disadvantaged pupils are more likely to be steered towards certain schools and towards lower educational pathways**.** The variance in science performance between schools is high by international and EU comparison. Explanatory factors include teachers' lower expectations, greater turnover in teaching staff, difficulties in attracting experienced teachers, levels of cooperation between teachers, cultural differences. (King Baudouin Foundation, 2017) and unequal access to educational resources (European Commission, 2017b). There is limited monitoring of schools performance. The French Community has developed new indicators such as the proportion of schools whose pupils' average score is below the basic level.

([34]) It was 4.2 % in 2011 and has increased to 7.7 % in 2016.

[35] The Cedefop's European Skills Index measures the comparative performance of the skills formation and matching system across EU Member States. This is a composite index with three pillars, each of which measures a different aspect of a country's skills formation and matching system:

Pillar 1 'Development' measures training and education activities,

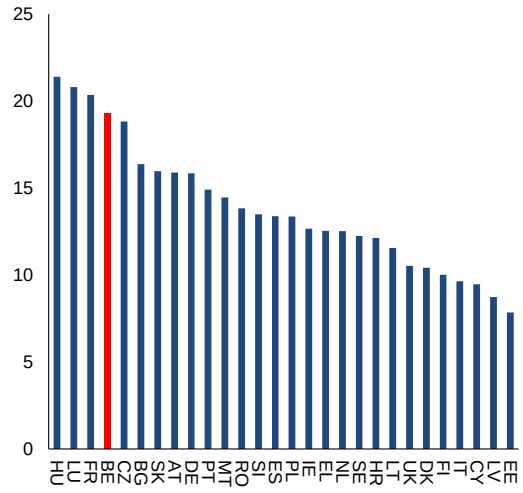
Pillar 2 'Activation' measures the transition of people into work, and participation in the labour market,

Pillar 3 'Matching' measures the degree of successful matching of skills that is the extent to which skills are effectively matched in the labour market.

([36]) In the Flemish Community the shortages are only recently emerging and are confined to certain subjects and cities

The lower performance of pupils with a migrant background is a concern, with differences across the Communities. Belgium is one of the EU countries with the largest share of students with a migrant background (17 % vs 11.3 % EU average), mostly concentrated in big cities. PISA 2015 shows that 36.9 % of those pupils are low achievers and only 2.9 % top achievers, compared with 15 % and 10.5 % respectively for students without a migrant background. After adjusting for socioeconomic status, migrant background has an impact above the EU average in Belgium. The adjusted performance gap in the Flemish Community is the highest in the OECD. In the other Communities it is below average (Universiteit Gent, 2016).

Graph 3.3.8: **Between schools variation in performance explained by schools' and students' social-economic status (PISA 2015- Science)**



Source: DG EAC based on Pisa 2015(science), averages weighted,

More attention may need to be given to gender differences in education. Boys and girls make different study choices of in secondary and tertiary education. Boys significantly outperform girls in science (12 points vs 3.5 OECD average, Pisa 2015). Female students' underrepresentation in sciences, mathematics and statistics is among the highest internationally (OECD, 2017c,). In addition, there are some indications of recent potentially worrying trends. Despite the quasi universal enrolment in pre-primary at the age of three, a recent survey suggests that the profile of the few cases of non-enrolment and/or irregular attendance after enrolment are mostly immigrant girls in large cities.(Vlaams Ministerie van Onderwijs and Vorming, 2016). Such analysis is not available for the French Community.

The implementation of major schools reforms and measures is at an early stage. Major school reforms to improve equity, basic competences and vocational training have been launched by both the French and the Flemish Communities. In 2017, the Communities introduced new measures on early childhood education (European Commission, 2017b). In 2017 the French Community adopted a set of objectives, a multi-annual budget, and an implementation calendar for the reform ('Pacte pour un enseignement d'excellence 2015-2030') and the 2017-2018 key measures. In July 2017, the Flemish government gave its initial approval for a draft decree on the structure and organisation to modernise secondary education. It decided in November 2017 to postpone the incremental implementation of the decree from 2018 to 2019. On related reforms, the adoption of the decree on dual learning reform has been postponed to 2019, although the new system of dual learning has been in a trial phase for the last two years. A draft decree on the basic principles of the attainment targets has been adopted. New measures also support the implementation of the 2015-2016 decree to include students with special educational needs in the mainstream system (M-Decree). Full implementation will take time to materialise.

Specific measures target groups or schools with disadvantaged pupils. The Communities have taken and plan to take specific measures (European Commission 2017b). An evaluation (Rekenhof, 2017) of Flemish equal opportunities policy for the most disadvantaged schools ('GOK') in primary education found no overall improvement but identified success factors enabling policy to be improved and adapted to take account of growing pupil diversity. These included a broad support base, parents involvement and a student follow-up system. The French Community improved its funding formula for such schools in 2017. Since 2012 enrolment policy in the Flemish Community has required all schools to reserve a share of places for both disadvantaged and advantaged pupils. The first positive impacts on social mix have been observed. The long awaited evaluation and reform of the French Community's enrolment policy is pending.

New quality assurance and school governance measures are designed to reduce inequalities between schools. In the French Community central steering will be stepped up while giving schools greater autonomy. To support a collaborative approach, all schools will establish by 2018/2019 a six-year plan covering pupil performance, school climate, inclusive education, pupil pathways and professionalization. Support measures will be taken to help underperforming schools. On the Flemish side, measures may help strike a balance between autonomy and accountability (OECD, 2015) and address concerns about the possible unequal value of the qualifications awarded. In 2017-2018, centrally validated tests to be used in the award of primary school certificates will become part of schools' internal quality assurance systems. A new quality framework is available for the inspectors.

The need to adapt teachers' continuous professional development is recognised. There are few measures to help teachers combine teaching and continuous professional development (CPD). The existing system is not well-suited to helping school teams deal with an increasingly diverse school population. It is neither well developed nor mandatory in all Communities. Nor is it recognised for career development (European Commission, 2017a). It involves actors at central, intermediate and school levels. The French Community plans to step up continuous professional development from 2019. Postponement of retirement age for Belgian teachers (from 2019 onwards) will bring additional challenges regarding (re)training and organisation of end of career.

Reforms relating to initial teacher education and career are making slow progress in a context of emerging teacher shortage. Measures announced in the 2014-2019 government agreements referring to the need to attract qualified teachers to disadvantaged schools have not yet materialised. The French Community introduced mandatory support to new teachers in 2016/2017. Negotiations on teachers' careers are ongoing (Flemish Community) or have resulted in planned reforms (French Community). In both Communities, the results of surveys on teachers' missions and workload are awaited.

The effects of the reforms and measures will very much depend on their implementation and monitoring. It is too early to see if the reforms of the Flemish secondary education will address the negative effects on equity of the current general, technical and vocational tracks. Educational inequalities may even increase if early tracking is not effectively counterbalanced (OECD, 2017b). Delays in the implementation are observed. The monitoring will rely on the current system. The new longer common curriculum in the French Community should yield positive results. The French Community is improving its monitoring system.

Box 3.3.2: Policy highlights: Reform of early childhood and compulsory education in the French Community (Pact for Excellence in Teaching, 2015-2030)

A systemic reform to address longstanding educational challenges

The school reform, launched in 2015, aims to reduce high educational inequalities, raise the average performance (with Pisa 2015 results below the national average and below or close to the OECD average) and the overall efficiency of the system. To strengthen prevention, the reform includes early childhood education (ECEC). The French Community adopted in 2017 the objectives, priorities of the reform, a well-defined implementation plan with a 15-year horizon and a multi-annual budget.

The five strategic axes to reform the system:

1) *Teach the knowledge and skills required for 21st century society*: A common comprehensive pathway from ECEC till the third year of lower secondary education (currently second year) will be progressively rolled out starting with ECEC in 2019/20. Its successful implementation requires inter alia to adapt school and teaching approaches to face the increasing diversity of the school population.

2) *Mobilise education stakeholders within a framework of school autonomy and accountability*. The overhaul of the governance involves *a*) a stronger central steering namely by setting objectives at system level and by geographical area; *b*) schools and teachers greater autonomy and responsibility to achieve agreed objectives and *c*) support and monitoring of schools by geographical area with measures for significantly low-performing school. At central level, plans include a redefinition of roles (e.g. of the school inspectorate) and a decentralisation of responsibility by geographical area. Less administrative burden on heads is coupled with a strengthening of their role on teaching, shared leadership and in human resource management. School plans to achieve the objectives are to be established by 2018/2019. Teachers' reforms focus on continuous professional development and on the introduction of a differentiated career and of an appraisal system.

3) *Make the vocational pathway a stream of excellence*. Close to 50%, the share of pupils, mainly from disadvantaged background, enrolled in initial vocational training is above the EU average. To increase its quality and relevance, initial vocational training would be reduced to one track of 3 years (currently four) after a longer common pathway. Main measures aim for a stronger monitoring and faster revision of the training offer with less and more relevant study options and greater focus on basic competences.

4) *Promote inclusive education, and strengthen the fight against school failure, drop out and repetition*. Objectives encompass to half by 2030 the grade repetition rate (at 46%, the highest in Pisa 2015) and the early school leaving rate. Main measures target groups or schools with disadvantaged pupils or significantly underperforming, new pedagogical approaches, social mixity and cooperation with parents.

5) *Ensure the well-being of each child in a quality school, favouring a democratic school*. Measures to address infrastructure shortages and increase public investment in this area are a priority. A range of measures cover quality school environment, a revised school timetable and extracurricular activities.

With a 15-years horizon, implementation is at an early stage and deserves close monitoring

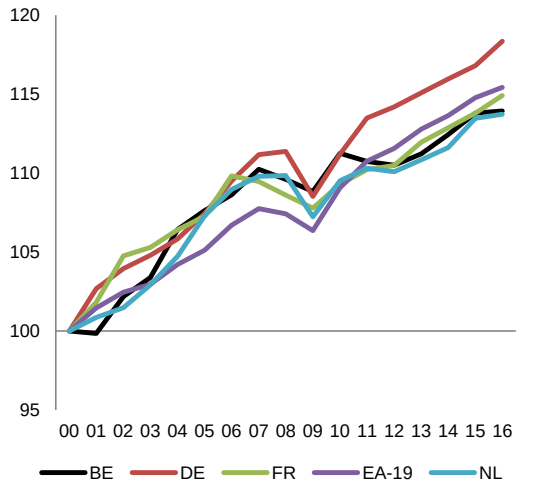
The reform process so far attests a positive shift towards a participatory process and an evidence-based policy. The reform has been adopted and the implementation of first measures, inter alia on governance, started. However, the results of the reform will very much depend on the design of measures and on their implementation. Sustained political support, support to teachers engagement, a phased implementation, consistency with the initial teacher education reform led by the minister of Higher Education are seen as success factors. The context is challenging with one of the highest growth of the school population in the EU. For more information see: http://www.pactedexcellence.be, Education and Training Monitor - European Commission

3.4. INVESTMENT AND COMPETITIVENESS

3.4.1. EVOLUTION OF PRODUCTIVITY GROWTH

Low productivity growth remains a challenge for Belgium. Since 2000, labour productivity growth in Belgium has underperformed by comparison with average growth in the EA (Graph 3.4.1). In the aftermath of the crisis, productivity growth was slower than in the pre-crisis period. The main reason for this was low productivity growth rates in the services sector, which halved between the two periods. Productivity growth rates in manufacturing, on the other hand, proved more resilient (cf. Biatour and Kegels, 2017). A regain in productivity growth is essential to ensure future growth, as well as the sustainability of public finances, as the expected increase in the share of old-age population is likely to depress the contribution from labour utilisation (see Section 3.1).

Graph 3.4.1: **Developments in labour productivity growth (Gross value added per hours worked)**



Source: European Commission

A key driver of the productivity slowdown has been the low growth in total factor productivity (TFP) ([37]) (cf. European Commission (2016b)). In this respect, Belgium has lagged behind its neighbours. In addition to the structural factors shared by all the most advanced economies, some features are specific to Belgium. In particular, remaining barriers to competition in services sectors, such as business services, have weighed on productivity growth. Some inefficiencies in the Belgian research and innovation system, reflected by a lower export share of medium-high and high tech products compared to the EA average([38]) in spite of relatively higher R&D expenditure (2.5 % of GDP in 2015 compared to 2.1 % in the EA), also played a role. A rather heavy administrative burden with a complex tax system (see section 3.2) and low scores on entrepreneurship are likely to hamper productivity developments. Finally, the slow productivity growth also reflects the persistent low level of public investment, notably in transport infrastructure as illustrated by the highly saturated road and rail network. This appears to have a negative impact on firms' decision to invest in Belgium (National Bank of Belgium, 2017c) (see Box 3.4.1 and section 3.5).

Investment in research and innovation and other intangibles, which have the most potential for innovation output, is high, though rather concentrated within a few sectors in Belgium. Overall investment in intangibles (knowledge based capital ([39])), one of the highest in the EU, has grown strongly since the crisis to reach 4.4 % of GDP in 2015([40]), representing 20 % of total private investments. However, the level remains below that of France (5.1%) and the Netherlands (4.6%) (Biatour & Kegels, 2017). Business R&D has risen to one of the highest levels in the EU (1.73% of GDP, ranking 6th in the EU). This performance is notably underpinned by the biopharmaceutical sector which accounts for about a third of total business R&D ([41]), followed by computer, electronic and optical products (7%) and chemicals (6%). The strong R&D performance of these high-tech sectors is a key driver for Belgium strength in exports and productivity.

([37]) That is, how efficiently firms combine capital and labour inputs for producing outputs.

([38])However, the exports diamond trade (a contribution to the export share of "low-tech" goods worth EUR 11.4 billion in 2016, approximately 3% of total Belgian exports) contributes to explain the low share of medium and high-tech exports in total exports.

([39]) cf. footnote (42)

([40]) Based on national accounts. The figure increases to 8 % when incorporating additional dimensions covered in the INTAN database.

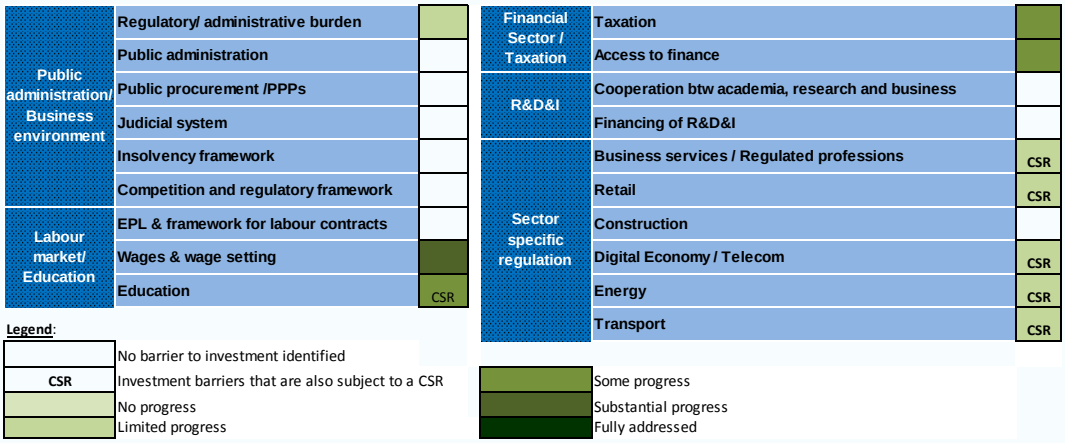
([41]) This assumes that part of the 'scientific research and development' service sector (10.4 % of Business R&D), where many biotech firms are classified, should be added to the pharmaceutical sector (28.8 % of Business R&D).

Box 3.4.1: Investment challenges and reforms in Belgium

Section 1. Macroeconomic perspective

Investment in Belgium has proved resilient to the crisis. Unlike in neighbouring countries and the EA as a whole, in 2016, the level of overall investment in Belgium exceeded that of 2007. At 23.4 % of GDP it is currently higher than the EA average and the level observed in France, Germany and the Netherlands. This relatively good overall performance is due to private investment, in particular business investment, which has increased compared to its pre-crisis level. The share of household investment in total GDP has remained stable at 5.9 %, a level which is in line with neighbouring countries. By contrast, public sector investment remains a major challenge both with respect to its overall level and with respect to its orientation and contribution to the country's growth potential. Belgium is one of the beneficiaries of the Juncker Plan with approved financing reaching EUR 1.3 billion.

Section 2. Assessment of barriers to investment and ongoing reforms ([1])



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 sector as well as economy-wide.

Main barriers to investment and priority actions underway:

1. Belgium appears to lag behind as regards the quality of public infrastructure to support the competitiveness of the economy (see Section 3.5). With its National Pact for Strategic Investment, the Belgian federal government aims to promote structural reform and address the deficit in public investment. Wallonia has also recently adopted its investment plan, contributing to that process. It is hoped that the national investment pact will provide around EUR 60 billion in public and private investment by 2030, not only by mobilising public funds, but also by tapping private sources of finance, notably by developing a framework for public-private partnerships (PPS). Several policy areas are within the remit of the pact: support for innovative firms and funding for research and development, health, mobility, education, energy transition, digitalisation.

2. The comparatively high level of taxation (in spite of the recent reforms) and the overall complexity of the tax system, characterised by a large number of exemptions, deductions and reduced rates, makes Belgium less attractive to potential investor. For this reason, the authorities have undertaken a reform of the corporate tax system (see section 3.1).

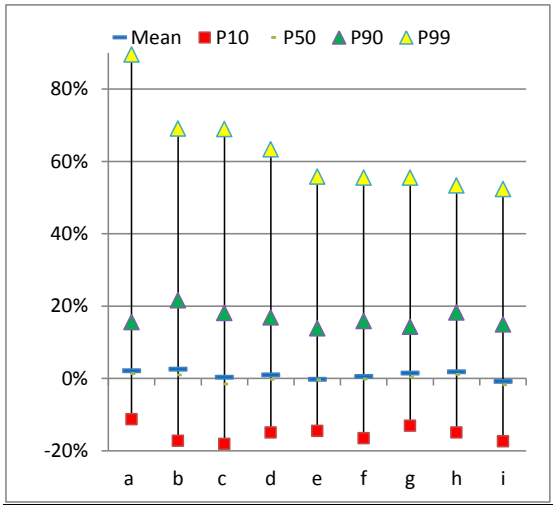
([1]) See 'Member States Investment Challenges', SWD(2015)400final/2.

Broadening the innovation base to encompass a larger pool of firms would help disseminate innovation to SMEs as well making the system more resilient. A high concentration of R&D in a few large firms and sectors is a widespread observation, especially in small economies. In Belgium, firms with over 500 employees undertake most of the R&D (54 % in 2013), a share that has remained broadly stable over the years. Moreover, 60 % of business R&D is carried out by foreign-controlled firms, the largest share in the EU after Ireland (OECD, 2015). However, SMEs also make a significant contribution to R&D in Belgium compared with other EU countries, (in 2013, 0.58 % of GDP compared to 0.33 % of GDP for EU countries for which data is available).

The existing productivity gap between the most productive firms and the rest of businesses is widening. As in other countries, Belgium's most productive firms, particularly top frontier firms, display significantly higher productivity growth rates than the rest of the firms. This may point to obstacles hampering the diffusion of innovation. Investment in intangibles, (so-called knowledge based capital ([42])) including R&D, could also be an important factor that differentiates firms at the global productivity frontier from those that are lagging behind (cf. European Commission, 2016b). This disparity is observable in all sectors, though the gap is widest in the manufacturing sector (see Graph 3.4.2).

The dynamics of entrepreneurial activities and innovative business growth seems particularly weak, hindering the potential innovation impact of SMEs in terms of sales and jobs. The share of employment in fast growing SMEs in innovative sectors is only 2.5 %, which is one of the lowest proportions in the EU (European Commission, 2017a). The proportion of the population aged 18-64 engaged in early-stage entrepreneurial activity has increased to 6.2 % but remains quite below the average of advanced economies (8.4 %). Crucially, Belgian entrepreneurs appear much less driven by opportunity than those in other advanced economies ([43]). A large majority of SMEs polled in a survey report having recently introduced a product or process innovation that is new to the firm (75 %) or new to the market (69 %). But the share of their turn-over relating to innovation is low (7.6 %) compared to the EU average (13.7 %).

Graph 3.4.2: **Distribution of labour productivity growth, Belgium, (average 2011-2013)**



Notes: a) Real estate activities; b) Manufacturing; c) Professional, scientific and technical activities; d) Accommodation and food service activities; e) Administrative and support service activities; f) Information and communication; g) Transportation and storage; h) Construction; i) Wholesale and retail trade.
(1) The vertical axis shows the average annual productivity growth rate between 2011 and 2013 for five group of firms classified according to their level of productivity, namely: those at the percentile 99, i.e. firms whose level of productivity is higher than that of 99% of firms; those at the percentile 90 (P90) and 10 (P10); those more productive than 50% of firms but less productive than the remaining 50% (median); those whose level of productivity is equal to the average productivity level in the sector (mean).
Source: Compnet

Firms directly linked with foreign markets appear to have higher productivity. The share of firms in Belgium that export or import directly is small, as in other advanced economies ([44]).

([42]) 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).

([43]) Based on the motivational index of the Global Entrepreneurship Monitor, which measures opportunity-driven entrepreneurship as opposed to necessity-driven entrepreneurship.

([44]) In 2014, only 2.1 % of Belgian firms were exporting, 3.9 % were importing, and 1.3% were both exporting and importing a significant amount defined as 1 % of total sales or total input consumption (Dhyne, Duprez 2017, The

However, almost two thirds of businesses are directly or indirectly connected to foreign demand. Recent empirical results also show a productivity ranking of Belgian firms according to their proximity to foreign markets and firms that are indirectly connected to markets abroad tend to lag behind in terms of technological efficiency (cf. Dhyne and Duprez, 2017).

Public support for research and innovation

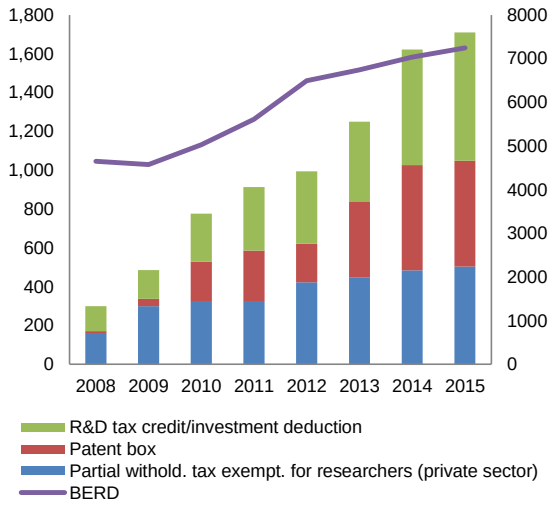
The quality of public research offers an excellent base for public-private collaborations. The openness and quality of the public science base is reflected in the number of highly cited publications, the many public-private collaborations and the fact that a significant proportion of research is contracted by the private sector.

Despite Belgium's excellent science base, public R&D intensity (0.74 %) remains below innovation leaders (0.87 % on average) ([45]). Flanders however is making progress towards its objective of spending 1 % of its GDP on public research (estimated at 0.79 % for the Flanders region, Debackere et al., 2017). The main reason for this is the expansion of public research centres. Developments seem more moderate in the other regions/community, pulling down Belgium public R&D intensity to 0.74 %. Research undertaken by public institutions is supported by public budgets, which represent 0.62 % of GDP, also a relatively modest level by comparison with advanced peers. However, there has been a trend towards increasing R&D budgets in all entities in recent years. The only exception is the cuts at the federal level, particularly following the reforms of federal research programmes.

Innovation is high on the agenda of regions and communities, with the dual aim of making existing industries more competitive and enabling the emergence of new ones. At individual regional/community level, the closer integration of research policy with enterprise and innovation policies has been a positive development. This has gone some way towards the rationalisation of the complex governance framework, by integrating executive agencies and simplifying programmes and instruments. There is also a strong focus now on boosting innovation in SMEs and start-ups.

With the gradual expansion of these measures and greater uptake by firms, total measures in support of R&D has expanded considerably to reach EUR 1.7 billion of fiscal spending in 2015 (see Graph 3.4.3)**.** Together with direct support from regional grants, total public support to business R&D represented 0.39 % of GDP in 2015, the highest level observed in the OECD (OECD, 2017c). The announced expansion of the partial exemption of advance payment of the withholding tax on wages to researchers with a bachelor's degree and the introduction of the innovation box will probably contribute to this growing trend (see Section 3.1).

Graph 3.4.3: **Federal fiscal measures in support of R&D (left scale in billion EUR) and business R&D (right scale in billion EUR), 2008-2015**



Source: Eurostat and SPF/FOD Finance

While business R&D has grown by about 50 % since 2008, total fiscal spending in incentives for R&D, including the patent box (see section 3.1.4), has grown by almost 500 %. The efficiency of the schemes seems questionable in the absence of an in-depth evaluation**.** The latest available study by the Federal Plan Bureau (Dumont, 2015), which analyses the period

([45]) World is a village… The integration of Belgian firms into the world economy, NBB Economic Review, Sept.2017). Innovation leaders defined in the European Innovation Scoreboard 2017 (with respective public R&D intensities for 2016) are Sweden (0.98%), Denmark (0.97%), Finland (0.92%) , Germany (0.94%), the Netherlands (0.88%) and the United Kingdom (0.52%).

between 2005 and 2011 questioned the efficiency of the tax credits and the patent box. The study also suggests that combining different support schemes seemed to reduce their effectiveness

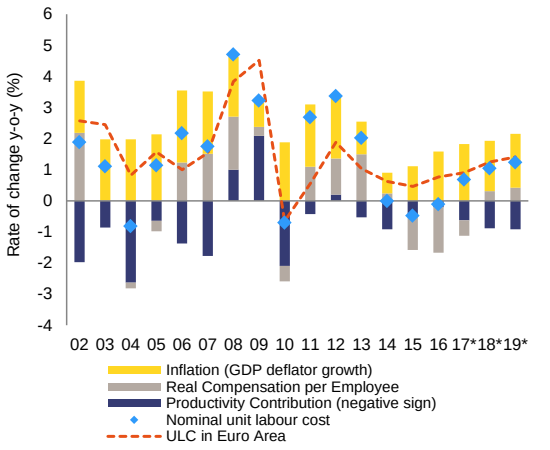
Central to the issue is the lack of a distinction between the objective of incentivising additional R&D, especially in new sectors, and that of improving the cost-competitiveness of the sectors that are strong R&D performers. In 2013, the Belgian Court of Auditors criticised some of the schemes as suffering from a lack of clear objectives, questionable design and insufficient monitoring (Court of Auditors, 2013). Since the measures were introduced at the request of the pharmaceutical and chemistry sectors, their design apparently mixed two objectives: incentivising additional R&D and improving the cost-competitiveness of these sectors, which are already strong R&D performers (see above). As a result, the beneficiaries are, on average, larger and older firms rather than a more representative population of enterprises (Dumont, 2015).

The Belgian economy could have a relatively high share of non-viable businesses. An estimated 14 % of capital stock was sunk in zombie firms ([46]) in 2013, down from around 17 % in 2010 but still higher than Germany or France (McGowan et al., 2017). Yet, Belgium's zombie firms accounted for 9 % of the total in 2013 (6 % in 2007 and 8 % in 2010) ([47]). The increasing number of zombie firms and their survival have adversely affected average productivity growth and limited the availability of credit in the economy for more productive firms.

3.4.2. COST-COMPETITIVENESS AND INFLATION

Recent prolonged wage moderation has halted the decline and reversed some of the cost-competitiveness losses accumulated in the past. In 2016, nominal wages remained stable as compared with 2015, while relatively strong growth in inflation led to a decline of 1.6 % in real wages. There was no change in the nominal unit labour cost as compared with 2015, leading for the third year in a row to a relative improvement vis-à-vis the euro area and reversing some of the competitiveness losses accumulated in the past. In 2017 and 2018, nominal unit labour costs are expected to increase again driven by relative high inflation growth. This will have to be closely monitored as the acceleration of inflation in Belgium tends to enhance the risk of second-round effects in the economy through automatic wage indexation.

Graph 3.4.4: **Determinants of changes in unit labour cost**



Source: European Commission

After having peaked in 2016, the inflation gap between Belgium and the euro area has narrowed considerably in 2017. The inflation gap between Belgium and its three main neighbouring countries (Germany, France and the Netherlands) also became smaller. Total inflation in these countries in 2017 has accelerated (1.5 % versus 0.3 % in the previous year) more than in Belgium, but remained lower than that in the latter.

The spike in the inflation gap was mainly the result of government measures which temporarily pushed up the year-on-year inflation for services and, to a lesser extent, for energy and processed food (Graph 3.4.5). According to some estimates (National Bank of Belgium, 2017d), these categories accounted for,

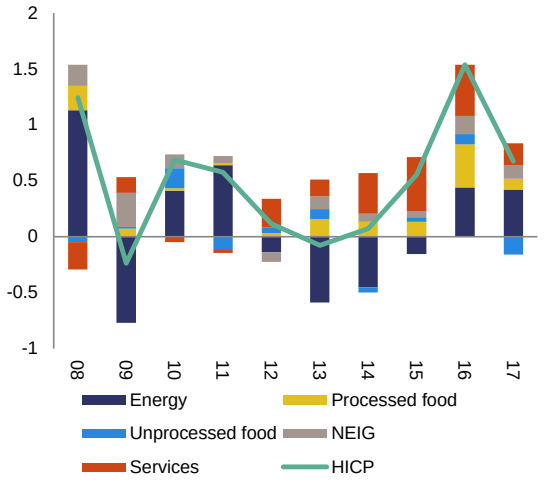
([46]) Firms aged 10y or more and with an interest coverage ratio below 1 over three consecutive years.

([47]) According to the McGowan et Al., 2017, Belgium exhibits a higher number of zombie firms as compared to other EU countries: for examples, in 2013 zombie firms were 2 % in France, and 6 % in Italy. However, the high Belgian number should be interpreted with caution since interest charges are to a certain extent influenced by intra-group loans that are particularly important in Belgium. Sample biases might also explain the relatively higher Belgian figure.

respectively, 1.1, 0.6 and 0.4 percentage points of headline inflation from 2015 to 2017.

Electricity contributed significantly to the acceleration of inflation in 2015-2017, and thus also to the widening inflation gap. Inflation in Belgium shows greater sensitivity to world oil price movements, as a result of a low level of flat-rate taxation (excise duties) on heating oil and the higher weight it has in energy consumption patterns. This factor has mitigated the inflation gap in 2015 and 2016, in periods of falling oil prices, but exacerbated it at the beginning of 2017.

Graph 3.4.5: **Contribution of the main product groups to the inflation differential with the EA**



Source: European Commission

However, the acceleration of energy prices in 2015-17 was mainly related to the *non*-energy components ([48]) of the retail price ([49]) of gas and electricity. The share of the energy component in the overall bill for electricity has clearly decreased over the years; as such, the acceleration of electricity prices in 2016 was mainly related to the adoption of a couple of fiscal measures, such as the increase in VAT from 6 % to 21 % in September 2015 or, in Flanders the sharp increase in the contribution "energy fund" –a yearly tax for each active connection point– in March 2016, as well as the abolition of free electricity. Although electricity inflation has now slowed down, partly due to the fading out of the effect of tax on electricity consumption, it is still high due to the remaining effects of measures taken in 2016, e.g.,contribution in the "energy fund" March 2016), removing free electricity in Flanders (May 2016). The resulting increase at the national level is expected to fade out in 2018.

The rise in processed food prices has also been responsible for higher inflation in Belgium. It was driven by decisions taken as part of the (partial) financing of the policy action to reduce the tax wedge on labour income (the so-called "tax shift"), through the increase of excise duties on alcohol and tobacco and soft drinks.

Over time, services prices seem to be the primary reason for the inflation gap persistence with respect to the euro area. Core inflation –as measured by the HICP excluding volatile components such as unprocessed food and energy– has been systematically higher than on average in Germany, France and the Netherlands. Between 2008 and 2016 core inflation, in cumulated terms, increased by 14.9 % in Belgium compared to an average 9.6 % in the neighbouring countries (12.3 % in the Netherlands, 9.9 % in Germany and 8.4 % in France). Over the same period, services contributed slightly more than half to the inflation differential, compared with a contribution of less than a third for processed food and just over a fifth for non-energy industrial goods ([50]). More precisely, the Price Observatory (2016) identifies three sectors, namely bars and restaurants (which have a higher weight in the Belgian price index), telecommunications and culture, which accounted for most of the service price differential between Belgium and its three main neighbouring countries throughout the period. An additional factor explaining the higher service market prices could

([48]) The non-energy components include network tariffs (distribution and transmission costs), as well as levies, taxes and VAT. In the context of the sixth State reform (Law of January 6, 2014) the regulation of distribution tariffs for electricity and gas were transferred to the regions. Since 2008, the transmission tariffs on electricity and gas are approved by the federal regulator CREG for a period of four years.

([49]) Although the pre-tax energy price-setting in Belgium was subject to a price control mechanism, the "safety net mechanism", till the end of 2017, its impact, especially on electricity prices, is very limited, since these non-energy components are not concerned by the control mechanism and since almost two thirds of the contracts are fixed-price contracts to which the mechanism does not apply either.

([50]) The underlying inflation is divided into three product groups, namely processed food, non-energy industrial goods and services, which correspond to 16 %, 34 % and 50 % of the weight of the three product groups in the calculation of underlying inflation in Belgium respectively.

be that prices for services, such as notaries, public transport, education and insurances, are administered and index-linked — albeit with some time lag.

3.4.3. BUSINESS ENVIRONMENT AND PUBLIC ADMINISTRATION

Business environment and access to finance

The administrative burden on firms in Belgium is relatively heavy, despite some reforms over the last 5 years. The time and number of procedures needed for starting a business are among the most favourable (three days and three procedures), but the administrative burden is relatively high (cf. OECD 2017b). Higher costs and capital requirements, complex administrative procedures, administrative capacity and the relatively low level of regulatory certainty remain significant obstacles (cf. European Commission, 2017c). The country's complex legislative and administrative system creates a challenging context for potential for high-growth innovative enterprises (HGIE), which may explain why Belgium is among the laggards both in terms of the number of and employment in HGIEs (cf. European Commission, 2016c). The tax system is also extremely complex (cf. 3.1.4). As regards SMEs, growth has been moderate in recent years. The added-value of SMEs increased by 10 % in the period 2002-2016 with the sharpest rise in small firms, whose value added increased by 19.6 %. To stimulate investment in recently born SMEs (up to four years old), the government approved a tax shelter measure to reduce rates on investments.

Belgium ranks among the lowest-performing EU countries in terms of entrepreneurship. The enterprise birth rate is the lowest in Europe (according to Eurostat, it was 6.4 % in 2015, compared to 10.1% for the EU28 average). Yet, business creation in Belgium is among the lowest of the EU15 since 2008 (De Mulder, Godefroid, 2016). At the same time exit rates are very low (cf. OECD, 2017a). Recent research shows that the decline in business dynamism has a secular feature since the share of young firms becoming high-growth firms, and small firms experiencing fast growth has been declining since 2000 (Bijnens G. and Konings J., 2017). In 2014, 8.0 % of all firms with ten or more employees in the 'business economy' were high-growth firms, which is below the EU-average of 9.2 % ([51]). Again, 3 % of new businesses tend to be fast growing firms in their first five years of activity (gazelles) (De Mulder, Godefroid, Swartenbroekx, 2017).

Belgium has adopted several policy measures to foster entrepreneurship, although differences exist between the social protection system for self-employed and that for employees (see section 3.3.2)**.** At the federal level, measures have been taken for the self-employed, including the establishment of a specific status for student entrepreneurs and the extension of the duration of maternity leave period for the self-employed. At the regional level, a new action plan on entrepreneurial education has been implemented, specific projects have been put into place for immigrant entrepreneurs and to stimulate social entrepreneurship (Flanders), to support enterprises (Brussels region) and new dedicated growth acceleration services for SMEs (Wallonia).

Belgium has a vibrant start-up environment due to the wide range of public support measures as well as one-stop-shops for enterprise creation. Concerning firms' scaling-up, public support is available at regional level for SMEs' growth mostly in the form of coaching or subsidies for the provision of management/accounting services. As from January 2018 a new scale-up measure will become effective for SMEs aged between 5 and 10 years and complying with a set of requirements. Fiscal benefits for investments and employment in start-ups were included in the federal Start-up plan of 2015.

([51]) In line with the Commission implementing regulation (EU) No 439/2014, high-growth enterprises are defined as firms with at least 10 employees in the beginning of their growth and average annualised growth in number of employees greater than 10 % per annum, over a 3-year period. The share of high-growth enterprises is the number of high growth enterprises divided by the number of active enterprises with at least 10 employees. Source of the data on high-growth enterprises is Eurostat (http://ec.europa.eu/eurostat/web/products-datasets/-/bd_9pm_r2, last accessed 10.04.2017). Due to data availability on Eurostat, the data on high-growth firms refers to the 'business economy', which covers sections B-N including section K (financial activities, except activities of holding companies). The 'non-financial business economy' excludes section K.

Belgium continues to perform well in terms of SME access to finance. During 2016, the cost of borrowing for small loans increased somewhat and the banks' willingness to provide loans has fallen slightly but, on the other hand, loan rejections declined. Bank loans remain the main form of external financing (58 % of SMEs vs 50% at EU level). Fewer SMEs did not apply because of fear of rejection (4%) or got their application rejected (5%) than in the EU on average (6% and 7% respectively). However, there is evidence that start-ups or businesses without a mature balance sheet have difficulties accessing bank financing and have to resort to alternative source of financing (National Bank of Belgium, 2017e). Policy measures continue to be implemented, at both federal and regional level, to support businesses financing. At federal level, a regulation regarding access to finance for SMEs was adapated at the end of 2017 in order to improve the information for entrepreneurs. At regional level, Wallonia has adopted a series of measures as part of a comprehensive plan to support SME financing. They aim to facilitate microcredit and support other forms of private lending through the introduction of targeted tax reductions. Various alternative financing mechanisms are encouraged both at federal and regional level, such as crowd-funding, spin-off funding, access to equity, venture capital, business angels, as well as investments in specific sectors, e.g. creative industries.

Digital public services

Belgium is an average performer in digital public services. Compared to its good overall position in the development of its digital economy, it ranks only 13th in digital public services (European Commission, 2017 (d)). Belgium's federal structure poses specific challenges in establishing coherent and nationwide eGovernment services. Diverse and not necessarily interoperable systems create friction losses. In December 2016, the Belgian federal government announced the creation of the Digital Transformation Office in charge of the digital transformation of the federal government services. The new Office aims to be a centre of excellence and innovation in the use of new technologies and the use of data. The federal government also launched a new government cloud ("G-Cloud") which integrates the ICT applications of several federal services and ministries. These initiatives complement the different projects underway, such as the "Vlaanderen Radicaal Digitaal" programme, the Open data Decree in Wallonia or the Federal Open Data Strategy 2015-2020 ("Stratégie fédérale 'Open Data'; Federale open data-strategie"). In certain areas, such as in the judiciary, the full potential of ICT has not been tapped.

Insufficiencies in the reliability, comparability and uniformity of court data and delayed actions to improve the quality of the judicial system remain a serious concern. The roll-out of initiatives to digitalise certain court services to all courts such as e-box or e-deposit are behind schedule. A working group is tasked to develop a uniform national coding system for judicial cases. (expected for January 2019). However, as long as this uniform coding system is not applied across all courts, data on efficiency of court proceedings will remain of limited reliability and comparability. Quality standards on informing parties about their case progress do not exist (2018 EU Justice Scoreboard).

3.4.4. SERVICES SECTOR

Competition in the services sector

Disproportionate regulatory restrictions remain in the services sector. These restrictions continue to impact negatively competitiveness of services. For example, the lack of tacit approval mechanism in many sector-specific legislation (construction, tourism, food and beverage, real estate, business services etc.) results in delays in the award of business authorisations for services providers, creating uncertainty. Differences in authorisation requirements between the Belgian regions further increase complexity and may fragment the Belgian market. Recently, Flanders decided to abolish the Establishment Act for a selected number of craft professions. The assessment for another 11 regulated professions is still ongoing. The other regions have not undertaken similar reforms of these professions.

Tackling restrictions in services could lift the productivity of the overall economy. The manufacturing sector is increasingly relying on services, whether as inputs or output bundled with goods. In Belgium, services already represent over 40 % of the added value generated in

manufacturing value chains, of which around one fifth relates to non-tradable services ([52]). As a result, low competition in services markets, as evidenced by below EU-average churn rates in sectors such as legal, accounting, architectural and engineering activities, can also affect Belgian manufacturing industries depending on services as inputs. Lowering regulatory restrictions would thus lead to higher value added and productivity in the manufacturing industry (cf. Curnis and Manjón Antolín, forthcoming).

Restrictions in services sector negatively impact manufacturing through value chains. The share of manufacturing in gross exports is significantly higher than in added value exports. As concerns services, the share is higher in added value exports than in gross exports for both tradable and non-tradable services. These trends are similar to those observed at EU level. They seem to indicate that Belgium has positioned itself in upstream input on services and downstream input on manufacturing. This would imply that restrictions in the services sector in Belgium and in other Member States reduce added value in Belgium's manufacturing. Indeed, it has been estimated that more than 20 % of regulation embodied in manufacturing exports from an EU country is imported from other EU countries.

High regulation in some professional services remains and is likely to negatively impacts competition. This is particularly the case for real estate agents, with lengthy mandatory training requirements. There are also high barriers to entry for architects and accountants, in particular requirements for establishing a practice, such as legal form and shareholding requirements and restrictions on the exercise of professional activities such as incompatibility rules on the joint exercise of professions.

In the construction sector, building permits remain complex despite measures adopted in recent years. The churn rates in the Belgian construction sector are substantially below the EU average, which may indicate that the sector suffers from insufficient competition. This also impacts the delivery of important infrastructure projects. Horizontal authorisation schemes for access to the construction market are imposed. Ongoing discussions to simplify or remove these requirements have started (notably in the Flemish region). More extensive authorisation schemes are additionally imposed regarding specific segments (e.g. demolition with asbestos, certain drilling services and alarm installation). None of these authorisations operate to simplify subsequent building permits, since Belgium does not foresee alternative simpler procedures for pre-approved providers. Finally, an insurance requirement (in view of the stringent 10-year liability rule for structural works) has been put in place recently.

Retail sector

Recent reforms have aimed at improving the performance of the sector and reducing the regulatory burden. In retail establishment, new regional laws have introduced simpler 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 this does not lead to entry barriers. Some operational restrictions are likely to be eased soon as the government is going to present a draft legislative project abolishing the cool-off period prior to the sales. The new rules will make it possible to announce price reductions just before the sales. However, the ban on sales below costs remains, even though past reforms have added several exceptions making this provision more flexible. In its current shape it still does not provide sufficient incentives for large competitors on the retail market, such as the supermarket chains, to strongly compete on prices.

Despite efforts to improve the functioning of the sector, retail prices remain relatively high. Prices for many product categories continue to be higher than in neighbouring countries. However the level of inflation has recently decreased significantly, especially for non-transformed food products (SPF Économie, P.M.E., Classes moyennes et Energie, 2017). Lower level of prices on the other side of the border incites many Belgians to shop cross-border both for non-food products and daily consumer goods ([53]). The Benelux Union is currently investigating into the

([52]) Source: JRC using WIOD 2016 data.

([53]) It is estimated that Belgian consumers spend for physical cross-border shopping nearly €3 billion annually (GfK, Foreign Purchases of Private Belgian Households).

issue of territorial supply constraints, i.e. business practices that could lead to a fragmentation of the market and result in higher consumer prices. The results of the public consultation on this issue are expected during the first quarter of 2018. On this basis the Belgian authorities could consider measures to tackle this issue.

The potential of e-commerce on the Belgian market is considerable. A recent legislative change has made night work in e-commerce possible, but more flexibility would be needed to attract investment in this sector as e-commerce distribution centres continue to choose establishment in the neighbouring countries. Belgian citizens are also more likely than other EU citizens to buy online from another Member State. Further fostering the use of e-commerce, but also a business environment and a regulatory framework favouring its development, could contribute to increasing consumer choice on the domestic market.

Collaborative economy

Belgian authorities are actively establishing a policy and regulatory framework for the collaborative economy. The approach taken by the three regions in Belgium differs however significantly. In the accommodation sector, Flanders and Wallonia have adopted a regulatory framework designed to facilitate the development of the collaborative economy, while the Brussels region has adopted a complex regulatory framework on tourist accommodation with restrictive requirements imposed on hosts, including private citizens wishing to rent out their own houses only occasionally. In the urban passenger transport sector, regulatory requirements are high in all three Belgian regions and quantitative restrictions apply to some services. Belgium is planning the introduction of a new law whereby peer providers of collaborative services are subject to a simplified tax scheme with a reduced income tax rate of 10 % and an exemption from social security contributions up to an income threshold of €5 100 - under the condition that the transaction is between peers and it is intermediated by especially registered platforms (see also section 3.3.1). Currently, Belgium is planning a modification of this regime to make income by peers providing certain services tax-free up to €6.000 provided the activity is registered (see also section 3.3.1)

3.5. SECTORAL POLICIES

3.5.1. TRANSPORT

Belgium appears to lag behind with regard to the quality of its public infrastructure supporting the competitiveness of the economy (see also Box 3.4.1). In particular, Belgium gets a below average score for the quality of its road and railway network (World Economic Forum, 2017). These results are mostly explained by a relatively poor efficiency of public spending on transport (National Bank of Belgium, 2017f) as well as a comparatively low level of public spending. According to OECD data on transport infrastructure investment and maintenance spending, Belgium has among the lowest investment rate 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 %).

Transport activity is projected to increase in a situation of already largely saturated transport infrastructure. Congestion in the major cities continues to worsen year by year ([54]). Congestion around Antwerp is particularly worrying as it impacts the port activity, a major source of the country trade in- and outflows. In 2013, 78.5 % of road transport was by private car (FPB, 2016) and in Flanders, 75 % of commuters still use their private car (European Commission, 2014). By 2030 transport demand is expected to grow by another 11 % for passengers and 44 % for goods (Federal Planning Bureau, 2015). This is partly linked to the preferential treatment of company cars.

The government is introducing an alternative for the current system of favourable tax treatment of company cars, a so-called 'mobility allowance' or "cash for car". This mobility allowance would provide certain employees the option to hand in their company car in return for cash. The fiscal treatment of this cash benefit will be similar to that for the company car. Its success will nevertheless depend on the final level of incentives provided. The impact of the new scheme on congestion and pollution remains to be seen. Moreover, the announced plans would add to the complexity of the Belgian tax system (see section 3.1) and could continue to favour a subgroup of the working population, in particular high-income earners (European Commission, 2017e).

The management and development of the road (and waterway) network is a regional competence. In 2016, the Walloon Region started implementing its "Plan Infrastructure", which is focused on the upgrade of the road and waterway network. In addition, the Walloon Investment Plan adopted in January 2018 foresses over the period 2019-2024 important investments in mobility (EUR 1.1 billion) The Brussels-Capital Region intends to mainly invest in public transport and cycling routes in the following years. For its road network, the Flemish Government is preparing the capacity increase of the ring roads of Brussels and Antwerp, and tackling bottlenecks and missing links, as well as the construction of a regional light rail network (Brabantnet). The waterway network has also an important role in the modal shift from road haulage and the reduction of congestion ([55]). Since 2007works are ongoing on the Seine-Scheldt link in two regions. Besides this, works are ongoing throughout the country on the inland waterway network and on several sea and inland locks. In parallel, Flanders and Wallonia have launched in 2017 their initiatives to promote modal shift of road freight to alternative modes of transport ("multimodaal.vlaanderen", "FAST vision- mobility 2030"). In terms of ports development, on 8 December, the ports of Gent and Zeeland officially signed their merger agreement to become known as the "North Sea Port", immediately positioning itself among the top of European sea ports: number three in added value and number ten in cargo transhipment.

Differently from local and regional public transport, railway transport is a federal competence. The last negotiations at the federal level led to a multiannual investment plan, for investments for the next five years, where priority will be given to the completion of the Regional ExpressNet (GEN/RER) around Brussels. The Federal government approved an additional EUR 1 billion for finalising the Regional ExpressNet

([54]) 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.

([55]) The Flemish Government has proposed to SRSS a project to improve the efficient handling of inland waterways as an alternative to road transport.

(GEN/RER) and other priority railway infrastructure projects.

There are also important barriers for transport services. Competition in domestic passenger railway services and in long-distance coach services is low. According to a study undertaken for the Commission (cf. Frazzani et al. 2016), in the taxi and car-sharing services, regulatory requirements are high in all three Belgian regions and quantitative restrictions apply to some services. These complicate the provision of collaborative transport services and in some cases have made them de facto impossible, despite strong consumer demand (cfr. Section 3.4.4 on collaborative economy).

3.5.2. ENERGY

Belgium's import dependency remains above the EU average for all fuels, and in particular due to the dependence on gas and petroleum products ([56]). The energy mix is characterised by a lower share of coal and other solid fuels than the EU average, a lower share of renewable energy and a higher share of petroleum products and nuclear.

Work is on-going to finalise the long-term energy and climate policy. It will be the basis for the integrated National Energy and Climate Plan (NECP) required under the Energy Union Governance. It can build on a number of regional, federal and national energy and climate vision texts, plans and roadmaps ([57]). Another crucial input into the plan will be the timely adoption of the inter-federal "Energy Pact", for which a political agreement is still pending. In December 2017 the four responsible Ministers for Energy agreed on a text setting out the main outline of a Pact ([58]). The finalisation of "Energy Pact" is foreseen for 2018.

Plans to decarbonise the economy while guaranteeing the security of supply will require significant investments in the energy system and in innovation. An October 2017 study by the Federal Planning Bureau (FPB, 2017) that describes the evolution of the national energy system until 2050, estimated that with unchanged policy every year 1100 MW of additional capacity would have to be built, amounting to investments of over EUR 30 billion. Another study by the transmission system operator, ELIA, from November 2017 concluded that the planned nuclear phase-out by 2025 is still possible, but would require immediate action by the Government to ensure that the much needed replacement capacities are available on time. The European Union's investment instruments can underpin these efforts.

Based on the import capacity, the Belgian interconnection level was 19 % in 2017, which is higher than the EU average. Various projects, notably Projects of Common Interest, are under preparation to further develop electricity interconnections between Belgium and its neighbours ([59]). Adequate interconnection levels for electricity play an important role in improving security of supply and facilitating the integration of an increasing share of renewable energy sources.

The level of market concentration for power generation significantly decreased over the recent years, and is now below the EU average. Wholesale electricity prices are now below EU average and decreasing (Eurostat). The average price has been following the average price in the neighbouring countries since 2013. By contrast,

([56]) Source Eurostat: http://ec.europa.eu/eurostat/statistics-explained/index.php/Energy_production_and_imports.

([57]) Because the cooperation agreement on a burden sharing for the period 2013-2020 was only ratified in January 2017, the National Climate Commission decided in 2017 not to draft a successor to the 2009-2012 national climate plan for the period 2013-2020. Instead the focus lays on the development of the integrated National Energy Climate Plan (NECP) 2021-2030.

([58]) The agreement maintains 2025 for planned nuclear phase-out, and sets out a vision of the energy system for 2030 that includes a rapid increase of renewable energy sources in combination with additional gas-fired power plants. By 2050 the entire electricity system should be carbon-neutral.

([59]) The Nemo project will connect Belgium to the UK, leading to greater diversification of supply. The PCI ALEGrO (Aachen Liege Electric Grid Overlay), will be the first interconnection between Belgium and Germany, and can result in price convergence within the CWE region. In addition, two projects of common interests (internal lines) aim at strengthening the northern Belgian border connections to allow for better integration of the electricity from offshore wind.

the average gas price in Belgium remains constant, lower than the EU, but above the average in the neighbouring countries (Eurostat). See section 3.4 for an analysis of the impact of energy prices on inflation.

Triggered by several government measures ([60]), retail markets for gas and electricity have become significantly more dynamic in recent years, as reflected in lower market shares, higher switching rates and higher entry rates. Domestic gas prices are lower than EU-28 average (Eurostat). Domestic retail prices for electricity remain above the EU average, driven mainly by consecutive increases in the non-energy component (distribution and transport tariffs, as well as VAT) (Eurostat).

3.5.3. DIGITAL ECONOMY

Belgium has a good coverage of digital communications networks and is third in the EU in terms of overall connectivity performance ([61]). However, as regards the adoption of mobile broadband, the country is outclassed by other high-performing countries. 4G coverage has improved significantly since 2014 and Belgium has caught up. It now ranks fifth in the EU28 with a coverage rate of 99.9% in 2016. However, mobile broadband uptake is still below the levels of comparable countries. To achieve the objective of the Digital Agenda for Europe that at least half of households have access to Internet speeds of at least 1 Gbps by 2020, reliance is placed on market-led investment, combined in Flanders with a planned public investment in fibre networks. In Wallonia, the Investment plan foresees EUR 50 million for covering the 'white zones'.

The country is overall making steady progress in the integration of digital technology, except for SMEs selling online. Stimulating the adoption of digital technologies combined with a workforce able to use these technologies could further underpin productivity growth. The share of firms providing ICT training to their staff is high (34 %). Investment in ICT has increased but remains lower than in France and the Netherlands (Biatour & Kegels, 2017). The digitisation of businesses and "industry 4.0" are a priority in the agendas of both the Flemish and the Walloon region, such as Made Different (Flanders) or Plan Marshall 4.0 (Wallonia).

Belgium has a low share of graduates in science, technology and mathematics ("STEM"), one of the lowest in the EU (ranks 22nd)**.** In 2015, only 20 % of students were graduating in STEM fields at master level (compared to 35 % in Germany, 30 % in Sweden, 28 % in Finland, 24 % in Denmark). As the majority of tertiary educated workers in ICT sectors and of ICT specialists have an academic background in a STEM fields (OECD, 2017b), shortages in these fields could become a major barrier to growth and innovation, with scarcities already emerging for certain functions which require, for example, digital skills. Already today, in certain geographic areas, there is a shortage of qualified ICT experts ([62]). Addressing the shortage of ICT specialists remains crucial to support the digital transformation of the Belgian economy.

A number of measures have been taken to address these shortages. The Flemish Community and the Walloon Region are developing plans to strengthen STEM and digital competences, as for instance the Digital School Plan (2014-20) in Wallonia and the Flemish STEM action plan (2012-2020) in Flanders. In early 2017, the Belgian federal government announced a digital skills fund of € 18 million over 3 years which will also fund coding and other digital skills training courses for young people.

3.5.4. CIRCULAR ECONOMY, CLIMATE CHANGE

Belgium has made substantial progress on promoting a circular economy at all levels of

([60]) Such as a modification of the energy law making it easier to switch provider; a campaign organised together with local communes informing and assisting consumers in using comparison tools for comparing energy prices; and promotion of joint energy purchases. Current regulatory guidance specifies that contract termination can take place at any moment without cancelation fees (as long as the one month notification period is respected).

([61]) European Commission, Digital Economy and Society Index 2017, https://ec.europa.eu/digital-single-market/en/desi.

([62]) In October 2017, there were more than 14,000 open vacancies for ICT experts. Source: real-time online database of the European Commission.

government. Year 2017 has seen a rollout of measures in all three regions and at federal level. Belgium continues to be among the top performers with regard to waste management with recycling rates of municipal waste of 53.5 % in 2016 (EU average 45.6 %) (Eurostat). Belgium also has sustainable development strategies for each of the regions, and published the National Sustainable Development Strategy (NSDS) in the spring of 2017. Air pollution in Belgium continues to give rise of serious human health concerns and cause of premature deaths ([63]).

According to the 2017 national projections based on existing measures, the 2020 target of 15 % greenhouse gas emission reductions relative to 2005 levels is expected to be missed, with non-emissions trading system (non-ETS) emissions only 11.5 % lower than 2005 levels in 2020. While Belgium would therefore miss the 2020 target itself, it expects to generate a small surplus based on emission levels over the whole compliance period 2013 to 2020.

Belgium's non-ETS emissions are mainly caused by direct fuel consumption, predominantly for residential and commercial purposes. The renovation of the inefficient building stock therefore remains a key sectorial challenge. A national debate on the introduction of carbon pricing in non-ETS sectors started in 2017, which, in order to promote the development of renewables, could lead to a new environmental policy shifting taxation from electricity towards fossil fuels. The internal burden sharing agreement reached in December 2015 was finally translated into a formal and legally binding cooperation agreement on 22 November 2017. Regarding the ETS sector, the accumulated revenues from the auctioning of emission allowances under the ETS ([64]) have been distributed among the Federal State and the regions and used for climate and energy purposes.

Belgium is not fully exploiting its potential to become a low carbon innovation leader. Ex-post evaluation of climate policies shows that progress in terms of emissions intensity of the economy is mainly driven by innovation (ICF International, 2016), and is proof of the importance of ambitious research and innovation strategies in this area. Meanwhile though, (national) public investments in the Energy Union R&I priorities in 2015 have decreased by 3 % compared to 2014 (from EUR 167 million to EUR 162 million) and were significantly lower than the EUR 211 million reported in 2012 ([65]). A large part of this (48 % in 2015) was also dedicated to Nuclear Safety. At the regional level, public funding to support energy R&I has increased, particularly in renewables and energy efficiency ([66]).

Transport activity also remains a challenge in view of the medium (2020 and 2030) and long term (2050) greenhouse gas emission reduction objectives ([67]). CO2 emissions from road transport are 31 % higher than in 1990, having stabilised since 2005. The proportion of transport greenhouse gas emissions among Belgium's total emissions has steadily increased to 21.4 % in 2014. Transport also causes significant air pollution problems. In 2015 it was responsible for 22.6 % of greenhouse gas emissions (21 % in EU28), 51.8 % of NOx emissions (46 % in EU28) and 16.6 % of PM2.5 emissions (13 % in EU28). A kilometre-charge for heavy vehicles over 3.5 tonnes was introduced in 2016 across the whole territory, but there is no agreement on extending this to light duty vehicles ([68]). The Walloon and the Flemish region have increased the share of their road network for which a toll is to be paid. In the Brussels Region a working group has been created on vehicle taxation with a report due in spring 2018. From January 2018, a low emission zone covering the entire Brussels Region, adding to the existing one in Antwerp in 2017; however, the actual environmental benefits need to be demonstrated.

([63]) The number of premature deaths was estimated at 8340 from particulates, 1870 from nitrogen dioxide & 190 from ozone in 2014, Air quality in Europe — 2017 report, European Environment Agency, pp.57-58.

([64]) According to Belgium's own reporting amounting to EUR 354 million in 2015.

([65]) International Energy Agency RD&D Statistics database (http://www.iea.org/statistics/RDDonlinedataservice/)

([66]) Notably via the Flanders Innovation and Entrepreneurship and the Research Foundation (FWO) in Flanders, the "Wallonie Energie SPW" and the Innoviris funds in Brussels).

([67]) Passengers transport activity increased in 2015 by 3.1 % as comparing to 2005, similar with freight transport activity and with the increase of energy consumption in transport (excl. aviation). In addition, the share of collective passengers land transport has slightly decreased, indicating a relative higher use of private transport.

([68]) The Flemish Region is currently examining the possibility of introducing a smart kilometre charge for light duty vehicles through detailed studies.

ANNEX A

OVERVIEW TABLE

Commitments	Summary assessment ([69])
2017 Country-Specific recommendations (CSRs)	
CSR 1: Pursue a substantial fiscal effort in 2018 in line with the requirements of the preventive arm of the Stability and Growth Pact, taking into account the need to strengthen the ongoing recovery and to ensure the sustainability of Belgium's public finances. Use windfall gains, such as proceeds from asset sales, to accelerate the reduction of the general government debt ratio. Agree on an enforceable distribution of fiscal targets among government levels and ensure independent fiscal monitoring.	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 federal government is taking steps to reinforce the autonomy of the High Council and the independence of its members. The adoption of the necessary amendments requires prior consultation with the federated entities. However the calendar for consultation and adoption has not been communicated. • The federal government has partially dismissed its participation in BNP Paribas. Proceeds from the sale of the participation have been used to reduce the debt. • Wallonia has created a public debt management

([69]) The following categories are used to assess progress in implementing the 2015 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.

Remove distortive tax expenditures. Improve the composition of public spending in order to create room for infrastructure investment, including on transport infrastructure.	agency. • **Some Progress** has been made toward removing distortive tax expenditure**.** • The corporate tax reform contributes to simplify the system, however several distortive tax expenditures remain. • Company car system: the conditions attached and the voluntary nature of the mobility allowance proposal (a second reading by the Government is expected after the State Council provided its opinion) will result in uncertain environmental gains, with very little changing to the level of tax expenditure. **Limited progress** has been made to improve the composition of public spending. • There are plans to limit the increase of current expenditure, this should determine the relative increase of the share of capital expenditure. • The Flemish region plans to introduce a spending review in its budgetary exercise. • The federal government has announced a National Pact for Strategic Investment to promote structural reform and address the deficit in public investment. • Regional government plans to increase investment in transport infrastructures.
CSR 2: Ensure that the most disadvantaged groups, including people with a migrant background, have equal opportunities to participate in quality education, vocational training,	Belgium has made **some progress** in addressing country-specific recommendation 2. **Some progress** has been made in ensuring equal opportunities to participate in quality education and vocational training. • The reform of adult education was adopted by the Flemish Community in June 2017 and should be phased in by August 2019. It requires a scale increase in order to better use available resources, modernise human resources management and offer full-pathways. • Flemish Dual learning reform in secondary education, the pilot has been extended to new fields, however, its full implementation has

and the labour market.	been postponed to 2019/2020. • The Flemish action plan on pre-primary education was launched in Dec 2016. To be progressively implemented • Both communities are developing specific attainment targets. In Flanders a draft decree on the basic principles of the attainment targets was adopted. Working groups started work to made them operational. The first ones should be ready by 2019/2020, in time for the progressive implementation of the modernisation of secondary education. Similar measures are taken in the overall framework of the French Community reform. • In 2017 the French Community adopted the objectives, a multi-annual budget, an implementation calendar for its systemic reform of ECEC and compulsory education. The implementation will be rolled out in the next 15 years starting with early childhood education. • In the French community in the framework of the school reform several measures were adopted: a) on pre-primary education the introduction of an 'initial key competences framework', which should enter into force in 2019/2020 and a EUR 50 million budget to recruit 1 100 pedagogical staff between 2017-2019; b) the establishment by 2018/2019 of a six-year plan covering pupil performance, school climate, inclusive education, pupil pathways and professionalization; c) new governance measures, for instance the set-up of a geographical responsible and quality measures. **Limited progress** has been made in ensuring equal opportunities in participating to the labour market. The initiatives taken by the federal government and the three Regions focus on first arrivals, notably asylum seekers and refugees and fighting discrimination. They include: • Cooperation agreements between the reception agency Fedasil and the Flemish Employment Service as well as with the Forem (Walloon agency for employment and training) to provide information on labour market opportunities and training to asylum applicants, as well as to

	perform a screening of the competences in an early stage. Belgium also developed special procedures for asylum seekers and refugees deal with incomplete documentation of their qualifications, to allow for validation of relevant competences. • The three Regions have adopted integration measures that are compulsory for newly arrived third-country nationals. However this is not likely to be sufficient to address the multifaceted obstacles to labour market for immigrants. • Practice tests (double CVs or mystery calls) to detect and fight discrimination on the labour market have been authorised in the Brussels region and will soon be possible in the whole country. • The Flemish Region also updated its action plan to combat work-related discrimination together with social partners and other stakeholders, focussing on awareness-raising, self-regulation and reinforced monitoring. • The Brussels Region adopted a "regional plan for diversity and combat discrimination in hiring" which must be translated into an operational plan.
CSR 3: Foster investment in knowledge-based capital, notably with measures to increase digital technologies adoption, and innovation diffusion.	Belgium has made **limited progress** in addressing country-specific recommendation 3. **Some progress** has been made in fostering knowledge-based capital. • The tax shelter for equity investment in start-ups was extended to scale-ups (fast growing enterprises). A fund-of-fund which would facilitate the availability of venture capital funding in Belgium was also announced. • Via the National Pact for Strategic Investment, Belgium notably announced more investments in the digital economy. • Flanders made substantial budgetary effort in 2017 in support of research and innovation (EUR 195 million additional funding), notably in support of stronger public-private collaborations (via the strategic centres like

	IMEC and the new cluster policy). • Under Flanders' targeted cluster policy, initiatives in the area of sustainable chemistry, logistics, materials and energy started in 2017. Specific cluster pacts lay out the commitments of businesses, knowledge institutions and the government. • Flanders pursued its STEM initiatives which dispose of a sizable budget of EUR 9 million. In 2017, the ICT impulse programme was launched to increase computer and programming skills in young people. • Flanders started implementing the Innovation Procurement Action plan with the aim of fostering innovation in the private sector in response to public needs (budget EUR 5 million). • The Brussels region has started implementing the action plan of its Regional Innovation Plan 2016-2020. • The Walloon region is implementing its Small Business Act 2015-2019, integrated in the Marshall plan 4.0. • In its Walloon investment plan, the Walloon government announced additional investments in research, development and innovation for the period 2019-2024
Increase competition in professional services markets and retail	**Limited progress** has been made in increasing competition in professional services and retail • Flanders has initiated the assessment of the 27 craft professions. For 16 of them the assessment has been finalised. On march 2017 it has been decided to abolish the Establishment Act a selected number of professions. • The profession of travel agent has been completely deregulated in the Walloon region. • Simplified procedures for retail establishment in Flanders entered into force on 1 January 2018. A monitoring system to assess the impact of the new legislation is foreseen. Brussels Region has also adopted new rules recently, which will enter to force gradually as of 2018. An

Enhance market mechanisms in network industries.	evaluation of the new legislation on retail establishment is ongoing in the Walloon region. **Limited progress** has been made in enhancing market mechanisms in network industries • Since July 2017 a simplified procedure has been introduced to change of telecom operator. The new telecom operator is charged of the administrative burden and of the technical transfer. • The IBPT has been charged with the analysis of the telecom market in order to adapt regulation in relation to new operator to increase competition
Europe 2020 (national targets and progress)	
Employment rate (20-64): 73.2 %.	The employment rate for 20-64 years old workers increased to 67.7 % in 2016, remaining more than 3 pps below the EU average (71.7 %). Job creation has been high; nevertheless, the 73.2 % target still seems out of reach.
R&D: 3 % of GDP.	R&D intensity has pursued its increase to reach 2.49 % in 2016. 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: -11.5 % in 2020 compared with 2005 (i.e. projected shortfall of 3.5 percentage points).
Renewable energy: 13 %, with a share of renewable energy in all modes of transport equal to 10 %.	Compared to 1995, the share of renewable energy increased more than the EU average (from less than 1 % to 6.9 % in 2015), but remains at rather low levels ([70]). Still, in 2015 for the first time Belgium's renewable energy share decreased compared with the previous year ([71]), and although the 2016 RES share of 8.65 % of final energy consumption is above the 2015-2016 indicative target of 7.1%, such a tendency would not be compatible with a timely 2020 target achievement. Following the agreement on the internal

([70]) Thanks to their deployment, it is estimated that Belgium has consumed in 2014 about 6.7% less fossil fuels than they would have otherwise. In addition, greenhouse gas emissions have been 6.5% lower.

([71]) This is notably due to decreases in renewable energy shares in the heating and cooling and transport sectors, and is also explained by the drop of biodiesel supply by 42% compared to 2014 because of the invalidation of the law specifying the rules for the mixing of biofuel in diesel in June 2015.

	effort sharing reached in December 2015, regional governments have introduced new legal instruments and expressed their intention to promote renewables in the future. A range of policies and measures have recently been launched at regional level.
Energy efficiency: 43.7 Mtoe primary consumption and 32.5 Mtoe final energy consumption	In terms of energy efficiency, there is still a gap between Belgium's primary and final energy consumption (respectively 45.7 Mtoe and 35.8 Mtoe in 2015) and its indicative national 2020 targets (43.7 Mtoe in primary consumption and 32.5 Mtoe in final energy consumption.
Early school leaving: 9.5 %.	In 2016, Belgium reached its Europe 2020 national target on early school leaving (ESL). With 8.8 % at national level, the rate is below the EU average but it remains high in the Brussels region. The gender gap is close to the EU average. The gap between foreign- (17.8 %) and native-born (7.6 %) students is high. The proportion of young people in 2016 not in employment, education or training (NEET, 15-24 years old) at 9.9 %, is below the EU average.
Tertiary education: 47 % of the population aged 30-34 years old.	In 2016, the proportion of 30- to 34-year-old tertiary graduates in Belgium jumped to 45.6 %, on track to reach the Europe 2020 national target of 47 %. Belgian and regional rates (47.3 % in Flanders, 51.9 % in the Brussels region and 39.6 % in Wallonia) are above the EU average of 39.1 %.
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): +146 in 2014; +143 in 2015; +141 in 2016. Belgium is therefore unlikely to achieve its target of reduction by 380 000.

ANNEX B

MACROECONOMIC IMBALANCE PROCEDURE SCOREBOARD

Table B.1: **The MIP scoreboard for Belgium (AMR 2018)**

			Thresholds	2011	2012	2013	2014	2015	2016
External imbalances and competitiveness	Current account balance, % of GDP	3 year average	-4%/6%	-0.1	0.2	-0.5	-0.4	-0.4	-0.3
	Net international investment position	% of GDP	-35%	60.9	51.8	51.9	45.1	47.2	51.2
	Real effective exchange rate - 42 trading partners, HICP deflator	3 year % change	±5% (EA) ±11% (Non-EA)	-1.6	-4.3	-0.2	-0.6	-1.6	-0.4
	Export market share - % of world exports	5 year % change	-6%	-7.5	-15.2	-12.7	-13.0	-11.9	-2.3
	Nominal unit labour cost index (2010=100)	3 year % change	9% (EA) 12% (Non-EA)	5.3	5.4	8.3	5.5	1.5	-0.6
Internal imbalances	House price index (2015=100), deflated	1 year % change	6%	1.0	0.3	0.4	-1.3	1.4p	1.0p
	Private sector credit flow, consolidated	% of GDP	14%	21.8	15.3	7.4	-1.9	12.2	13.3
	Private sector debt, consolidated	% of GDP	133%	177.0	185.5	165.4	166.0	178.9	190.1
	General government gross debt	% of GDP	60%	102.6	104.3	105.5	106.8	106.0	105.7
	Unemployment rate	3 year average	10%	7.8	7.7	7.7	8.2	8.5	8.3
	Total financial sector liabilities, non-consolidated	1 year % change	16.5%	5.4	-5.2	0.9	2.7	2.7	1.2
Employment indicators	Activity rate - % of total population aged 15-64	3 year change in pp	-0.2 pp	-0.4	0.0	-0.2	1.0	0.7	0.1
	Long-term unemployment rate - % of active population aged 15-74	3 year change in pp	0.5 pp	0.2	-0.1	-0.1	0.8	1.0	0.1
	Youth unemployment rate - % of active population aged 15-24	3 year change in pp	2 pp	0.7	-2.1	1.3	4.5	2.3	-3.6

Flags: e: Estimated. p: Provisional.
1) This table provides data as published under the Alert Mechanism Report 2018, which reports data as of 24 Oct 2017. Please note that figures reported in this table may therefore differ from more recent data elsewhere in this document.2) Figures highlighted are those falling outside the threshold established in the European Commission's Alert Mechanism Report.
Source: European Commission 2017, Statistical Annex to the Alert Mechanism Report 2018, SWD(2017) 661.

ANNEX C

STANDARD TABLES

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

	2012	2013	2014	2015	2016	2017
Total assets of the banking sector (% of GDP)(1)	280.1	260.4	275.3	261.6	260.5	234.9
Share of assets of the five largest banks (% of total assets)	66.3	64.0	65.8	65.5	66.2	-
Foreign ownership of banking system (% of total assets)(2)	50.4	51.1	50.3	49.2	49.5	49.1
Financial soundness indicators:2)						
- non-performing loans (% of total loans)(3)	5.1	5.3	3.3	3.0	2.6	2.4
- capital adequacy ratio (%)	18.2	18.7	17.6	18.7	18.8	18.5
- return on equity (%)(4)	3.3	6.2	7.8	10.3	8.9	5.1
Bank loans to the private sector (year-on-year % change)(1)	-1.2	6.2	9.9	7.0	6.8	5.9
Lending for house purchase (year-on-year % change)(1)	6.0	10.1	19.5	12.1	9.2	7.0
Loan to deposit ratio(1)	56.6	58.2	59.5	62.3	66.2	67.0
Central Bank liquidity as % of liabilities	-	-	1.6	1.0	1.9	2.9
Private debt (% of GDP)	185.5	165.4	166.0	178.9	190.1	-
Gross external debt (% of GDP)(2) - public	55.0	56.6	67.8	65.5	66.6	64.3
- private	103.3	103.6	102.5	103.8	118.7	113.6
Long-term interest rate spread versus Bund (basis points)*	150.5	84.0	55.0	34.4	38.6	42.1
Credit default swap spreads for sovereign securities (5-year)*	124.8	36.3	31.0	30.0	28.8	14.6

1) Latest data Q3 2017. Includes not only banks but all monetary financial institutions excluding central banks
2) Latest data Q2 2017.
3) As per ECB definition of gross non-performing debt instruments.
4) 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: **Headline Social Scoreboard indicator**

	2012	2013	2014	2015	2016	2017 [5]
Equal opportunities and access to the labour market						
Early leavers from education and training (% of population aged 18-24)	12.0	11.0	9.8	10.1	8.8	:
Gender employment gap (pps)	11.0	10.2	8.7	8.3	9.3	9.8
Income inequality, measured as quintile share ratio (S80/S20)	4.0	3.8	3.8	3.8	3.8	:
At-risk-of-poverty or social exclusion rate[1] (AROPE)	21.6	20.8	21.2	21.1	20.7	:
Young people neither in employment nor in education and training (% of population aged 15-24)	12.3	12.7	12.0	12.2	9.9	:
Dynamic labour markets and fair working conditions†						
Employment rate (20-64 years)	67.2	67.2	67.3	67.2	67.7	68.1
Unemployment rate[2] (15-74 years)	7.6	8.4	8.5	8.5	7.8	7.2
Gross disposable income of households in real terms per capita[3] (Index 2008=100)	:	:	96.6	96.4	96.7	:
Public support / Social protection and inclusion						
Impact of social transfers (excluding pensions) on poverty reduction[4]	44.8	42.6	43.6	44.2	41.1	:
Children aged less than 3 years in formal childcare	48.0	46.0	48.8	50.1	43.8	:
Self-reported unmet need for medical care	1.7	1.9	2.5	2.4	2.4	:
Individuals who have basic or above basic overall digital skills (% of population aged 16-74)	:	:	:	60.0	61.0	61.0

† The Social Scoreboard includes 14 headline indicators, of which 12 are currently used to compare Member States performance. The indicators "participants in active labour market policies per 100 persons wanting to work" and "compensation of employees per hour worked (in EUR)" are not used due to technical concerns by Member States. Possible alternatives will be discussed in the relevant Committees.
(1) People at risk of poverty or social exclusion (AROPE): individuals who are at risk of poverty (AROP) and/or suffering from severe material deprivation (SMD) and/or living in households with zero or very low work intensity (LWI).
(2) Unemployed persons are all those who were not employed but had actively sought work and were ready to begin working immediately or within two weeks.
(3) Gross disposable household income is defined in unadjusted terms, according to the draft Joint Employment Report 2018.
(4) Reduction in percentage of the risk of poverty rate, due to social transfers (calculated comparing at-risk-of poverty rates before social transfers with those after transfers; pensions are not considered as social transfers in the calculation).
(5) Average of first three quarters of 2017 for the employment rate and gender employment gap.
Source: Eurostat.

Table C.3: **Labour market and education indicators**

Labour market indicators	**2012**	**2013**	**2014**	**2015**	**2016**	**2017** [5]
Activity rate (15-64)	66.9	67.5	67.7	67.6	67.6	:
Employment in current job by duration						
From 0 to 11 months	11.6	10.5	10.9	10.8	11.2	:
From 12 to 23 months	9.0	8.5	7.9	8.1	8.1	:
From 24 to 59 months	16.2	15.9	16.6	15.9	15.1	:
60 months or over	63.1	65.1	64.6	65.2	65.7	:
Employment growth* (% change from previous year)	0.4	-0.3	0.4	0.9	1.3	1.4
Employment rate of women (% of female population aged 20-64)	61.7	62.1	62.9	63.0	63.0	63.3
Employment rate of men (% of male population aged 20-64)	72.7	72.3	71.6	71.3	72.3	73.0
Employment rate of older workers* (% of population aged 55-64)	39.5	41.7	42.7	44.0	45.4	47.7
Part-time employment* (% of total employment, aged 15-64)	24.7	24.3	23.7	24.3	24.7	24.6
Fixed-term employment* (% of employees with a fixed term contract, aged 15-64)	8.1	8.1	8.6	9.0	9.1	10.3
Transition rate from temporary to permanent employment (3-year average)	37.3	38.0	38.3	35.6	:	:
Long-term unemployment rate[1] (% of labour force)	3.4	3.9	4.3	4.4	4.0	3.6
Youth unemployment rate (% active population aged 15-24)	19.8	23.7	23.2	22.1	20.1	19.1
Gender gap in part-time employment	34.5	33.8	32.8	32.1	32.6	31.7
Gender pay gap[2] (in undadjusted form)	8.3	7.5	6.6	6.5	:	:
Education and training indicators	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
Adult participation in learning (% of people aged 25-64 participating in education and training)	6.9	6.9	7.4	6.9	7.0	:
Underachievement in education[3]	19.0	:	:	20.1	:	:
Tertiary educational attainment (% of population aged 30-34 having successfully completed tertiary education)	43.9	42.7	43.8	42.7	45.6	:
Variation in performance explained by students' socio-economic status[4]	19.6	:	:	19.3	:	:

* Non-scoreboard indicator
(1) Long-term unemployed are people who have been unemployed for at least 12 months.
(2) Difference between the average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees. It is defined as "unadjusted", as it does not correct for the distribution of individual characteristics (and thus gives an overall picture of gender inequalities in terms of pay). All employees working in firms with ten or more employees, without restrictions for age and hours worked, are included.
(3) PISA (OECD) results for low achievement in mathematics for 15 year-olds.
(4) Impact of socio-economic and cultural status on PISA (OECD) scores.Values for 2012 and 2015 refer respectively to mathematics and science.
(5) Average of first three quarters of 2017, unless for the youth unemployment rate (annual figure).
Source: Eurostat, OECD

Table C.4: **Social inclusion and health indicators**

	2012	2013	2014	2015	2016	2017
Expenditure on social protection benefits* (% of GDP)						
Sickness/healthcare	8.2	8.3	8.4	8.5	:	:
Disability	2.1	2.2	2.3	2.4	:	:
Old age and survivors	11.5	11.8	11.8	12.1	:	:
Family/children	2.1	2.2	2.2	2.1	:	:
Unemployment	3.4	3.4	3.4	3.1	:	:
Housing	0.2	0.2	0.3	0.2	:	:
Social exclusion n.e.c.	0.7	0.7	0.6	0.7	:	:
Total	28.3	28.8	29.0	29.1	:	:
of which: means-tested benefits	1.5	1.5	1.4	1.4	:	:
General government expenditure by function (% of GDP, COFOG)						
Social protection	19.5	20.1	19.9	20.2	:	:
Health	7.9	8.0	8.1	7.7	:	:
Education	6.2	6.4	6.3	6.4	:	:
Out-of-pocket expenditure on healthcare (% of total health expenditure)	18.0	18.1	18.2	17.6	:	:
Children at risk of poverty or social exclusion (% of people aged 0-17)*	22.8	21.9	23.2	23.3	21.6	:
At-risk-of-poverty rate[1] (% of total population)	15.3	15.1	15.5	14.9	15.5	:
In-work at-risk-of-poverty rate (% of persons employed)	4.5	4.4	4.8	4.6	4.7	:
Severe material deprivation rate[2] (% of total population)	6.3	5.1	5.9	5.8	5.5	:
Severe housing deprivation rate[3], by tenure status						
Owner, with mortgage or loan	0.1	0.2	0.4	0.1	0.8	:
Tenant, rent at market price	2.2	3.4	3.0	3.0	5.5	:
Proportion of people living in low work intensity households[4] (% of people aged 0-59)	13.9	14.0	14.6	14.9	14.6	:
Poverty thresholds, expressed in national currency at constant prices*	10815	11164	11140	11061	11317	:
Healthy life years (at the age of 65)						
Females	11.0	10.9	11.0	11.0	:	:
Males	10.6	10.8	11.0	11.2	:	:
Aggregate replacement ratio for pensions[5] (at the age of 65)	0.5	0.5	0.5	0.5	0.5	:
Connectivity dimension of the Digital Economy and Society Inedex (DESI)[6]	:	:	69.3	74.6	75.8	77.9
GINI coefficient before taxes and transfers*	49.3	48.7	49.5	49.8	50.3	:
GINI coefficient after taxes and transfers*	26.5	25.9	25.9	26.2	26.3	:

Notes:

* Non-scoreboard indicator

(1) At-risk-of-poverty rate (AROP): proportion of people with an equivalised disposable income below 60 % of the national equivalised median income.

(2) 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.

(3) Percentage of total population living in overcrowded dwellings and exhibiting housing deprivation.

(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) Ratio of the median individual gross pensions of people aged 65-74 relative to the median individual gross earnings of people aged 50-59.

(6) Fixed broadband take up (33%), mobile broadband take up (22%), speed (33%) and affordability (11%), from the Digital Scoreboard.

Source: Eurostat, OECD

Table C.5: **Product market performance and policy indicators**

Performance Indicators	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Labour productivity (real, per person employed, year-on-year % change)							
Labour productivity in Industry	6.84	-0.33	-0.13	2.60	6.29	5.09	0.58
Labour productivity in Construction	0.44	-1.69	1.40	0.20	-0.60	3.10	-0.67
Labour productivity in Market Services	1.89	0.23	-1.02	0.34	-0.07	1.47	-0.93
Unit labour costs (ULC) (whole economy, year-on-year % change)							
ULC in Industry	-5.53	2.83	3.93	0.24	-3.95	-5.33	-0.81
ULC in Construction	-0.11	1.36	1.48	0.92	0.18	-3.48	-0.33
ULC in Market Services	-0.77	1.45	3.42	1.47	1.10	0.29	-0.30
Business Environment	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Time needed to enforce contracts[(1)] (days)	505.0	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	4.0
Outcome of applications by SMEs for bank loans[(2)]	0.45	0.48	0.68	0.54	0.36	0.46	0.31
Research and innovation	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
R&D intensity	2.05	2.16	2.27	2.33	2.39	2.47	2.49
General government expenditure on education as % of GDP	6.00	6.20	6.20	6.40	6.30	6.40	na
Persons with tertiary education and/or employed in science and technology as % of total employment	50	50	50	50	52	51	51
Population having completed tertiary education[(3)]	31	30	31	32	33	33	33
Young people with upper secondary level education[(4)]	83	82	83	83	84	84	85
Trade balance of high technology products as % of GDP	0.37	0.22	0.14	0.33	0.52	0.50	na
Product and service markets and competition					**2003**	**2008**	**2013**
OECD product market regulation (PMR)[(5)], overall					1.64	1.52	1.39
OECD PMR5, retail					4.68	4.56	4.06
OECD PMR5, professional services					2.52	2.47	2.47
OECD PMR5, network industries[(6)]					2.84	2.08	1.84

1 The methodologies, including the assumptions, for this indicator are shown in detail here: 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 don't know.
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 here: http://www.oecd.org/competition/reform/indicatorsofproductmarketregulationhomepage.htm
6 Aggregate OECD indicators of regulation in energy, transport and communications (ETCR).
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.6: **Green growth**

Green growth performance		2011	2012	2013	2014	2015	2016
Macroeconomic							
Energy intensity	kgoe / €	0.15	0.15	0.15	0.14	0.14	0.15
Carbon intensity	kg / €	0.33	0.32	0.32	0.30	0.31	-
Resource intensity (reciprocal of resource productivity)	kg / €	0.47	0.42	0.41	0.40	0.38	0.37
Waste intensity	kg / €	-	0.15	-	0.15	-	-
Energy balance of trade	% GDP	-4.6	-5.0	-4.5	-3.8	-2.7	-2.2
Weighting of energy in HICP	%	11.02	11.71	11.29	10.92	11.02	9.22
Difference between energy price change and inflation	%	14.6	3.3	-5.8	-8.0	-5.5	0.4
Real unit of energy cost	% of value added	17.2	17.6	16.5	16.8	-	-
Ratio of environmental taxes to labour taxes	ratio	0.09	0.09	0.08	0.09	0.09	-
Environmental taxes	% GDP	2.3	2.2	2.1	2.1	2.1	2.2
Sectoral							
Industry energy intensity	kgoe / €	0.20	0.20	0.21	0.20	0.19	0.19
Real unit energy cost for manufacturing industry excl. refining	% of value added	28.4	27.7	25.8	26.0	-	-
Share of energy-intensive industries in the economy	% GDP	10.29	10.06	10.44	10.90	11.63	11.61
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	0.04	0.03	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	0.01	0.01	0.01	0.01	0.01	0.01
Municipal waste recycling rate	%	54.3	53.4	52.6	53.6	53.4	53.5
Share of GHG emissions covered by ETS*	%	40.4	39.1	37.9	38.5	38.0	36.9
Transport energy intensity	kgoe / €	0.52	0.50	0.51	0.52	0.54	0.56
Transport carbon intensity	kg / €	1.29	1.27	1.29	1.31	1.36	-
Security of energy supply							
Energy import dependency	%	75.4	76.1	77.4	80.0	84.3	76.0
Aggregated supplier concentration index	HHI	19.2	14.1	16.2	14.4	14.0	-
Diversification of energy mix	HHI	0.27	0.27	0.27	0.28	0.29	0.28

All macro intensity indicators are expressed as a ratio of a physical quantity to GDP (in 2010 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 % of total value added for the economy
Industry energy intensity: final energy consumption of industry (in kgoe) divided by gross value added of industry (in 2010 EUR)
Real unit energy costs for manufacturing industry excluding refining : real costs as % 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 GHG emissions covered by EU emissions trading system (ETS) (excluding aviation): based on GHG 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 2010 EUR)
Transport carbon intensity: GHG 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 covering natural gas, total petrol products, nuclear heat, renewable energies and solid fuels
* European Commission and European Environment Agency

Source: European Commission and European Environment Agency (Share of GHG emissions covered by ETS); European Commission (Environmental taxes over labour taxes and GDP); Eurostat (all other indicators)

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