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PARLIAMENT, THE COUNCIL, THE EUROPEAN CENTRAL BANK AND THE
EUROGROUP**

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

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EXECUTIVE SUMMARY

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

Poland has benefitted from a very fast catch up process. In 2015, Poland's GDP per capita expressed in purchasing power standards reached 69 % of the EU average, up from 53 % in 2007. Rising incomes and living standards have been accompanied by gains in employment, which reached an all-time high reducing unemployment to a record low.

The economy is experiencing strong growth despite some weakness in investment. Driven predominantly by domestic demand, especially private consumption, real GDP is expected to grow at robust rates between 3.1 % and 3.2 % per year in 2017 and 2018, well above the EU average. These growth rates add to a long period of uninterrupted economic expansion, since 1992 — with Poland being the only EU country that weathered the post-2007 global financial and economic crises without undergoing a recession.

The overall economic outlook is positive, with risks mainly related to domestic policies. Private consumption is set to remain the main growth driver in 2017, given rising wages, employment and fiscal transfers. Private investment is expected to gradually recover from its 2016 weakness due to strong domestic demand and a high degree of capacity utilisation. The impact of policy and regulatory uncertainty is a key risk and may dent business confidence and investment. Public investment is expected to recover strongly following a decline in 2016, predominantly due to progress in the implementation of projects financed from the EU structural funds. Inflation is projected to pick up moderately, driven by global commodity prices and subdued domestic price pressures. Export performance is expected to remain robust. However, with strong domestic demand fuelling imports, the overall contribution

of net exports to growth is projected to be close to zero.

There are significant structural challenges to the long term growth outlook. A continued improvement in living standards is more difficult when the population of working age is falling and when productivity growth, initially facilitated by transition and integration processes, becomes more challenging to achieve. This increases the importance of further gains in labour force participation and creating an environment conducive to investment and further productivity gains. Progress on these fronts depends on a range of policies that are discussed in this report.

Overall, Poland has made limited progress in addressing the 2016 country-specific recommendations ⁽¹⁾. No progress was made in addressing the extensive use of reduced VAT rates and in establishing an independent fiscal council, although some progress was achieved in improving tax compliance. No progress was made on ensuring the sustainability and adequacy of the pension system, including for special pension regimes, and in fact a key recent measure goes in the opposite direction. No progress was made on increasing labour market participation and recent measures may also go in the opposite direction. Limited progress was reached on removing obstacles to investment in infrastructure and on spatial planning coverage.

Regarding progress on reaching the national targets under the Europe 2020 strategy, Poland is performing well in the following areas: emissions of greenhouse gases, poverty, energy efficiency, tertiary education, reducing early school leaving and the employment rate. Progress is limited in R&D investment and renewable energy.

The main findings of the analysis in this report and the related policy challenges are as follows:

- Returning to fiscal consolidation in the short term and addressing long-term sustainability are key fiscal challenges.** Although the 2016 general government headline deficit is estimated to have reached its lowest level since 2007, it is set to rebound

⁽¹⁾ This overall assessment does not include an assessment of compliance with the Stability and Growth Pact.

and, without corrective measures, is expected to reach 3 % of GDP by 2018. This would happen in the context of strong GDP growth. Consequently, the structural balance is expected to widen significantly in 2017-2018. Poland faces no major fiscal sustainability risks in the short term. However, risks become more pronounced in the long term due to the unfavourable initial budgetary position and age-related spending, recently aggravated by the decision to significantly lower the statutory retirement age.

- **Despite significant steps taken, there is still scope to improve budget revenue.** Tax compliance, in particular as regards VAT, is markedly below the EU average. Budget revenue could benefit from more efficient tax administration. Many reforms to address some of these issues have recently been put in place. Their impact on the costs of tax compliance and revenue collection remains to be felt. Poland continues to use reduced VAT rates extensively. The government has plans to create mechanisms to improve the efficiency and effectiveness of public spending. The public finance framework lacks an independent fiscal council.
- **The banking sector remains solid, and the capital market is the largest in the region.** Credit institutions support the country's economic performance through balanced loan growth and the capital market is an important source of funding for companies. The impact on bank profitability of the new tax on financial institutions remained contained. Moreover, proposals concerning the mandatory conversion of foreign-currency mortgages, which could affect the stability of the financial sector, have not materialised. In turn, ownership changes have led to the state having an increasing role in the banking sector.
- **Investment seems to be dampened by policy uncertainty and other barriers.** Legal certainty, trust in the quality and predictability of regulatory, tax and other policies and institutions are important factors that could allow an increase in the investment rate. The rule of law and an independent judiciary are also essential in this context. The current

systemic threat to the rule of law creates legal uncertainty. With the government aiming to increase its role in the economy, ensuring the economic viability of investment decisions will be important.

- **Securing robust productivity growth is becoming increasingly challenging.** Efficiency gains are harder to achieve as Poland gradually catches up with the more developed EU Members States. Long-term economic prospects will depend on the country's capacity to move from the production of relatively low-technology goods to more advanced products and services. This will emphasise the importance of inclusive education that provides people with adequate skills and competences, and of improving the quality of higher education and applied scientific research.
- **Despite its strong performance, the labour market faces constraints as regards participation, skills and mobility.** Employment rates have continued to increase, but several recent policy measures may act towards reducing labour force participation going forward. These disincentives are likely to be concentrated on groups that are currently characterised by employment rates lower than the EU average: women, low-skilled people and older people. Labour market segmentation continues to be high with negative effects on productivity and the accumulation of human capital in the longer term. With unemployment at a record low, lifelong learning becomes even more crucial. Geographical and occupational labour mobility is hampered by factors such as housing policies, transport infrastructure, access to childcare, skills mismatches and preferential sector-specific social security arrangements — in particular the highly subsidised pension systems for farmers.
- **The efficiency of the social protection system merits monitoring.** Poverty and income inequality were declining in recent years and the new child benefit is expected to further improve both indicators. However, there are still questions about the social protection system's overall efficiency, incentives for social integration through work, and the

availability of resources to support other important social policy areas, such as long-term care.

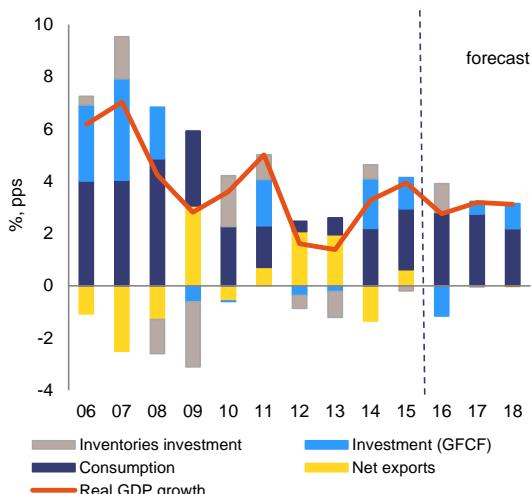
- **Research and innovation are increasingly regarded as engines of long-term growth in Poland, but challenges remain.** The quality of science and innovation' outputs are still far below EU standards. R&D investment has been gradually increasing supported by public financing with a large role of the EU structural funds.
- **Poland has been rapidly improving its infrastructure, but key structural bottlenecks persist.** EU funding has facilitated the fast development of the road network, but the road fatality rate is still among the highest in the EU. The railway sector continues to face challenges and bottlenecks in project implementation. Despite a gradual improvement, the Polish economy remains energy- and carbon-intensive; the power generation infrastructure is ageing, power generation is heavily reliant on coal and may be insufficient to match projected growing electricity demand. Recent policy initiatives may limit the potential for the renewable energy generation. Improving Poland's air quality, currently among the worst in the EU, remains a major challenge.
- **Poland is gradually improving in international 'doing business' rankings, but the regulatory framework weighs on the business environment in some areas.** Frequent changes in regulations often passed with limited public consultations impact on business confidence. The weakness of spatial planning increases administrative burden related to construction permits. The business environment is also affected by shortcomings in the justice system which contribute to lengthy legal proceedings and contract enforcement. In its Strategy for Responsible Development the government has proposed a number of measures to make it easier to do business.

1. ECONOMIC SITUATION AND OUTLOOK

GDP growth

Poland is experiencing strong economic growth. Domestic demand has been the dominant growth driver since 2014. In 2016, following a contraction in investment activity, GDP growth supported by private consumption was 2.8 %, well above the EU average. Private consumption expenditure has benefited from very favourable labour market conditions, a significant increase of social transfers and low lending rates.

Graph 1.1: Contributions to real GDP growth, 2006-2018



Source: Eurostat, European Commission

In 2016, investment activity declined significantly due to a low utilisation of the EU structural funds and increased uncertainty. Investment fell by 5.5 % in 2016, with a particularly strong contraction of public investment (estimated at around -15 %). This was mainly related to the slow start of projects financed by the EU structural funds in the 2014-2020 programming period. Private investment also weakened substantially, especially due to decreased activity by state-owned and state-influenced enterprises. The slowdown of private investment appears to be related to increased uncertainty about the future course of economic policies (e.g. changes to taxation, strategic decisions on energy policy and the role of state-owned enterprises).

The short-term growth outlook remains favourable, with some risks to the downside. GDP growth is projected at 3.2 % in 2017 and

3.1 % in 2018, just above potential. Private consumption is set to rise strongly in 2017, and moderate in 2018 as employment growth decelerates and the temporary effects of new social transfers fade out. Public investment is expected to rebound strongly in 2017 and 2018 on the back of a higher utilisation of EU funds. Private investment is projected to recover gradually, helped by solid domestic demand and an outlook for further export gains. This will also be driven by relatively high capacity utilisation, still solid corporate profits and low interest rates. However, investment decisions are likely to be affected by uncertainty about the future direction of economic policies. The main risks in this scenario are the prolongation of uncertainty, which may start affecting not only business but also household spending decisions, and the very limited fiscal space available to react to possible negative shocks.

Potential growth

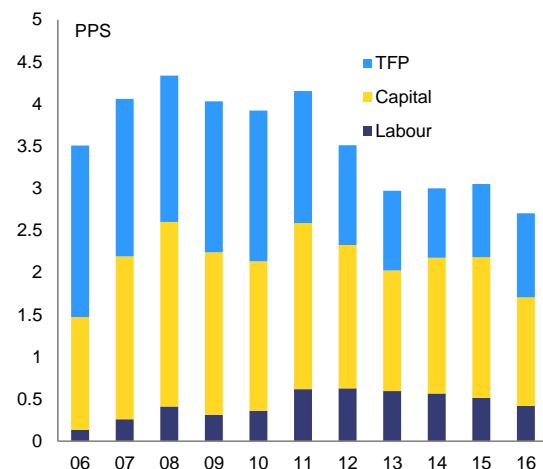
Poland has experienced fast per-capita income convergence with the EU in recent years. GDP per capita in purchasing power standards increased from 53 % of the EU-28 average in 2007 to 69 % in 2015⁽²⁾. Poland (alongside Lithuania and Romania) was thus the country with the fastest catch-up process. Estimated potential growth has stabilised at around 3 % since 2013. Together with stable capital accumulation and solid gains in total factor productivity (despite the slowdown observed since 2012), labour has also contributed positively to potential growth (see Graph 1.2). This was mainly driven by a falling natural unemployment rate and rising labour force participation that more than compensated for a decrease in the working age population.

A decrease in the working age population is expected to limit growth potential in the decades to come. Fewer people aged 15-45 means that even if fertility rates were at the highest level currently observed in the EU (2 instead of 1.32, as in 2014), this would not change the negative outlook for the working age population (see Graph 1.3). With the natural unemployment rate already low, labour force participation is a key factor in at

⁽²⁾ Purchasing power standards is the artificial common reference currency unit that eliminates price level differences between countries.

least partly mitigating the effects of a decreasing working age population. Immigration can be another factor improving the employment outlook.

Graph 1.2: Estimated composition of potential GDP growth, 2006-2016



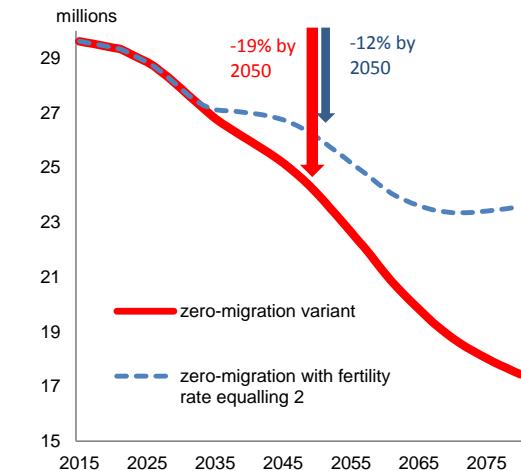
Source: European Commission

The medium- to long-term investment outlook hinges on a number of policy-related factors. Significant contributions from EU funds should help support public investments in coming years, but fiscal space will be needed to maintain public investments after the end of the 2014-2020 programming period for EU funding. A stable development of the banking sector, but also of capital markets, would secure sources of funding and create conditions conducive for household savings increase. Legal certainty, trust in the quality and predictability of regulatory, tax and other policies and institutions are an important factor in the assessment of risks related to investment decisions. All these factors, alongside the macroeconomic outlook and stability, will ultimately determine investment decisions. There are also strong links between investment and the availability of skilled labour and productivity growth (see Section 3.4.).

After several years of fast productivity growth, further increases will be more difficult to achieve. The slowdown in productivity in recent years is a phenomenon observed in many advanced economies. Continued productivity gains depend, *inter alia*, on the inter-sectoral mobility of factors of production, including the reallocation of labour

from low-productive agriculture to other sectors. This emphasises the importance of addressing mobility barriers caused by e.g. very limited skills upgrades and some features of the special pension regime for farmers. Other important factors include improvements in the quality of human and physical capital and business' ability to adopt new technologies and to innovate.

Graph 1.3: Working age (15-74) population, 2015-2080



(1) Zero-migration variant of the Eurostat's 2013 population projection. (2) High fertility scenario assumes fertility rate rising from current levels to reach 2 by 2020 and staying at 2 throughout the projection period.

Source: Eurostat, European Commission

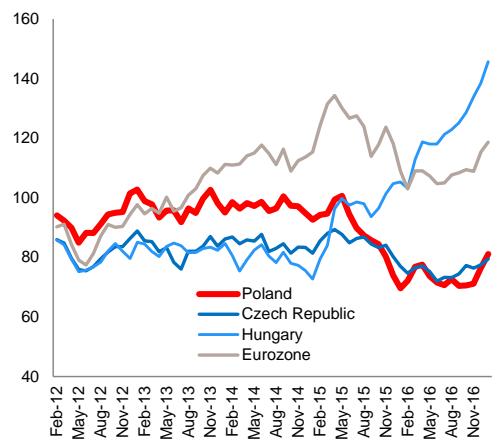
Macroeconomic stability and the implementation of structural reforms are crucial for keeping potential growth high. As reiterated in the 2017 Annual Growth Survey, pursuing structural reforms and ensuring responsible fiscal policies are important elements of economic policy. Whether Poland's economy will be able to continue the catching-up process will depend on the extent to which the sustainability of public finances can be ensured, taking into account expected future costs related to an ageing population and the adequacy of future pensions. This will also depend on maintaining the soundness of the financial sector, ensuring social fairness, including by stronger promotion of labour market participation in the social protection system, and success in implementing a range of other structural reforms. Key reform areas include addressing challenges related to ageing, the adequacy of skills, quality of the public

administration, and functioning of state-owned enterprises (see Section 3 and Box 1.1).

Price developments

The period of consumer price deflation has come to an end, but price pressures are set to remain subdued. The deflation that started in mid-2014 came to an end in late 2016, with inflation standing at 0.9 % in December 2016. Recent price developments were to a significant extent driven by swings in global prices of energy commodities. In 2017 and 2018, consumer prices are expected to pick up only moderately remaining below 2.5 %, which reflects very limited demand pressure, low foreign inflation, and a gradual rise of wages.

Graph 1.4: Selected stock market indices, 2012-2016



(1) Rebased, average 2010 level = 100

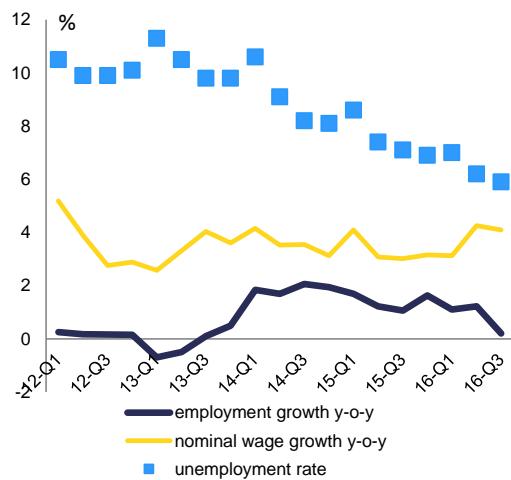
Source: IHS DataInsight

Asset prices remained stable in 2016. House prices have remained broadly flat throughout 2016, with both demand and supply at historically high levels. Mortgage lending increased modestly, with a substantial proportion of transactions financed without the use of bank loans. In 2016, the stock market did not recover from heavy losses in the second half of 2015 (Graph 1.4). The weakness of the Warsaw Stock Exchange was related to a combination of factors, including low commodity prices, uncertainty regarding government influence on listed companies with a substantial share of state ownership (see Box 1.1), uncertainty about future fate of the open pension funds, and on future government regulation of the financial sector, in particular concerning foreign currency mortgages.

Labour market

Labour market conditions continued to improve in 2016. Employment increased by an estimated 0.9 %, which marked the third year of strong job growth (Graph 1.5). Employment rates reached record highs, while still staying below the EU average due to the low labour force participation of certain groups. The unemployment rate continued to decline in 2016, reaching 5.9 % in the third quarter, a record low since comparable data are available. This was accompanied by rather modest nominal wage growth of around 3 % throughout 2015 and into early 2016. From the second quarter of 2016 onwards, wage growth in the whole economy increased to above 4 % in nominal terms. However, since wages have increased broadly in line with productivity over recent years, Poland has experienced only moderate growth in unit labour costs with little effect on cost competitiveness.

Graph 1.5: Employment, wages and unemployment rate, 2012-2016



Source: Eurostat and Central Statistical Office

Several recently introduced or announced measures are expected to limit labour force participation. A lowering of the retirement age, an increase of the school starting age, a new universal child benefit, the abolition of the preschool obligation for five-year-olds and a significant increase of the minimum wage are all expected to limit labour force participation. The relative importance and time horizon of these effects will differ. Work disincentives are expected in particular for groups that already have

employment rates below the EU average. This includes the population aged 55 and over, low-skilled people, and women including those of child-bearing age (see Section 3.3).

Labour market tightening is expected to lead to faster wage increases and the possibility of labour shortages. The combination of a falling working age population, record low unemployment, measures discouraging labour force participation and skill shortages among people who are currently economically inactive leads to projected employment growth decelerating further in 2017 and stagnating in 2018. This is expected to be accompanied by faster wage growth, as employers find it increasingly difficult to fill vacancies with workers who have the necessary skills and competencies. In subsequent years, labour market trends are set to be determined by migration flows, both outward and inward, and the mobility of labour both across sectors and geographically (see Section 3.3). Other important factors are encouraging the employment of older people and equipping people with better skills and competencies, ranging from basic skills in numeracy and literacy to entrepreneurial and digital skills.

Inequality

Inequality has fallen below the EU average, following several years of robust income growth. Income inequality has steadily decreased since the mid-2000s to stand slightly below the EU average in 2015⁽³⁾. This accompanied fast growth of median income and the income of the lowest 10 % income group (1st income decile), even if in real terms median income growth was minimally slower than the growth of GDP per capita. The gap between incomes in the 1st income decile and the median was below the EU average. The upward income mobility for people in the 1st income decile improved substantially in 2015⁽⁴⁾. The improvement in various inequality indicators for

⁽³⁾ As measured by the Gini coefficient of income, as well as by the ratio of income of high earners to low earners (S80/S20). In 2015, the latter ratio equalled 4.9, below the EU average of 5.2. S80/S20 is the ratio of total income received by the 20 % of the population with the highest income to that received by the 20 % of the population with the lowest income.

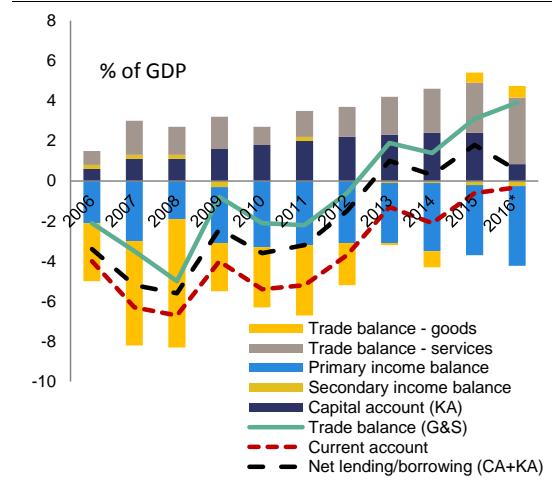
⁽⁴⁾ An upward income mobility is measured by the share of population who were in the 1st income decile but moved upwards over the three year period (up to 2015).

Poland up to 2015 may be linked to the substantial growth of employment and some wage growth in a deflationary environment. Changes in the benefit system (mainly a new child benefit) introduced since 2016 are likely to have further lowered inequality, but relevant data are not yet available (see Section 3.3). Inequality in net wealth⁽⁵⁾ was within the range observed in several other EU countries for which data were collected in 2013-2014 (ECB 2016).

External position

Poland's external position improved with a current account close to balance in 2015 and stable thereafter. This was mainly driven by a gradual increase in the services trade surplus (Graph 1.6). The performance of telecommunications, computer, information and business services has been particularly strong in 2015-2016. Strong merchandise exports and a fall in energy commodity prices translated into a positive balance of trade in goods in 2015.

Graph 1.6: Current account balance by components, 2006-2016



* For the year 2016 - data till Q3-2016

Source: Eurostat

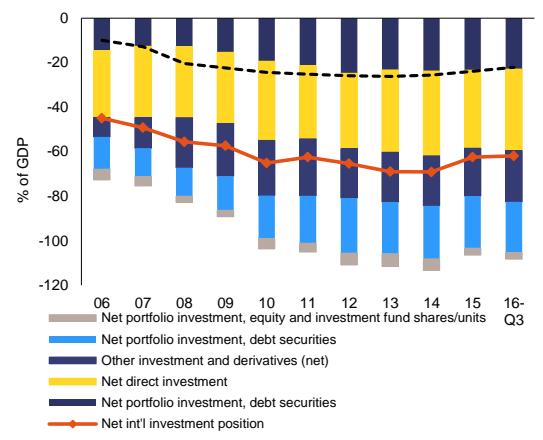
Poland's negative net international investment position (NIIP) narrowed visibly in 2015-2016. The private sector's large contribution decreased during this period. An accumulated stock of foreign direct investments constitutes the major

⁽⁵⁾ Difference between total assets and total liabilities.

part of the NIIP, amounting to close to 36 % of GDP and more than half of the NIIP (Graph 1.7). This limits the potential risks associated with a highly negative position, as rapid and large swings in international capital flows that can destabilise markets are less likely in the case of direct investments. The NIIP is expected to further decline in coming years.

Poland's export market share has continued to rise. Poland's share of world exports increased by close to 40 % between 2005 and 2015, which was one of the fastest improvements in the EU. Cost competitiveness was supported by the contained growth of unit labour costs and the relative stability of the euro-zloty exchange rate, with some weakening in 2015-2016. Export growth gradually decelerated during 2016.

Graph 1.7: Net international investment position by components, 2006-2016

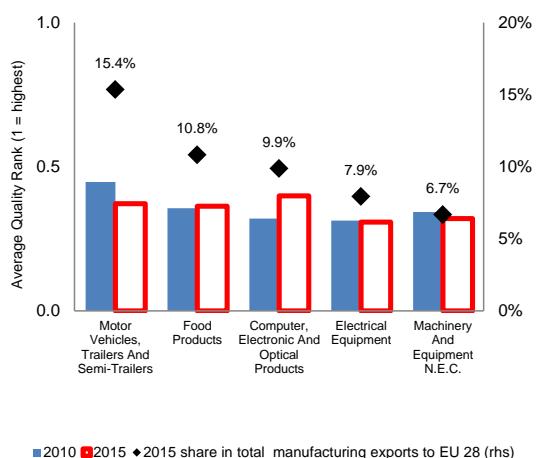


Some sectors are moving towards high-tech, high-quality exports, but overall exports remain concentrated in low- and medium-technology products. Relatively low production costs in Poland due to low labour and other input costs imply that export gains were in general concentrated on low- and medium-technology products. The average quality of Polish exports in the five sectors with the most exports to the EU market was below the average for EU imports (Graph 1.8) ⁽⁶⁾. Nevertheless, there was a gradual move towards higher value added, higher quality products in some sectors, such as

⁽⁶⁾ The quality is proxied by an index estimated using the methodology of Vandenbussche (2014).

computer, electronic and optical products and furniture products. The continuation and intensification of this trend will be an important driving factor for the export outlook, given that the expected acceleration of wage growth is likely to put pressure on cost competitiveness.

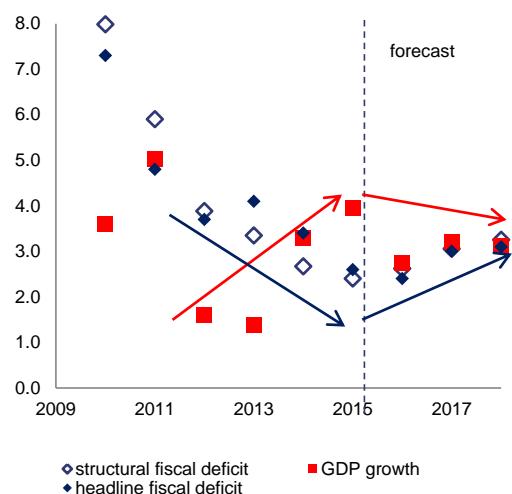
Graph 1.8: Average quality rank in the 5 biggest exporting manufacturing sectors to the EU28, 2010 and 2015



Source: European Commission calculations based on Comext and Orbis databases

Public finances

The gradual growth-friendly fiscal consolidation has come to an end. Between 2012 and 2015, Poland succeeded in significantly reducing its structural fiscal deficit, while at the same time ensuring a rebound and subsequent strengthening of economic growth with a gradually closing output gap. This appears to have come to an end in 2016 and the winter 2017 Commission forecast suggests a strong widening of the structural deficit despite a stabilisation of GDP growth rates close to Poland's potential growth rate (Graph 1.9).

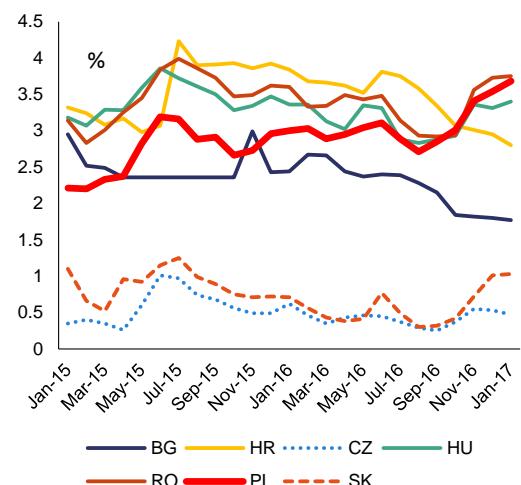
Graph 1.9: GDP growth and fiscal balances (% of GDP)**Source:** AMECO

The pursuit of an expansionary fiscal policy in 2017-2018 comes with certain risks. Poland's headline general government deficit has been gradually decreasing for the last five years, to stand at an estimated 2.3 % of GDP in 2016, its lowest level since 2007. The 2016 decrease resulted mainly from one-off revenue from the sale of mobile internet frequencies (0.5 % of GDP) and a significant drop in public investment expenditure. Looking forward, based on the Commission winter 2017 forecast, the deficit is projected to widen to 2.9 % of GDP in 2017 and 3.0 % of GDP in 2018. This development is expected to be driven mainly by increased social spending (a lowering of the retirement age and a universal child benefit). Simultaneously, the outcome of Poland's continued efforts to further improve tax collection remains uncertain. The current expansionary fiscal stance risks leaving very limited fiscal space to absorb potential negative shocks.

The general government debt-to-GDP ratio continued its upward trend but remains below 60 %. Since a drop to 50.2 % of GDP in 2014, which was mainly due to a one-off transfer of funds from the private pension system⁽⁷⁾, the general government debt level has continued to rise. It reached more than 51 % of GDP in 2015 and according to Commission estimates exceeded 53 % of GDP in 2016. The public debt is expected

⁽⁷⁾ Under ESA 2010 rules this statistically counted as a public debt reducing measure.

to reach around 56 % of GDP in 2018, mainly as a result of the increasing deficits.

Graph 1.10: Yields of 10 year government bonds, 2015-2017

(1) monthly averages

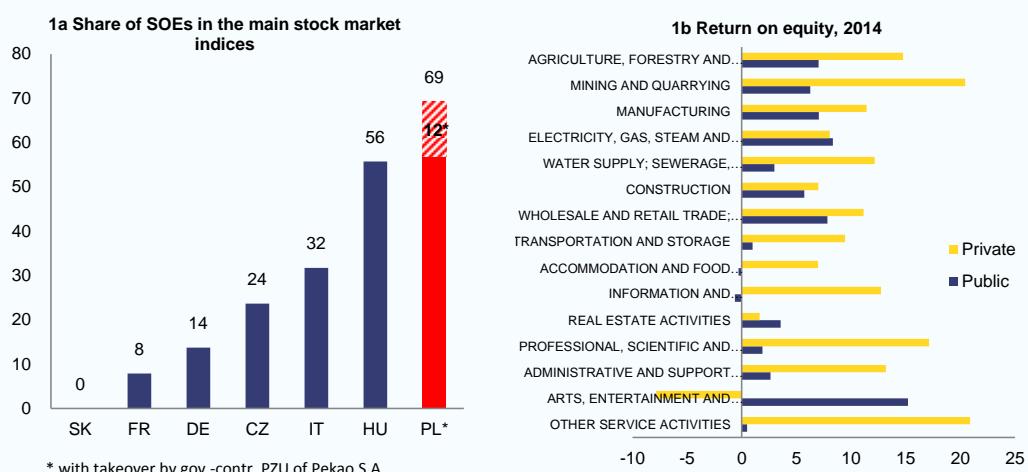
Source: Eurostat

Interest rates on government debt increased relative to other EU countries with negative implications for future debt service costs. Interest rates on Polish debt rose substantially relative to regional peers during the period 2015-2016 (Graph 1.10). In late 2016, interest rates on Polish debt were among the highest in the EU. This appears to be partly driven by internal factors, notably the worsening fiscal outlook.

Box 1.1: State-owned enterprises (SOEs)

SOEs form a large part of the Polish economy, are dominating certain sectors and their role might increase even further. Poland is among the group of EU Member States where SOEs play an important role⁽¹⁾. During its economic transformation Poland underwent extensive privatisation. However, this process slowed down during the 2010s and stalled in 2014. The list of companies of ‘strategic importance’ under Ministry of Treasury special surveillance includes 30 SOEs. In total there are several hundreds of companies in public ownership. SOEs are widespread across sectors and their market value relative to GDP is amongst the highest in the EU. Their share in total employment is sizeable but not outstanding compared to other Member States. 18 SOEs are listed at the Warsaw Stock Exchange (WSE) and have a share of around 57% in the WIG20 index (see Graph 1a). Some of them are among the largest firms not only in Poland but also in Central and Eastern Europe, and are dominant players in sectors such as energy, rail and forestry⁽²⁾. The government intends to increase the role of SOEs even further. In the financial sector, state-controlled institutions have been taking over banks from private investors, increasing the share of government-controlled banks in bank assets from around 16% in 2010 to 36 % after acquiring Pekao S.A. by PZU S.A. in 2016.

Graph 1: The role of SOEs in the Polish economy by main stock market indices and sectoral performance



* with takeover by govt.-contr. PZU of Pekao S.A.

1) Data on return on equity come only from entities which employ more than 49 persons

2) SOE on stock exchanges- companies, in which state has at least 10% share (directly or indirectly); companies which belong to foreign SOE's are not perceived as SOEs

Source: European Commission calculations based of ORBIS database for share of SOE in the main stock market indices; the Ministry of Development for return on equity in private and public sector

While profitable overall, SOEs tend to perform slightly worse compared with their private competitors. Although the scope of possible conclusions is limited by comparability of circumstances, private firms tend to somewhat outperform SOEs (see Graph 1b). Efficiency indicators suggest lower profitability of Polish SOEs relative to their private counterparts, especially in certain sectors such as mining, transport and manufacturing. In the banking and insurance sectors, performance of state-owned and private entities used to be on par e.g. concerning return-on-equity (ROE) and return-on-assets (ROA) as well as regulatory capital ratios and the shares of non-performing loans (NPLs).

⁽¹⁾) SOEs feature prominently in some new Member States such as Poland, Croatia, Romania, Slovenia but also in France, Italy and Sweden, whereas their role is very limited in other MSs such as the Netherlands, Estonia or the UK (European Commission, 2016f).

⁽²⁾) In terms of yearly turnover 17 out of the biggest 25 at the 2015 Wprost list (Wprost, 2015) and 13 out of 25 at the 2014 Forbes list (Forbes, 2014) are SOEs.

(Continued on the next page)

Box (continued)

The quality of SOE governance, which ultimately determines the companies' performance and the scope for fiscal and financial risks, has so far been perceived as relatively good with potential for improvement in some areas. Although mainly driven by the capital market development and a mean of privatisation, the SOEs listing has also contributed to improved performance and governance (e.g. better qualified management teams being able to introduce operational efficiencies, increased disclosure and reporting requirements). Until recently, oversight was organised with a fairly centralised role of the Ministry of Treasury, which issued and improved guidance on corporate governance (management priorities, board composition, etc.). It monitored annual reports, albeit at an aggregate level. However, despite positive governance developments, access to information was perceived as low, the accountability and transparency of non-listed companies lagged behind that of those listed, and the application of guidelines on board member nominations (e.g. professional merits) was questioned in several cases (OECD, 2016a). Stock market analysts give various examples of government policy objectives appearing to have prevailed over the economic interests of SOEs and their non-state shareholders, including pension funds, and hence most of the population. These examples include the introduction of a tax on copper and silver extraction in 2012, an increase in the share capital of one energy company in 2016, and the involvement of the energy sector SOEs in the restructuring of coal mining companies facing economic difficulties in 2015-2016 (Wise-Europa, 2016). The subsequent lessons for market participants include: i) fair competition in sectors with strong SOE presence can be difficult, ii) political interests can prevail over companies' economic interests, and iii) private investment in SOEs is associated with high risk of loss of value with implications for SOEs valuations.

The SOE governance in Poland is to be overhauled from 2017 onwards, which paves the way for the government's intention to increase the role of SOEs in the economy. The January 2017 reform contains two key elements: i) the transfer of final oversight rights from the dissolved Ministry of Treasury to the Prime Minister's Office and ii) the transfer of the supervision of SOEs to sectoral ministries⁽³⁾. The latter does not necessarily follow the OECD guidelines⁽⁴⁾ and comes with the risk of mixing political and economic objectives, potentially weighing on performance. The SOE Council, to be appointed by the Prime Minister, will have a decisive vote on management and supervisory appointments and will issue opinions on governance policies. The law also explicitly puts an end to the privatisation process, assigning to the SOEs certain responsibility for carrying out certain tasks stemming from state's economic policies. In addition, some uncertainty remains regarding the future fate of Open Pension Funds (OFEs) and their assets. In recent years, market participants were concerned with the potential nationalisation of part of OFEs assets, with the state effectively taking over control of several companies. Given the importance of SOEs in the stock market, its recent underperformance compared with other regional indices may reflect market uncertainty about the state's plans concerning ownership policy (Berenberg Bank, 2016). Finally, the reported intention to investigate former privatisation cases has casted doubt on the duration and certainty of government decisions and existing contracts⁽⁵⁾.

⁽³⁾ In the energy sector, the reallocation of the SOE governance from Treasury to the Ministry of Energy already took place in the first half of 2016.

⁽⁴⁾ According to the OECD guidelines on SOE governance, centralisation of ownership rights helps its more consistent implementation, is beneficial for financial reporting, and is an effective way to clearly separate the exercise of the ownership function from other potentially conflicting activities performed by the state, particularly market regulation.

⁽⁵⁾ Examples are PKP Energetyka S.A., Ciech S.A. and KGHM Polska Miedź SA.

Table 1.1: Key economic, financial and social indicators

	2004-2008	2009	2010	2011	2012	2013	2014	2015	forecast	2016	2017	2018
Real GDP (y-o-y)	5.2	2.8	3.6	5.0	1.6	1.4	3.3	3.9	2.8	3.2	3.1	
Private consumption (y-o-y)	5.5	3.6	2.7	3.1	0.7	0.3	2.4	3.2	3.6	3.9	2.9	
Public consumption (y-o-y)	4.0	3.5	3.1	-1.8	-0.3	2.5	4.1	2.3	3.7	2.4	2.5	
Gross fixed capital formation (y-o-y)	11.7	-2.7	0.0	8.8	-1.8	-1.1	10.0	6.1	-5.5	2.7	5.3	
Exports of goods and services (y-o-y)	9.5	-5.9	13.1	7.9	4.6	6.1	6.7	7.7	7.3	6.0	6.4	
Imports of goods and services (y-o-y)	11.6	-12.4	14.3	5.8	-0.3	1.7	10.0	6.6	7.9	6.4	6.9	
Output gap	0.0	1.5	1.2	2.1	0.2	-1.3	-1.1	-0.2	-0.2	0.2	0.4	
Potential growth (y-o-y)	3.7	4.0	3.9	4.2	3.5	3.0	3.0	3.0	2.7	2.8	2.9	
Contribution to GDP growth:												
Domestic demand (y-o-y)	5.9	2.2	2.3	3.4	0.0	0.4	4.1	3.5	1.7	3.2	3.2	
Inventories (y-o-y)	0.3	-2.5	1.9	0.9	-0.5	-1.0	0.5	-0.2	1.1	0.0	0.0	
Net exports (y-o-y)	-1.0	3.1	-0.6	0.7	2.1	1.9	-1.3	0.6	-0.1	0.0	0.0	
Contribution to potential GDP growth:												
Total Labour (hours) (y-o-y)	0.2	0.3	0.4	0.6	0.6	0.6	0.6	0.5	0.4	0.3	0.3	
Capital accumulation (y-o-y)	1.4	1.9	1.8	2.0	1.7	1.4	1.6	1.7	1.3	1.3	1.3	
Total factor productivity (y-o-y)	2.1	1.8	1.8	1.6	1.2	0.9	0.8	0.9	1.0	1.2	1.3	
Current account balance (% of GDP), balance of payments	-5.0	-4.0	-5.4	-5.2	-3.7	-1.3	-2.1	-0.6	.	.	.	
Trade balance (% of GDP), balance of payments	-2.9	-0.8	-2.1	-2.2	-0.6	1.9	1.4	3.1	.	.	.	
Terms of trade of goods and services (y-o-y)	0.9	3.2	-1.5	-1.5	-1.2	1.1	1.9	2.4	1.5	-0.8	-0.1	
Capital account balance (% of GDP)	0.7	1.6	1.8	2.0	2.2	2.3	2.4	2.4	.	.	.	
Net international investment position (% of GDP)	-46.5	-57.3	-65.1	-62.4	-65.3	-68.9	-69.1	-62.5	.	.	.	
Net marketable external debt (% of GDP) (1)	-12.4	-22.3	-24.4	-25.2	-25.9	-26.2	-25.6	-23.9	.	.	.	
Gross marketable external debt (% of GDP) (1)	38.3	47.0	50.8	54.4	54.3	53.3	55.1	54.2	.	.	.	
Export performance vs. advanced countries (% change over 5 years)	68.9	45.8	34.9	25.7	13.6	9.4	13.2	12.07	.	.	.	
Export market share, goods and services (y-o-y)	8.7	0.3	-1.7	-1.4	-2.3	5.8	5.1	2.5	.	.	.	
Net FDI flows (% of GDP)	-3.2	-1.8	-1.8	-2.6	-1.2	-0.8	-2.4	-2.1	.	.	.	
Savings rate of households (net saving as percentage of net disposable income)	1.9	2.8	2.4	-1.1	-1.1	-0.1	-0.5	-1.0	.	.	.	
Private credit flow, consolidated (% of GDP)	8.0	4.4	4.3	6.6	4.9	3.2	4.6	3.4	.	.	.	
Private sector debt, consolidated (% of GDP)	50.5	67.1	69.7	73.9	73.4	75.5	78.1	78.8	.	.	.	
of which household debt, consolidated (% of GDP)	19.9	31.6	34.2	35.1	34.1	35.1	35.6	36.1	.	.	.	
of which non-financial corporate debt, consolidated (% of GDP)	30.7	35.5	35.5	38.8	39.3	40.4	42.5	42.7	.	.	.	
Corporations, net lending (+) or net borrowing (-) (% of GDP)	0.6	5.5	6.0	5.8	6.4	8.1	6.8	8.1	6.9	7.6	7.7	
Corporations, gross operating surplus (% of GDP)	22.0	23.9	24.0	24.6	24.6	25.0	25.3	25.8	25.1	25.1	25.3	
Households, net lending (+) or net borrowing (-) (% of GDP)	-1.4	-0.3	-1.7	-3.7	-4.0	-2.5	-3.1	-3.0	-2.5	-2.7	-2.6	
Deflated house price index (y-o-y)	.	-5.3	-6.1	-4.6	-6.6	-4.8	1.1	2.9	.	.	.	
Residential investment (% of GDP)	3.5	3.4	3.2	3.0	3.2	3.0	3.0	3.1	.	.	.	
GDP deflator (y-o-y)	3.4	3.8	1.7	3.2	2.3	0.3	0.5	0.6	0.7	1.6	2.1	
Harmonised index of consumer prices (HICP, y-o-y)	2.8	4.0	2.6	3.9	3.7	0.8	0.1	-0.7	-0.2	2.0	2.1	
Nominal compensation per employee (y-o-y)	4.1	3.4	8.9	5.3	3.6	1.7	2.2	1.1	3.9	4.7	5.3	
Labour productivity (real, person employed, y-o-y)	2.2	2.4	6.4	4.4	1.5	1.5	1.5	2.4	.	.	.	
Unit labour costs (ULC, whole economy, y-o-y)	1.9	0.9	2.4	0.8	2.0	0.2	0.6	-1.2	2.0	1.8	2.1	
Real unit labour costs (y-o-y)	-1.4	-2.8	0.7	-2.3	-0.3	-0.1	-1.0	-1.8	1.3	0.2	0.0	
Real effective exchange rate (ULC, y-o-y)	5.2	-20.5	9.3	-2.9	-3.2	0.2	0.4	-3.8	-2.7	0.8	0.3	
Real effective exchange rate (HICP, y-o-y)	4.8	-14.7	6.0	-2.2	-2.4	0.2	1.0	-2.1	-3.5	-1.2	.	
Tax rate for a single person earning the average wage (%)	27.6	24.4	24.6	24.6	24.7	23.7	23.8	23.9	.	.	.	
Tax rate for a single person earning 50% of the average wage (%)	25.0*	22.2	22.4	22.5	22.7	20.8	21.0	21.2	.	.	.	
Total Financial sector liabilities, non-consolidated (y-o-y)	16.7	8.7	13.0	4.9	7.6	7.1	0.5	3.7	.	.	.	
Tier 1 ratio (%) (2)	.	12.6	11.5	11.2	12.0	13.4	13.2	14.0	.	.	.	
Return on equity (%) (3)	.	9.1	12.5	13.8	11.7	9.7	8.6	6.4	.	.	.	
Gross non-performing debt (% of total debt instruments and total loans and advances) (4)	.	6.4	6.4	6.0	6.4	6.0	5.4	5.0	.	.	.	
Unemployment rate	13.5	8.1	9.7	9.7	10.1	10.3	9.0	7.5	6.3	5.6	4.7	
Long-term unemployment rate (% of active population)	7.3	2.6	3.0	3.6	4.1	4.4	3.8	3.0	.	.	.	
Youth unemployment rate (% of active population in the same age group)	29.0	20.6	23.7	25.8	26.5	27.3	23.9	20.8	18.2	.	.	
Activity rate (15-64 year-olds)	63.7	64.7	65.3	65.7	66.5	67.0	67.9	68.1	.	.	.	
People at risk of poverty or social exclusion (% total population)	37.4	27.8	27.8	27.2	26.7	25.8	24.7	23.4	.	.	.	
Persons living in households with very low work intensity (% of total population aged below 60)	11.2	6.9	7.3	6.9	6.9	7.2	7.3	6.9	.	.	.	
General government balance (% of GDP)	-3.6	-7.3	-7.3	-4.8	-3.7	-4.1	-3.4	-2.6	-2.3	-2.9	-3.0	
Tax-to-GDP ratio (%)	34.3	32.0	32.3	32.7	32.9	32.8	32.9	33.3	34.0	34.3	34.3	
Structural budget balance (% of GDP)	.	.	-8.0	-5.9	-3.9	-3.3	-2.7	-2.4	-2.6	-3.1	-3.3	
General government gross debt (% of GDP)	45.8	49.4	53.3	54.4	53.7	55.7	50.2	51.1	53.6	54.5	55.8	

(1) Sum of portfolio debt instruments, other investment and reserve assets

(2,3) domestic banking groups and stand-alone banks, foreign (EU and non-EU) controlled subsidiaries and foreign (EU and non-EU) controlled branches.

(*) Indicates BPM5 and/or ESA95

Source: European Commission, ECB

2. PROGRESS WITH COUNTRY-SPECIFIC RECOMMENDATIONS

Progress with implementing the recommendations addressed to Poland in 2016⁽⁸⁾ has to be seen as part of a process which started with the introduction of the European Semester in 2011. Poland corrected its excessive fiscal deficit and the corresponding excessive deficit procedure was closed in 2015. The country also strengthened its fiscal framework by enacting a permanent expenditure rule in 2013. It didn't, however, establish an independent fiscal council. Although efforts were made to tackle the long-term sustainability of public finances with a gradual increase of the statutory retirement age to 67 years (reversed in 2016, see below), only limited action was taken to reform special pension regimes, but not for miners and farmers. No measures were put in place to limit the extensive use of reduced VAT rates.

Poland took action to tackle labour market segmentation. Its measures included an amendment to the Labour Code to reduce flexibility in the take-up of temporary contracts, an increase of social security contributions connected to certain civil law contracts and most recently the introduction of a minimum hourly remuneration for those working under civil law mandate contracts. Poland increased the availability of childcare to foster the labour market participation of women, although recent measures (see Section 3.3) may have the opposite effect. Some steps were taken to address the recommendations related to vocational education and training. The lifelong learning strategy was adopted in September 2013, but subsequently there has been limited progress in increasing participation. Finally, in recent years Poland was successful in liberalising several professional services.

Progress was made on infrastructure. Thanks to massive EU investments over the past decade, Poland has significantly upgraded its transport networks, while progress was more limited in railway projects. Progress was also observed in the development of transmission and distribution networks.

Overall, Poland has made limited progress⁽⁹⁾ in addressing the 2016 CSRs. Except for some progress achieved in improving tax compliance, no progress was made in addressing recommendations related to public finance. Additionally, a new challenge to the long-term sustainability of the pension system due to lowering of the retirement age is in striking contrast to the CSR. At the same time, no progress was made on increased participation in the labour market. What is more, several measures in this area go in the opposite direction. There was limited progress on removing obstacles to investment in infrastructure and on spatial planning coverage.

⁽⁸⁾ For the assessment of other reforms implemented in the past, see in particular section 3.

⁽⁹⁾ Information on the level of progress and actions taken to address the policy advice in each respective subpart of a CSR is presented in the Overview Table in the Annex. This overall assessment does not include an assessment of compliance with the Stability and Growth Pact.

Table 2.1: Assessment of country-specific recommendations for 2016

Table 2.1: Assessment of country-specific recommendations for 2016

Poland	Overall assessment of progress with 2016 CSRs: Limited
CSR 1: Achieve an annual fiscal adjustment of 0.5 % of GDP towards the medium-term budgetary objective in 2016 and in 2017. Strengthen the fiscal framework, including by establishing an independent fiscal council. Improve tax collection by ensuring better VAT compliance, and limit the extensive use of reduced VAT rates.	Limited progress * <ul style="list-style-type: none">• No progress in establishing an independent fiscal council.• Some progress in ensuring better tax compliance and no progress on reduced VAT rates.
CSR 2: Ensure the sustainability and adequacy of the pension system and increase participation in the labour market, by starting to reform the preferential pension arrangements, removing obstacles to more permanent types of employment and improving the labour market-relevance of education and training.	No progress <ul style="list-style-type: none">• No progress in ensuring the sustainability and adequacy of the pension system. Key measures in the legislation process go in the opposite direction.• No progress on increased participation in the labour market. Several measures go in the opposite direction.
CSR 3: Take measures to remove obstacles to investment in transport, construction and energy infrastructure, and increase the coverage of spatial planning at local level.	Limited progress <ul style="list-style-type: none">• Limited progress in removing obstacles to investment in transport, construction and energy infrastructure.• Limited progress in the area of spatial planning at local level.

* This overall assessment of CSR1 does not include an assessment of compliance with the Stability and Growth Pact.

Source: European Commission

Source: European Commission

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

Poland is the largest beneficiary of the European Structural and Investment Funds (ESI Funds) with an allocation of EUR 86.1 billion until 2020. This is equivalent to around 2.7 % of GDP annually (over 2014-2017) and 54% of public investment ⁽¹⁾. Out of the EU financing EUR 3.4 billion is planned to be delivered via financial instruments, which is a three-fold increase compared to the 2007-2013 period. By 31 December 2016, an estimated EUR 18.9 billion, which represents about 22 % of the total allocation for ESI Funds, have already been allocated to concrete projects. The contribution of the ESI Funds to the development of public investment is discussed in Section 3.3.

Financing under the European Fund for Strategic Investments (EFSI), Horizon 2020, the Connecting Europe Facility and other directly managed EU funds is additional to the ESI Funds. By end 2016, Poland has signed agreements for EUR 3.8 billion for projects under the Connecting Europe Facility. The EIB's Group approved financing under EFSI amounts to EUR 1.4 billion (infrastructure and innovation windows), which is expected to trigger nearly EUR 4.9 billion in total investments (as of end 2016). As regards SME financing under EFSI, the European Investment Fund approved 5 agreements with financial intermediaries (e.g banks and funds) in Poland. The financing totals EUR 44 million and is expected to trigger EUR 707 million in investments.

ESI Funds helped progress on a number of structural reforms in 2015 and 2016 via ex-ante conditionalities ⁽²⁾ and targeted investment. Examples include the transposition of the public procurement directive, preparation of the maps of healthcare needs which has laid down the basis for improved efficiency of healthcare investments and the development of the transport plan which has facilitated the development of mature road and railway projects. These reforms have prepared the ground for better implementation of public investment projects in general, including those financed from national sources and from the other EU instruments mentioned above. The fulfilment of ex-ante conditionalities is on track, except in the areas of waste and water. Administrative reforms support is also available through targeted financing under the European Social Fund, advice from the Structural Reform Support Service and, indirectly, through technical assistance.

The relevant CSRs focusing on structural issues were taken into account when designing the 2014-2020 programmes. These included improving the business environment for SMEs via improving investment conditions and easing registering business (see section 3.6), reducing obstacles to railway investment by improving the administrative and technical capacities in the sector, and improving labour market access and promoting social inclusion. The latter is done by enhancing education and training to improve the employability of vulnerable groups. Poland has also received support from the Youth Employment Initiative to combat youth unemployment. To date 79 000 young people have benefited from it and 70 000 young people are in employment, education or training after the support from this initiative has ended. Details on implementation progress in those fields in chapter 3.3.

In addition to challenges identified in the past CSRs, ESI Funds address wider structural obstacles to growth and competitiveness. The funds support infrastructure investments increasing the coverage of fast broadband internet (target of 100 % of households in 2023); they will improve transport accessibility through almost 3 900 km of roads and 2 450 km of railway lines expected to be built, reconstructed or modernised; 36 500 enterprises are foreseen to carry out investments using financial instruments created through ESI Funds. ESI Funds are expected to generate 25 % of investments to reach the 2020 target of R&D expenditure increasing to 1.7 % of GDP, to increase the participation of children aged 3-4 in pre-school education (target of 81 % in 2020) and to increase adult participation in lifelong learning.

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

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

3. REFORM PRIORITIES

3.1. PUBLIC FINANCES AND TAXATION

Tax system

The Polish tax system underwent many changes in 2016. Two new sectoral taxes, on assets of certain financial institutions and on retail sales, were introduced with the aim of increasing budget revenues. The application of the higher VAT rates (previously legislated to expire at end-2016) has been extended for 2017-2018 to limit the fiscal deficit. The tax on assets of certain financial institutions entered into force in February 2016 and is levied on assets of mainly banks and insurance companies whose assets value exceeds a certain threshold. The tax on retail sales was suspended before it was actually levied (see below). Simultaneously, Poland implemented and legislated several changes to the value added tax (VAT) and corporate income tax (CIT). They aimed at reducing tax fraud and at improving tax collection. Additionally, Poland reduced to 15% from 19% CIT rates for the smallest taxpayers and the taxpayers in the first year of their activity. Finally, tax free allowance in personal income tax (PIT) was amended and works to reform PIT and social contributions were launched.

The high number and rapid pace of these changes may lead to increased uncertainty for businesses. Some business stakeholders point to increased uncertainty about the stability and credibility of the Polish tax system, given that changes are often introduced quickly and without broad consultations (see Section 3.6). Data from the National Bank of Poland show that since 2015 in enterprises' assessment, taxes and regulations have advanced from fifth to second place on the list of barriers to their development (NBP, 2015; NBP, 2016a). At the same time, according to the Global Competitiveness Report 2016-17, tax regulations were the most problematic factor for doing business in Poland in 2015 and 2016 (World Economic Forum, 2016). The number of changes introduced to the tax laws (including VAT, CIT, excise duties and others) and the pace of their implementation are the most likely reasons for the increased uncertainty and are ultimately likely to indirectly influence also the propensity to invest. They may also impact on the quality of the corresponding laws and of their effective outcome.

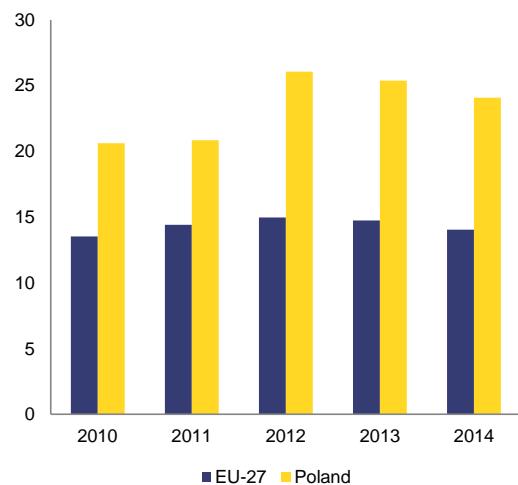
For example, in the case of the retail sales tax, the legislative process from its submission to the parliament to its signing into law by the President lasted 1.5 months. However, the tax featured a progressive rate structure based on turnover with a tax-free threshold and two different brackets and rates. Therefore it might breach the EU competition rules as it favoured companies with low turnover. Consequently, the European Commission opened an in-depth investigation and Poland suspended the tax before it was actually levied.

Foregone revenues resulted from the continued application of reduced VAT rates on an extensive number of goods and services. Reduced VAT rates limit the efficiency of the VAT system and, as pointed out in the 2016 Commission Country Report for Poland, are not an efficient social policy instrument. According to an EU wide study, in Poland 15.9% of potential VAT revenue was foregone in 2014 due to an application of reduced rates (CASE/IAS, 2016). This was the second highest loss in the EU, three times higher than the EU average. Nonetheless, despite the repeated country specific recommendations in this area, at the current stage Poland has announced no intention to change the system of reduced VAT rates.

Fighting tax fraud remains a challenge. The VAT gap results from a combination of many factors that require a systemic response. Part is due to organised criminal activity and part to undeclared revenues, overstatement of VAT invoices, tax optimisation, bankruptcies and errors. There was a very slight decrease of the VAT compliance gap in 2014 compared to 2013. However, the 2014 VAT compliance gap of 24 % of the theoretical VAT liability remained significantly above the EU average of 14 % (Graph 3.1.1). Authorities' own estimations do not suggest a decrease of the VAT gap in 2015. However, the authorities expect a significant decrease of the VAT gap as from 2016, due to the introduction of a number of measures focused on fighting VAT

fraud⁽¹⁰⁾. Poland also faces significant fraud related to excise products. Ernst and Young estimated the size of the shadow economy at 18.6 % of the total use of gas oil in 2013 and 24 % of tobacco consumption in 2015 (EY, 2016). CASE/IAS (2016) assessed that the smuggling of excise goods accounted for 6 % of the VAT gap in 2014.

Graph 3.1.1: VAT gap in Poland and in EU-27



(1) percent of theoretical VAT liability

(2) EU-27 excl. Cyprus, data for Croatia available only for 2014

Source: CASE/IAS (2016)

A number of reforms aimed at tightening the tax system with a view to tackling tax fraud were undertaken in 2016. Amendments to several laws, called the "fuel package", which entered into force in August 2016, changed the rules on VAT chargeability for intra-EU acquisitions of fuels and is supposed to fight tax fraud in the fuel sector. It was accompanied by changes in the energy law regarding fuel licences. It is expected to be complemented by a so-called transit package which has been approved by the government in early 2017. This package would require the registration of excise products transiting through Polish territory. Furthermore, many changes to VAT legislation entered into force as from 1 January 2017. They include a number of tools to tackle VAT fraud, for instance an extension of the reverse charge mechanism, the extension of joint liability, limitation of quarterly VAT returns and

⁽¹⁰⁾ PwC in its recent analysis (PwC, 2016) expects the 2016 VAT gap in Poland to decrease to 2.5% of GDP, as compared to 2.8% of GDP in 2015.

introduction of fines in cases of lowering the payment of VAT. To fight excise duties and VAT fraud, additional reforms are being prepared: a so-called alcohol package focusing on trade in denatured alcohol as well as a so-called tobacco package. Criminal sanctions are expected to be introduced for VAT fraud and the relevant draft law is at final stages of the legislative process. Simultaneously, the implementation in 2016 of a general tax anti-avoidance rule aims at limiting tax avoidance.

Recent reforms may increase tax compliance costs. Poland has made strong efforts to strengthen its legal framework to curb tax evasion and avoidance. However, patterns of tax fraud are constantly changing as fraudsters adapt to new rules, exploit loopholes and move to new sectors. Stricter rules and numerous changes to legislation can disproportionately affect compliant and smaller businesses. This is particularly important in the context where Polish businesses already face high costs of compliance with their tax obligations (World Bank, 2016a). Simplifying and strengthening voluntary compliance, also by means of a more efficient and customer-oriented administration, is an important element to complement actions on tackling tax fraud. In late 2016, the authorities presented a number of proposals under the Strategy for Responsible Development with a number of tax simplification measures and an exemption from social security contributions for new entrepreneurs.

Work is ongoing in the area of tax administration reform to increase flexibility and efficiency. The European Commission assessment highlighted structural weaknesses in the Polish tax administration which limited its efficiency and effectiveness (for instance European Commission, 2016a). To tackle this issue, regulations establishing the National Revenue Administration were passed in late 2016. They will enter into force in March 2017. The objective of the changes is to improve tax collection and simplify tax obligations for taxpayers via consolidation of tax and customs administrations. The law implies a profound change to the functioning of the tax administration and requires careful transition to avoid uncertainty and instability. It is crucial for the modernisation of the Polish tax administration to i) ensure that authorities' actions are coordinated and ii) focus on

fraudsters while facilitating tax compliance for honest taxpayers.

Labour taxation remained broadly unchanged in 2016. The degree of progressivity of labour taxation in Poland is limited (European Commission, 2016b). Poland was considering a major reform of its labour taxation that would have seen an introduction of a single progressive tax combining personal income tax, social contributions and health insurance premium. Ultimately, the government decided not to implement the reform. In parallel, a reform of the tax-free allowance in PIT was voted on in late 2016 and entered into force in 2017. It followed the 2015 judgement of the Constitutional Tribunal. The reform increased the tax-free allowance for the lowest income earners (with annual earnings equivalent to below 50 % of the minimum wage). For the small group of taxpayers with the highest revenue, the allowance was removed.

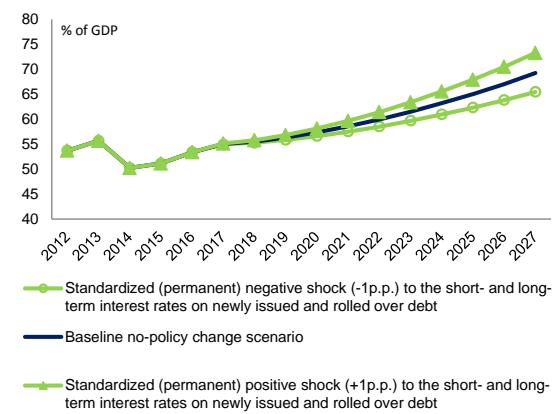
Long-term sustainability

No major risks to fiscal sustainability have been identified in the short term; risks are more pronounced over a longer-term perspective. According to the recent Commission analysis, Poland does not face significant short-term fiscal sustainability risks (European Commission, 2017). However, the debt sustainability analysis in line with the Commission framework indicates high risks over the medium term. This reflects the still increasing debt ratio at the end of the projections under the various scenarios considered (Graph 3.1.2). The S1 sustainability gap indicator points to medium risks, reflecting mainly the unfavourable initial budget position but also age-related expenditure. Long-term fiscal sustainability risks are also identified, according to the Commission framework (the S2 sustainability gap indicator points to medium risks, also driven by the unfavourable initial budgetary position and age-related expenditure⁽¹¹⁾).

The lowering of the statutory retirement age will have a negative impact on the sustainability of public finances. As discussed in the 2016

country report for Poland, the key challenge for improving fiscal sustainability is to contain the projected increases of age-related expenditure. This issue has gained further importance with the recent law to lower the statutory retirement age as from late 2017. This change (lowering the legal retirement age to 60 years for women and 65 years for men from a gradual increase to 67 years for both sexes) will increase age-related expenditure and have negative consequences for the labour market (see Section 3.3). The direct impact of the bill will require additional fiscal means for supporting the pension system equivalent to around 0.4 % – 0.9 % of GDP per year up to 2050. Hence, unless effective measures are taken to encourage people to extend their careers above the statutory retirement age, the recent change will worsen the sustainability of public finances. The law lowering the statutory retirement age did not include any measures going in this direction.

Graph 3.1.2: Medium-term public debt scenarios



(1) The no-policy change scenario assumes that during 2019–2027 the level of the structural primary balance remains at the level forecast for 2018 in the Commission winter 2017 forecast adjusted by the costs of ageing that are taken from European Commission (2015). For more details see European Commission (2017).

Source: European Commission

Fiscal sustainability risks are exacerbated by a projected fall in pension adequacy ratios. The projected pension replacement rate in the long run is very low. The amount of the projected pension in 2050 does not exceed one fourth of a person's last salary (see Section 3.3). Transposing these assumptions into today's framework, suggests that the pension benefit of those earning the average salary (around PLN 4,600 gross in December 2016) would be close to the minimum pension of

⁽¹¹⁾ Based on European Commission projections which do not take into account the lowering of the statutory retirement age entering into force in 2017 (European Commission, 2015).

PLN 1,000. Simultaneously, according to the latest official data (GUS, 2016), 66 % of employees earned salaries lower or equal to the national average⁽¹²⁾. This suggests that the government may have to support the pension system for about half of beneficiaries in order to avoid their pension benefits falling below the minimum level. This would result in additional fiscal costs. Moreover, it cannot be ruled out that such a low replacement rate may be perceived as unsustainable – requiring either the statutory retirement age to be increased sharply or the pension system to be supported by significant additional fiscal means.

No material changes were made to special pension regimes in 2016. The special pension regime for farmers (KRUS) continues to benefit compared to the general pension regime (ZUS). This not only constitutes a fiscal burden (currently, the KRUS subsidy amounts to around 1 % of GDP), but may also hamper labour mobility (see Section 3.3). Similarly, Poland has not yet tackled the issue of the special pension regime for miners.

Fiscal framework

Numerical fiscal rules are robust, while the medium-term planning plays a limited role. Fiscal rules (debt and expenditure rules for almost the entire general government as well as individual spending limits for local governments) are the strongest part of the fiscal framework in Poland. One of the fiscal rules – limiting government debt to 60 % of GDP – is embedded in the Constitution which ensures its stability⁽¹³⁾. The rule is supplemented by so called prudential thresholds specified in the Public Finance Act, defining specific actions to be undertaken when the public debt exceeds the thresholds of 55 % of GDP and 60 % of GDP. There exists also a medium-term budgetary framework (called the Multiannual State Financial Plan, MSFP). However its effectiveness as an instrument for long-term planning is limited, for example the budget for a given year can include a deficit higher than the one specified in the most recent MSFP.

⁽¹²⁾ Data covering companies with more than nine employees, with microenterprises generally paying lower salaries.

⁽¹³⁾ National definition, lower by around 3pps than ESA definition.

The credibility of fiscal rules has been affected by their frequent past changes. The most recent modification of the expenditure rule (December 2015) adjusted the expenditure ceiling to the medium-term inflation target of the central bank and allowed for increased expenditure in the event of one-off and temporary revenue measures. These changes significantly raised the expenditure ceiling given current inflation levels. This created additional space for higher expenditure in the 2016 budget, as also underlined by the National Bank of Poland (NBP, 2016b).

The Polish fiscal framework lacks a fully-fledged, independent fiscal council. Currently Poland remains the only EU country⁽¹⁴⁾ that has not adopted a legal basis establishing a dedicated fiscal council or assigned such a role to an existing body. Some of the typical tasks of fiscal councils are being carried out by various institutions, but they are scattered and some are not covered. As a result, amendments to the fiscal framework or fiscal implications of important policy measures go largely unnoticed even though they have significant consequences for public finances⁽¹⁵⁾.

In 2016, Poland announced plans to strengthen its budgetary process. These plans aim at improving medium-term budgetary planning by reforming the medium-term budgetary framework, more closely linking annual budgeting to medium-term planning, redefining the role of the government and ministries, reforming the budget classification of expenditure and incorporating spending reviews in the budgetary process. Given the current situation in which an effective and efficient management and reallocation of funds poses challenges, the reform has a potential to substantially improve public finance management. In particular, it may allow a better control of the budget, including an earlier identification of inefficient spending and facilitating the reallocation of funds.

⁽¹⁴⁾ In the Czech Republic the parliament works on the relevant legislation.

⁽¹⁵⁾ This is even more important in the context of the limited parliamentary and public debate on the key fiscal measures, as illustrated by the process of adopting the 2017 budget law and the law lowering the statutory retirement age.

3.2. FINANCIAL SECTOR

The banking sector remains stable, liquid and profitable. Over the past 18 months, system wide capital continued to rise. The regulatory Core Equity Tier 1 capital – a ratio that shows banks' readiness to face shocks – reached 15.8 % at the end of the first half of 2016, up by over 2 percentage points from end-2014. The loan-to-deposit ratio of Polish banks continued to decline and stood at 98.5 % at the end of June 2016 (3.2.1). Polish banks are funded mostly through domestic deposits and benefit from a balanced funding mix of retail and corporate deposits, which made up over 58 % of the balance sheet total. Longer-term wholesale funding reliance through senior and subordinated bonds is low, at about 5 % of the banks' aggregated balance sheet. The profitability of the sector declined in 2015 but broadly stabilised thereafter. Looking forward, challenges to profitability include low interest rates environment, the possible revision of the bank tax and a proposal to deal with foreign currency mortgages (currently under discussion).

The new tax on financial institutions has not affected sector stability. The asset tax on financial institutions was introduced in February 2016 and is one of the highest bank sector levies in Europe. To date, the tax is calculated on the basis of an end-month value of taxable assets, which, in the case of banks, excludes own funds and Polish sovereign bond holdings. Although receipts from the tax are not meeting budgeted revenue, the feared economic and financial stability effects of the levy are so far limited. Nevertheless, at the turn of 2015 and 2016 banks have substantially increased their holdings of Polish sovereign bonds, a by-product of the bank levy. As a result, local lenders have overtaken foreign investors as the biggest holders of PLN denominated bonds, for the first time since 2010.

The ongoing discussion on foreign currency mortgages is nearing a conclusion. Foreign currency mortgages do not generate systemic risks for the banking sector in Poland. At system level, these loans represent about 8 % of the aggregated balance sheet and account for less than 40 % of the mortgage loan book. However, some banks still have a sizeable mortgage loan book denominated in foreign currency, which has dual consequences. On the one hand, some banks are exposed to valuation and compensation losses should their loan book be converted into the domestic currency,

either through legislation or court judgement. On the other hand, a sizeable foreign currency-denominated position forces lenders to rely either on a foreign parent bank, foreign currency bonds or the derivative market for funding. The absence of foreign currency deposit funding is apparent from the loan-to-deposit ratio in foreign currency, which reached a level of 250 % at the end of June 2016, more than twice the same ratio for the domestic currency.

Table 3.2.1: Financial soundness indicators, all banks in Poland

(%)	2014	2015	2016Q2
Non-performing loans	5.4	5.0	5.0
Coverage ratio	64.1	61.6	62.0
Loan to deposit ratio	98.3	97.2	96.8
Tier 1 ratio	13.7	14.5	15.1
Return on equity	9.4	7.7	-
Return on assets	1.0	0.9	-

Source: ECB

Ownership changes see an increasing role of the State in the shareholding of domestic banks. As in all four Visegrad countries, the development of the Polish economy over the past two decades was based on attracting foreign direct investment (FDI) to support economic growth and the development of various industries. Foreign investors brought capital, increased access to funds and financial intermediation in an economy that is still catching up with the core EU economies. In Poland, the ratio of foreign-owned banks amounted to about 65 % between 1998 and 2008. After the outbreak of the crisis in 2008, this share gradually decreased and reached 49 % in 2016, taking into account the acquisition of Pekao SA shares by PZU SA. On the one hand, this trend is a natural result of the growing importance of domestic enterprises increasingly able to compete on international markets. On the other hand, the government has signalled its readiness to purchase foreign-owned credit institutions. As a result a growing proportion of lenders is controlled by the Polish State. With the acquisition of Pekao SA by PZU SA, the share of direct and indirect state-controlled banks has increased to 36 % of the sector's total assets. In addition, the two largest banks will be under direct or indirect state control. It remains to be seen how the state ownership will influence the sector (see Box 1.1 in Section 1).

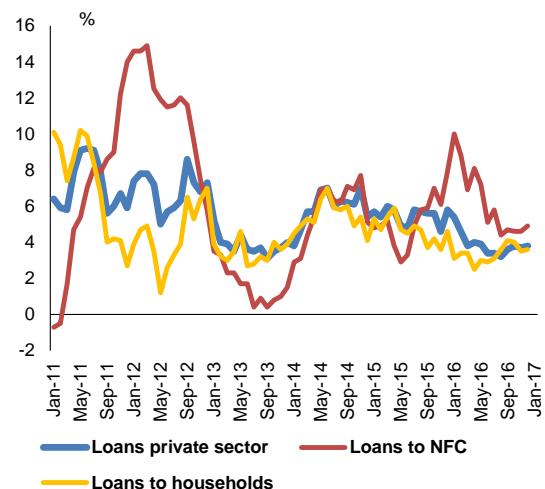
Credit institutions support the country's economic performance through balanced loan

growth. The pace of loan growth to the private sector has been broadly in line with nominal GDP growth. The increase in loans to non-financial corporations has decelerated during 2016 possibly reflecting investment slowdown (see Graph 3.2.1 and Section 1). The ratio of non-financial corporation loans to GDP remained stable at about 51 %. Many firms finance working capital needs and smaller operations either through own funds or the use of some alternative means of funding business (intercompany loans, leasing, factoring).

Poland's capital market is the largest and most developed in central Europe. Total market capitalisation amounts to EUR 150 billion, about a quarter of Poland's GDP. The Warsaw Stock Exchange has become a hub for foreign institutional investors targeting equity investments in the region. In addition to the equity market, Poland has a special wholesale market dedicated to the trading of treasury bills and bonds – Treasury BondSpot Poland. This treasury market is an integral part of the Primary Dealers System organised by the Finance Ministry and part of the pan-European bond platform. All wholesale treasury bonds and bills denominated in PLN and some securities denominated in EUR are traded on the Treasury BondSpot market, while most non-government bonds, now worth about EUR 18 billion, are traded on Catalyst, a Warsaw Stock Exchange managed platform.

The capital market is an important source of funding for Polish companies. Companies raise slightly more funds on the stock market (17 % of GDP) than they receive from bank loans (16 % of GDP). The role of corporate bond issuance is also relatively high compared to other countries in the region, with the total value of outstanding bonds corresponding to 5 % of GDP. Yet, Polish non-financial corporations are in general less leveraged than all companies on average in the EU. Also, the venture capital market is lagging behind, with total investment of this type reaching only one fifth of the EU average level. Besides financial market funding, the annual gross operating surplus of Polish firms (26 % of GDP) is higher than on average in the EU, suggesting that companies have the capacity to finance investment from retained profits.

Graph 3.2.1: Annual credit growth rates



(1) Index of notional stocks, only transactions are taken into account, the results of revaluations, reclassifications are excluded

Source: ECB

Poland is a large insurance market in the region. With over EUR 13 billion in underwritten premiums and close to EUR 1.3 billion in profits the Polish insurance sector represents nearly 40 % of the Central and Eastern European market. The top five insurers represent about 58 % of the life insurance market, dominated by the publically-owned PZU Zycie SA. The concentration ratio of the top five insurers in the non-life segment is slightly higher at 70 %, with PZU SA occupying 34 % of the market. Competition in the market is high and profitability levels are forecast to be low in 2016-2017. The sector performed well in the recent stress test carried by the European Insurance and Occupational Pensions Authority and remains stable and profitable.

Bank supervision and macro-supervision may be merged. Over the crisis years Poland's financial supervision proved to be prudent and forward looking, ensuring a stable banking sector (see above). Discussions continue on some form of merging financial supervision with the NBP. The reasons given for this are synergies between the micro-supervision of banks and macro-supervision of the banking sector. A continuous, efficient and independent supervision function is key, also in light of the ongoing restructuring process in the financial sector.

3.3. LABOUR MARKET, EDUCATION AND SOCIAL POLICIES

Labour market

Labour market conditions have improved significantly but labour force participation remains low for some groups. Following a substantial and steady improvement over the last decade the employment rate stood at 69.7 % in Q3-2016 (for the 20-64 age group) slightly below the EU average of 71.5 %. The gap is mainly due to the significantly lower participation rates of specific groups (see Section 1). As outlined in the previous country report for Poland, the lower labour market participation of older workers is linked to low skills and educational attainment levels (European Commission, 2016a). The employment rate of disabled people has hardly changed in recent years, further widening the gap with the gradually increasing employment rate of people without disabilities. Barriers to geographic mobility also reduce employment and activity.

A gender gap in employment is related to early retirement, limited access to care facilities, and disincentives in the tax and benefit systems. Female participation and employment rates continued to rise in 2015 and 2016, and for the 55-64 age group both increased faster than they did for men. Still, the gender employment gap widened and, at 14.5 pps. for the 15-74 age group in Q3-2016, was 3.5 pps. above the EU average. This was driven by women's longer participation in formal education and earlier retirement. However, the gender gap also widened and was particularly high in the 25-29 age group, a situation that is likely to be linked to young mothers' prolonged periods of labour market withdrawal. The low participation of women and notably mothers may be related to insufficient use of childcare (see education subsection) and a fully transferable parental leave, which encourages women, as second earners, to stay out of the labour market. Another important factor is the design of financial support for families that provide long-term care to family members; in practice, it discourages the taking up of any paid employment.

Migration plays an increasingly important role in the Polish labour market. Following significant emigration, especially in the years after EU accession, the number of Polish citizens residing temporarily abroad remains high (estimated at around 2.4 million at the end of 2015

(¹⁶)). There is little evidence of emigrants returning in significant numbers. At the same time, temporary immigration, mostly from Ukraine, and to a lesser extent from Belarus and other countries, is an increasingly important phenomenon (¹⁷).

The special pension regime for farmers has had an impact on labour mobility and undeclared work. The special social insurance system for farmers (KRUS) is among the reasons for low labour mobility and hidden unemployment in agriculture. Some KRUS design features, e.g. the conditions of transitioning from KRUS to the general pension system, discourages farmers working on low-productivity farms to take up registered employment in other sectors. Average old-age and disability benefits from KRUS are close to the poverty threshold and often constitute the main source of income, especially for single beneficiaries. This limits the anti-poverty function of KRUS and explains the geographical concentration of at-risk-of-poverty households in rural areas. At the same time, no durable systemic solutions are in place to exclude high-income farmers from the scheme (European Commission, 2016a).

Several recent measures may further reduce labour force participation. Lowering the statutory retirement age in late 2017 is expected to lead to some older workers withdrawing from the labour force. The new child benefit may have a negative effect on the labour market participation of parents, mostly women. This applies particularly to the low-skilled because of two factors: first, the means-testing applicable to the benefit for the first child may make some households choose to reduce working hours to lower their labour income and, second, the increase in household income may tilt some parents' preference for leisure time. Microsimulation modelling results suggest the incentives to work can decrease the strongest for parents of two or more children and single

(¹⁶) An indicative measure: the number of people who retained their registration in Poland but reside abroad for more than 3 months.

(¹⁷) The majority of immigrants work on the basis of the so-called simplified procedure, which requires them to return to their country of origin after 6 months, making the exact assessment of the number difficult. Indirectly, the number of issued visas could be used as an indicator. In 2015, 925 000 visas type D with working permit were issued, while 2016 saw another sharp increase in this number.

mothers (¹⁸). Surveys on intentions to work also confirm the risk of inactivity (Work Service, 2016). The government's *ex-ante* impact assessment of the programme did not address this. From September 2016 the obligation for five-year-olds to attend preschool was removed. This could induce some parents to stay at home with their children for one more year; in particular in families with low incomes (see also European Commission, 2016a).

A significant increase of the minimum wage may reduce in-work poverty and have a small negative effect on employment. The minimum wage increased by 8 % in nominal terms in January 2017, up to PLN 2000 per month. For recent graduates taking up their first job, the increase was as high as 35 %. The minimum wage rise was higher than what was originally proposed by social partners. The ratio of minimum to average wage is now at around 47-48 % and some 10-15 % of employees earn close to the minimum wage. Its increase may have a small negative effect on employment for vulnerable groups and could trigger shifts to non-standard labour contracts (Kaminska and Lewandowski, 2015). On the other hand, it could contribute to poverty reduction, in particular in-work poverty.

Job creation in 2015-2016 was driven by hiring on permanent contracts, but the proportion of temporary employment remains high. At 27.3 % in the third quarter of 2016 (for the age group 15-64) Poland continues to have a very high proportion of fixed-term employment (¹⁹). This is particularly true for young people aged 15-24. A significant proportion of all temporary workers have civil law contracts, rather than usual labour code contracts. As highlighted in the previous country reports for Poland, high levels of labour market segmentation can hamper productivity and human capital accumulation (see European Commission, 2016a). However, since early 2015 permanent employment has been rising strongly.

(¹⁸) Tax-benefit microsimulations conducted by the European Commission Joint Research Centre using the Euromod model. See also Myck (2016).

(¹⁹) The temporary employment category covers a broad range of agreements, from fixed-term regular labour code contracts, to various civil law contracts, to informal work without a written contract.

Measures have been taken to reduce segmentation, but the use of open-ended contracts remains discouraged. Obstacles to wider use of permanent contracts include in particular high implicit costs associated with lengthy and uncertain dispute resolution mechanisms, the special protection against dismissal for certain categories of workers (²⁰), the heavy reinstatement obligations in case of unfair dismissal and the lack of differentiation in protection against dismissal in large and small firms. Two codification committees, which include representatives of the government, experts and social partners, were set up to prepare new draft individual and collective labour codes by early 2018(²¹).

Some features limit the overall high flexibility of the labour market. Non-EU nationals can be employed on a temporary basis with very limited formalities. The ease of arranging atypical work contracts, i.e. other than open-ended contracts based on the labour code, also contributes to flexibility. On average, Poland also appears to have not very strict employment protection legislation (Box 2.2.1 in European Commission, 2016a). However, the use of part-time employment arrangements is limited (only 6.9 % of all employed in 2016-Q3, one-third of the EU average). This limited flexibility in terms of working time arrangements may be particularly problematic for older workers or people with care obligations (often women).

Education

Educational performance has remained strong over recent years. Poland is one of the best EU performers on reducing the number of early school leavers at 5.3 % in 2015, compared to the EU average of 11 %. Overall performance in basic skills remains strong in comparison to other EU countries (OECD, 2016b). Following a substantial improvement in average results of the Programme for International Student Assessment (PISA) between 2000 and 2002 and then again between

(²⁰) Including older workers with less than four years until retirement age, but also e.g. workers during their absence (leave or sick leave, pregnancy and maternity/paternity leave), trade union activists and other particular categories.

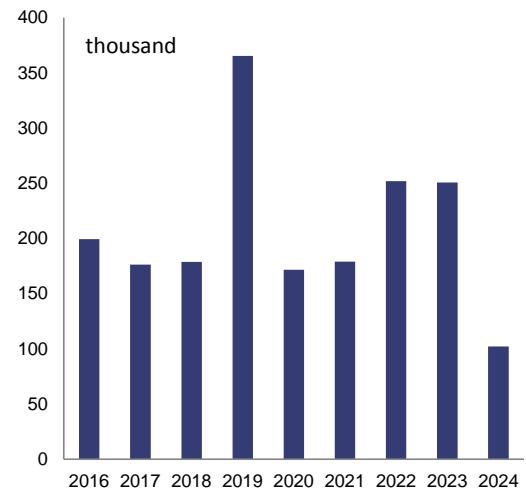
(²¹) In addition, the Social Dialogue Council has been operating since October 2015 and can create an opportunity for social partners to play a bigger role in shaping the labour code.

2009 and 2012, in 2015 the performance of Poland in PISA worsened somewhat in all fields, and especially in science. However, the country still scored above both the EU and OECD averages in all areas tested. The impact of socioeconomic status on performance was rather limited and has continued to fall since 2006 (OECD, 2016b).

The school system overhaul from September 2017 onwards raises a number of concerns among stakeholders. The key change phases out lower secondary schools, practically returning to the pre-1999 structure. This policy change has raised concerns among many stakeholders, including teachers, local governments, and educational researchers. Two main risks have been indicated. First, earlier tracking into either the general or the vocational stream could negatively affect the basic literacy and numeracy skills of the most disadvantaged students (IBE, 2014). Evidence suggests that extending common general education in 1999 played a role in improving the performance of the weakest students in the PISA survey between 2000 and 2012 (Sitek, 2016; Jakubowski et al. 2016). Second, significant changes in the organisation of the schools are likely to have disruptive and long-lasting effects on the organisation of education provision. In particular, a strong variation in the size of school cohorts is projected, especially at the upper secondary level (Graph 3.3.1). There is also a risk of suboptimal use of certain past investments in lower-secondary schools. Changing the school system does not appear to address the underlying weaknesses of Poland's education system and its rationale does not seem to be based on recommendations stemming from existing research and comprehensive evaluation.

Participation in early childhood education and care has increased but challenges remain in quality and inequalities of access. Since 2008, the number of pre-schools has increased by around 40 %. At present, all four- and five-year-olds are entitled to a preschool place and from September 2017 this right will also be extended to three-year-olds. Abolishing the preschool obligation for five-year-olds may weaken the educational chances of children from socially disadvantaged backgrounds. Formal childcare enrolment for children under the age of three remained among the lowest in the EU.

Graph 3.3.1: Projected size of student cohort starting the 1st grade of general upper secondary schools



(1) Simulations based on the assumption that the share of students choosing this type of school (liceum) remains at the average level observed during the period 2015-2016.

Source: European Commission's calculations based on Education Information System (SIO) data

The government has launched consultations on the higher education reform to improve quality and labour market relevance. The tertiary education attainment rate has increased rapidly over the last 15 years. In 2015, it stood at 43 % in the 30-34 age group, above the EU average of 39 %. A new algorithm for financing higher education institutions will be implemented from the academic year 2017/2018, with an aim to strengthen the incentives for teaching quality. Wide-ranging consultations on the planned broader reforms have started including with academics and researchers (see Section 3.5). The new law on higher education is expected to enter into force in the 2018/2019 academic year.

The average level of older adults' basic skills is low, hampering their employability. In the OECD Survey of Adult Skills (PIAAC), scores testing the numeracy of Polish adults were on average lower than for their OECD peers (OECD 2016c). In terms of basic digital skills, Poland ranks only 26th among EU-28 Member States, though slightly better for advanced digital skills (European Commission, 2016c). Various employers' surveys indicate increasing difficulty to fill in vacancies (e.g. Manpower, 2016; NBP, 2016a). Migration also affects skill distribution in the labour force, given that Polish emigrants are on

average better educated than the rest of the population. At the same time, many immigrants to Poland work below their qualifications.

Adults rarely engage in job relevant learning and every third adult does not see the need for further education or training. In 2015, only 3.5 % of those aged 25-64 reported participation in education and training in a month before the survey, down from 4 % in 2014. The percentage of adults (aged 25-59/64) who in 2014 reported having learned to improve their competences in the previous 12 months was at 31 %, only minimally increased from 2012 (PARP, 2016). Participation is lowest among people who could benefit the most, i.e. those with basic levels of education, those aged over 50 and those who are inactive. The results of the recent initiatives such as the National Qualifications Register and the Database of Development Services remain to be seen.

The labour market relevance of vocational education is still limited. Vocational education and training (VET) often does not provide students with basic skills and key competencies. The OECD PIAAC survey revealed that graduates of basic vocational schools have insufficient literacy and numeracy skills. At the same time, the results for technical secondary schools are considerably better than for basic vocational schools. Employment rates of recent vocational school graduates were still slightly below the EU average in 2015. Local governments are often unsuccessful in putting in place strategies linking VET with sectors of strategic importance for regional development (Brandt, 2016). The organisation of vocational schools will change as part of the overhaul of the school system in September 2017. The potential of this change to address shortcomings of the VET system remains unknown.

Poverty and social assistance

Poverty is declining fast but making work pay remains a challenge in Poland. The rate of people at risk of poverty or social exclusion has decreased significantly in recent years. At 23.4 % in 2015 it was slightly below the EU average of 23.7 %. At the same time in-work poverty for those above 18 stayed at 11.2 % in 2015 (1.7 pps. above the EU average). This is true mostly for self-employed people and in the agriculture sector. Among employees, the incidence of in-work

poverty is concentrated on those with fixed-term employment contracts.

Social benefits provide little incentives to take up work. The social protection system, due to its limited resources, used to have little impact on poverty reduction (European Commission, 2016a). It also did not sufficiently promote social integration through take-up of economic activity, although the extension of child tax credits in 2015 and the tapered withdrawal of family benefits from January 2016 ('zloty for the zloty' rule) improved the situation to some extent. Still, the system provides few incentives to take up work, especially for second earners (Kurowska et al, 2015).

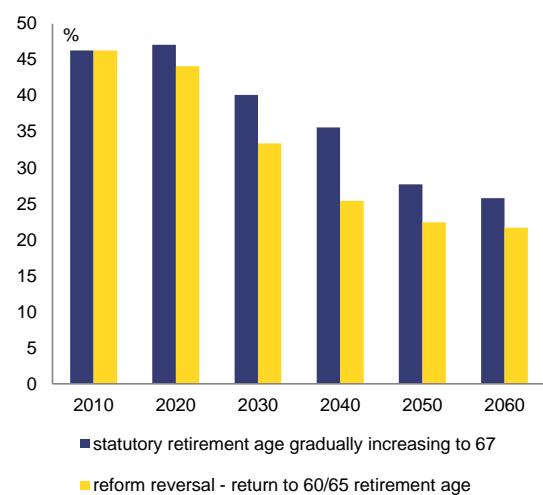
The universal child benefit programme is expected to reduce poverty and inequality but raises questions in terms of cost-effectiveness. It is estimated that the benefit could reduce inequality as measured by the Gini coefficient by 0.02 and the at-risk-of-poverty rate by 5.2 percentage points. In particular, the reform is expected to considerably reduce poverty among households with three or more children and among single parents (²²). The cost of the programme is substantial, at around 1.2 % of GDP in 2017. Its size and limited means-testing leads to overlaps with other social benefits offsetting limited work incentives built into these programmes, and raises questions of cost-effectiveness. The government has announced an impact assessment of the programme in 2017.

Pensions currently provide an adequate protection against poverty, but the change in statutory retirement age will further cut future benefit levels. The relationship between pensions and average wages was projected to fall steeply even if the statutory retirement age was increased to 67 years (Graph 3.3.2). The legislated reversal of the retirement age increase will further erode future pensions. Women would be most affected if they choose to retire close to the new retirement age of 60, which seems likely in light of international evidence. For women retiring from 2040 onwards, the statutory retirement age will be reduced by seven years compared to the current situation. This will have major implications on

(²²) The analysis is based on the tax-benefit microsimulations conducted by the European Commission Joint Research Centre using the Euromod model.

pension levels given that retiring just two years below 67 is projected to result in pensions that are lower by around 10 %⁽²³⁾. A significant proportion of women would then receive only a minimum pension that - depending on its indexation over the years - is likely to fall below the poverty threshold. The government announced also plan to introduce auto-enrolment into occupational pension schemes.

Graph 3.3.2: Projected pension replacement rates – the impact of lowering of the retirement age



(1) The replacement rate is a ratio between a first pension of those retiring and an economy-wide average wage at the retirement age.

Source: Based on AWG (2013).

The system of long-term care has a number of weaknesses. Long-term care is predominantly provided by family members who receive limited institutional support and who are effectively discouraged from reconciling employment and care responsibilities. Formal care provision is very low, reaching only 4.6 % of the dependent population for home care and 3.4 % for residential care. At 0.8 % of GDP, funding for formal care is half the EU average (1.6 %). There is no efficient integration between healthcare and social care systems with regard to long-term care. With an old-age dependency ratio expected to double from 22 % in 2015 to 45 % in 2045, long-care needs are bound to increase substantially and securing sufficient institutional support will be a challenge.

⁽²³⁾ Calculations based on scenarios developed in European Commission and Social Protection Committee (2015).

Healthcare

Health outcomes stand below the EU average with a potential impact on labour market participation and poverty. Life expectancy for men and women and healthy life years for men are below the EU average while infant mortality and both amenable and preventable mortality are above the EU average. Poland faces challenges to further improving the cost-effectiveness of healthcare spending. These challenges include strengthening primary care, further development of co-ordinated care, curbing the excessive use of specialist care, improving cost-efficiency within the over-supplied hospital care, improving governance including by developing health-technology assessment for medical equipment, and developing more comprehensive public health policies (European Commission/Economic Policy Committee, 2016).

Access to healthcare services remains an issue. The system is characterised by low public spending and few medical staff. In 2015, 7.8 % of the population self-reported unmet healthcare needs due to cost and distance, compared to the EU average of 3.6 %. The authorities are trying to improve access, for example by fast-track waiting lists for cancer patients introduced in 2015⁽²⁴⁾. Staff shortages are particularly perceptible in some regions and for some specialisations, hence regional and sub-sectoral differences in care availability are significant. The Ministry of Health intends to increase public health expenditure up to 6 % of GDP by 2025.

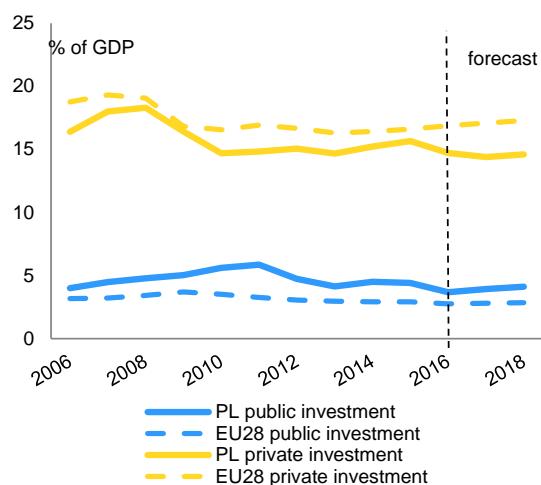
Efforts are being made to tackle some existing challenges. The Ministry of Health has started a mapping exercise of healthcare needs with an aim to improve the efficiency of resource allocation. Other plans such as the liquidation of the National Health Fund, if implemented, could facilitate governance but could lead to conflicts of interest between different roles (regulator, payer and provider) fulfilled by the same institution. It remains to be seen whether changes in hospital financing rules do not slow down the process of hospital restructuring, impeding the needed consolidation of the sector.

⁽²⁴⁾ Diagnostics and treatment within specified times is now guaranteed, with no financing limits. Healthcare providers, who ensure the timeliness and comprehensiveness of healthcare services, face no financing ceilings.

3.4. INVESTMENT

In 2016, the investment-to-GDP ratio fell below the EU average. This was driven by a significant contraction of public investment activity (see Section 1). However, private investment-to-GDP ratio also declined in 2016, widening the gap to the EU average. The outlook for only a gradual investment recovery (see Section 1) implies a projected widening of this gap (Graph 3.4.1).

Graph 3.4.1: Public and private investment, 2006-2018

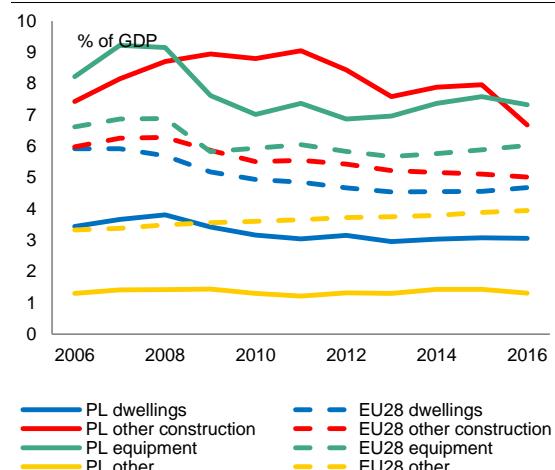


Source: European Commission

Several factors can explain the relatively low private investment-to-GDP ratio. In terms of the composition of investment expenditure, Poland differs markedly from the EU average (Graph 3.4.2). Housing investment is significantly lower than the EU average, possibly reflecting different preferences concerning current consumption versus housing investment and existing barriers to the development of the private rental market. In addition, as compared with other EU countries, low labour costs encourage a predominantly labour-intensive development model for the business sector, limiting investment. However, this factor seems to be more than compensated by the still low capital stock in Poland compared with the EU average, which encourages investment. Equipment investment is well above the EU average reflecting the high share of industry in gross value added and on-going technological catching-up. Investment in intangible assets (software, intellectual property rights and R&D) is particularly low in comparison to the EU average and to some other Member States that are in the catching-up process (Graph 3.4.3). A recent fall in

private investment activity appears to be related to increased uncertainty (see Section 1), but this factor could be transitory. Finally, there are several structural barriers to investment (see Box 3.4.1).

Graph 3.4.2: Investment by components as a % of GDP, 2006-2016



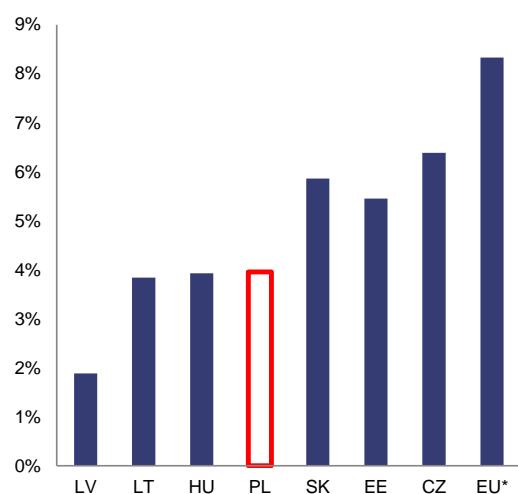
Source: European Commission

Key determinants of future investment are identified in the government's responsible development strategy. The government has outlined its objective to raise the investment rate to above 25 % of GDP by 2030, yet its sources remain to be determined. The key enabling factors include improving the investment climate, also for foreign investors, a stable macroeconomic and regulatory environment, high-quality corporate governance, including in state-owned enterprises. The government also explicitly acknowledges the important role of the capital market. However, as highlighted in various parts of this report Poland faces significant challenges in many of these areas and some policy measures taken in 2016 may worsen the investment climate. These include the threat to the rule of law (see Section 3.6), instability of the regulatory environment, e.g. for the renewable energy sector (see Section 3.5), risks from fiscal sustainability and the governance of SOEs (see Section 1).

Local governments play an important role in public investment and their capacity matters for effectiveness and efficiency of spending. Around half of gross fixed capital formation by the public sector is undertaken by local

governments⁽²⁵⁾ and investment expenditure stood at around 20 % of their total expenditure in the five years preceding 2016. In terms of share of GDP, Polish local governments manage much higher funds than the EU average (Graph 3.4.4). They carry out large, infrastructure projects, which requires relevant coordination, processing and oversight. Hence, local governments' administrative, operational and management capacity largely determines efficiency and value added by investment projects.

Graph 3.4.3: Gross investment in intangible assets as a % share of total investment (2013-2015 average)

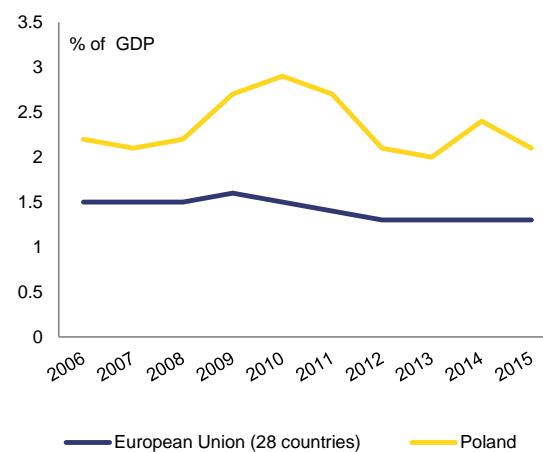


(1) EU* is a simple average for 21 countries for which data are available. For some countries a shorter period is taken for calculations

Source: European Commission calculations

much more private investment and focus on smart specialisation strategies. This change of approach is expected to strengthen impact on productivity growth and innovation in the economy. It is expected that support will reach nearly one third of Polish SMEs (excluding micro-firms), cumulatively responsible for the creation of one third of added-value and jobs in the Polish economy. Poland started inducing further investment through a complementary use of the ESIF and the European Fund for Strategic Investments (EFSI). The capacity of authorities, in particular at regional level, to identify more value-added projects and to embrace higher risks will be important for this to maximise possible positive effects. Generally, the administrative capacity of managers handling infrastructure projects will be critical to their successful implementation.

Graph 3.4.4: Local government investment



Source: European Commission (Eurostat)

Structural funds strongly affect overall investment performance. Poland has fully used the available funding for 2007-2013. At EUR 68 billion, EU transfers to Poland were among the largest in Europe as a share of GDP (22 % of 2007 GDP). These funds significantly accelerated the convergence processes by stimulating domestic demand, boosting technological absorption and improving connectivity. It is estimated that, in 2015, investment supported by Cohesion Policy have increased the GDP level by around 4.3 % compared to the counterfactual scenario of the absence of the funding (Altus Consortium, 2016).

The 2014-2020 European Structural and Investment Funds (ESIF) envisage mobilising

The preparations for launching projects in the 2014-20 programming period are progressing quickly. By the end of January 2017 the value of contracts signed amounted to EUR 18.8 billion (EU share) representing about 22 % of the total ESIF allocation for Poland. Poland's Action Plan for increasing effectiveness of EU funds envisages higher volumes of certification in the coming years. This creates the basis for future growth of investment (see Section 1).

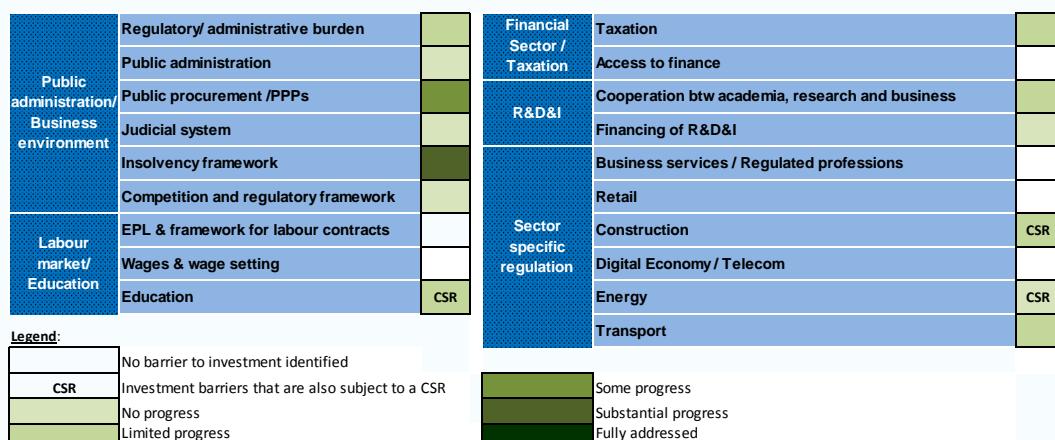
⁽²⁵⁾ In recent years, this ratio fluctuated between 45 % and 52 %.

Box 3.4.1: Investment challenges and reforms in Poland

Macroeconomic perspective

The length of investment cycles in Poland appears to have shortened in recent years. After falling in 2012-2013, investment activity rebounded strongly in 2014-2015 before falling again in 2016. These swings were driven by a combination of factors, including changing overall macroeconomic conditions and outlook, a changing perception of uncertainty and risks, and peaks and troughs of using EU structural funds. A recovery in investment is expected from 2017 onwards, but its pace remains uncertain. Public investment is expected to rebound more strongly as the calendar of the EU funds programming perspective puts pressure on Poland to accelerate spending. In contrast, the rebound of private investment will hinge on the development of expectations concerning macroeconomic stability and the policy and regulatory environment. For more information on the investment trends in Poland, please see Section 3.4.

Assessment of barriers to investment and ongoing reforms



In addition to macroeconomic conditions, Poland's investment climate is also affected by a number of barriers in various policy areas. Some reforms were adopted in the areas of regulated professions, public e-services for companies and skills mismatch. However, some barriers remain and reform measures to address them are still to be taken. These are:

1. Inefficiencies and low stability in the regulatory environment. These include changes in the field of taxation (e.g. fast-track introduction of sectoral taxes, on-going discussions on and implementation of measures related to VAT, corporate and personal income taxes), lack of an updated, long-term strategy for the energy sector, and regulatory changes (legal amendments significantly changing the conditions for the renewable energy sector) or lack of spatial development plans in many areas. Some of these obstacles may be addressed by ongoing legislative work (see Sections 3.5 and 3.6).
2. Deficiencies in the quality of existing infrastructure, such as railway, roads and energy networks diminish potential investment gains. The last few years witnessed a rapid improvement in the quality of roads, and to a lesser extent also railways, but bottlenecks in the implementation of investment projects persist. The strong support of EU funds, however, offers an opportunity to speed up the development of infrastructure to match investment needs (see Section 3.5).
3. Weak links between academia and the business sector and the quality of science are crucial barriers to e.g. the development of in-house R&D activities and for investment in knowledge-intensive areas. The government has launched a revision of the legislative R&D framework (see Section 3.5).

3.5. SECTORAL POLICIES

R&D and innovation

Poland's research and innovation performance has marginally improved over the last decade. R&D intensity increased from 0.6 % of GDP in 2007 to 1 % of GDP in 2015, which is still below half of the EU average. The government is committed to reaching the EU2020 national R&D intensity target by 2020 (1.7 % of GDP). Poland's performance in all dimensions of the European Innovation Scoreboard remains below the EU average (EIS, 2016). R&D investment in Poland currently relies predominantly on public financing, with important support provided by the European Structural and Investment Funds (ESIF).

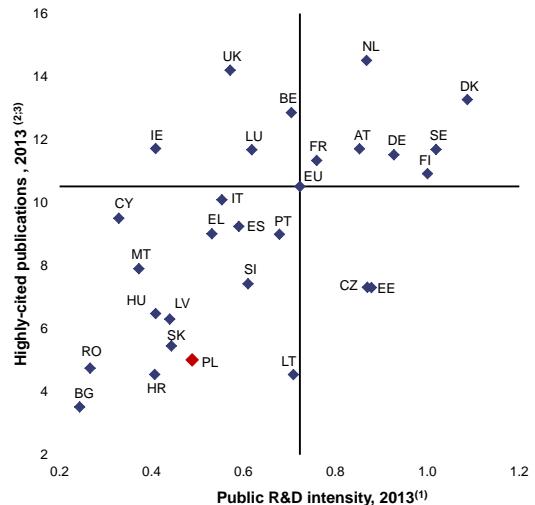
Boosting innovation in the business sector remains a key challenge for Poland. Despite recent increases, business enterprise expenditure on R&D (BERD) remains one of the lowest in the EU, although non-R&D expenditures significantly exceed the EU average. R&D outlays of foreign firms accounted for a large part of the rise in the overall BERD in Poland. BERD dynamics in recent years does not match the increases in availability of public co-funding, as distributed by NCBiR.⁽²⁶⁾ The 2016 'White Paper on Innovation' sets out legislative and organisational proposals to improve the business environment for innovation (MNiSW, 2016). Two new laws on innovation will be entering into force in 2017 and 2018. As from 2016, companies benefit from new R&D tax incentives. Although it is too early to assess the uptake of these incentives, their availability and size have been already extended in 2017, when the first Act on Innovativeness entered into force (see Box 3.6.1 on Selected highlights).

A limited commercialisation of research results and weak science-business links limit the innovative capacity of the economy. Recent counts of joint patent applications and co-publications are insignificant, as is the number of enterprises declaring cooperation with scientific organisations. The share of R&D expenditures in higher education and research institutions funded by business enterprises is also subdued (EIS 2016). Poland is catching up in numbers of business enterprise researchers. Work is on-going to

⁽²⁶⁾ Given the recognised issue of the BERD underreporting, the data do not allow for full analysis of the public R&D support effectiveness; for more details see: Klincewicz et al. (forthcoming).

introduce a new legal framework to better adapt academia to market needs (see Section 3.3. on education).

Graph 3.5.1: Highly-cited publications vs public R&D intensity



(1) Values of public R&D intensity for Ireland and Sweden are estimated or provisional;

(2) Scientific publications within the 10 % most cited scientific publications worldwide as % of total scientific publications of the country;

(3) Fractional counting method;

Source: European Commission (European Innovation Survey)

Despite measures taken, strengthening the quality of science and its internationalisation remains a key challenge. The quality of scientific activities in Poland is still far below EU standards. With only 5.0 % of Polish scientific publications among the 10 % most-cited worldwide Poland ranks 24th in the EU (Graph 3.5.1). Only two Polish universities were included in the 2016 Academic Ranking of World Universities (and both were in the last five hundred). Poland ranks 26th and 27th in the EU in terms of the number of PhD graduates and non-EU PhD students, respectively. Recent initiatives (e.g. Pact for Horizon 2020) are to support the internationalisation by e.g. moving the evaluation focus from the quantity to the quality of publications. Moreover, The Strategy for Science and Higher Education comprises three key pillars of reforms, focusing on higher education and science system ('Law 2.0'), science's links with business and its societal impact. The first elements of the reforms came into force in October 2016. Reform of the Higher Education Sector is being

prepared with the Horizon 2020 Policy Support Facility⁽²⁷⁾.

Although R&D is increasingly regarded as an engine of long-term economic growth, the effective design and implementation of policies remains challenging. The government has launched a comprehensive revision of the whole strategic and legislative R&D framework, as presented in the Responsible Development Plan. The Plan identifies the economy's limited capacity to innovate as one of five major growth barriers in Poland and includes a number of measures to overcome barriers to innovation. It proposes a stronger thematic focus of R&D investment by prioritising national and regional smart specialisations. The delivery of this complex revision of the whole R&D framework, will be challenging in terms of avoiding discrepancies between policy concepts and their implementation⁽²⁸⁾ and limiting overlaps between numerous support measures.

Infrastructure and network industries

The road network continues to develop with the strong support of EU investments. In 2015-2016, 115.8 km of new or modernised motorways and expressways were built. The EU funds allocation for Polish roads in 2014-2020 is EUR 15 billion. Moving further from public funding towards new financial schemes remains challenging. Mobilising additional private financing would enable Poland to concentrate public funding on the parts of the network that are key to ensuring territorial cohesion and cross-border connections.

Poland's road fatality rate remains well above the EU average and is of a particular concern for vulnerable users in urban areas. Currently, with 77 deaths per million inhabitants against 51.5 on average in the EU as a whole, addressing road fatalities is a pressing challenge in Poland. At municipal level, the high rate of road accidents and fatalities is accompanied by increasing congestion, which is due to the development of individual motorised transport. The preference for such transport also generates negative safety loopbacks;

transport in cities is characterised by a very high share of vulnerable users like pedestrians and cyclists among all fatal victims of road accidents. In 2015, pedestrians and cyclists accounted for 42 % of all people killed in road accidents, both in and outside cities, much above of the EU average of 29 %.

Despite the significant availability of EU funds, the railway sector continues to face major bottlenecks in project implementation. Significant agglomeration railway lines are still awaiting modernisation to allow more passenger traffic. Rail freight remains uncompetitive, with a daily average speed as slow as 27 km/h, and main modernisation projects are being further delayed. Infrastructure (track access) charges remain relatively high and cover the entirety of the rail network, while only a fraction of road network is subject to them. Cumbersome legal, financial and administrative procedures linked with bottlenecks within the railway infrastructure manager (PKP PLK S.A.) still persist and lead to project delays and insufficient investment.

Structural challenges in the rail sector remain. Compared to the road sector, problems with national co-funding for EU railway projects seem to remain systemic. Equally, the effectiveness of the railway infrastructure manager remains subdued despite numerous restructuring attempts. All this contributes to a very slow progress on using the 2014-2020 EU funds in the railway sector, with key contracts still to be concluded. In light of these deficiencies, the timely spending of earmarked budget and avoiding investment bottlenecks at the end of the programming period might be challenging. In addition, ensuring the long-term effects of the current investment is uncertain due to a lack of clarity if the long-awaited multi-annual railway infrastructure maintenance programme is introduced.

Energy

Poland is among the most energy-intensive EU economies, but improvements in energy efficiency have also been among the fastest. Strong economic growth over the last decade implied that, despite reduction of primary energy intensity, Poland was among few Member States that did not reduce their final energy consumption since 2005. The energy intensity remains high in

⁽²⁷⁾ Policy Support Facility website, <https://rio.jrc.ec.europa.eu/en/policy-support-facility>

⁽²⁸⁾ For example the recent amendments in the Act on Research Institutes withdraws, among others, the requirement of open procedures for the directors' post.

all final energy consumption sectors. Potential for significant energy efficiency gains exists in residential buildings (some 70 % of houses are poorly insulated) as well as in the transport sector, with Poland having one of the oldest passenger cars fleets in Europe.

Polish power generation is heavily coal-reliant, ageing, and risks being insufficient to match the projected growth of electricity demand. Still, around 60 % of the installed fossil fuels capacity is older than 30 years implying significant investment for modernisation and extension of the power infrastructure in coming years. Around, 80 % of power generation is still coal-fired. The use of domestic coal has benefits for the security of supply but ensuring economic sustainability remains challenging. Poland is currently restructuring its mining sector but a number of mines may prove to be unprofitable in the context of low global coal prices. Several Polish generators have plans for new coal-fired generation units (up to over 3GW of capacity). In the long term, this may expose the sector to volatility of allowances prices under the EU Emissions Trading System (ETS). An update of the long-term vision for the Polish energy system is missing.

Achievement of the binding national 2020 target for renewable energy is at risk. According to government plans, 4 GW of additional capacity (as compared to 2014 data) are to be installed in the electricity sector by 2020⁽²⁹⁾. The remaining investment demands legal certainty and a stable investment framework. In 2016, framework conditions have, however, worsened as a result of a long delayed revision of the Renewable Energy Law introducing first auctions for new capacity and a new law on investment in on-shore wind. The latter creates prohibitive conditions for establishing new wind farms, new burdensome and costly administrative requirements for existing installations, and a high degree of legal uncertainty concerning several new provisions (notably taxation). Consequently, the law entails significant losses for generators engaging in new projects and the banks underwriting them.

⁽²⁹⁾ 2015 update of the Polish National Renewable Energy Action Plan. In 2010-2014, 2.7 GW wind capacity was installed, but this dynamic development has now come to a halt.

Securing energy interconnectivity remains crucial. Following the launch of the LNG terminal, Poland has significantly improved its security of gas supply. The country also developed its national gas transmission and distribution network. However, work on gas interconnectors of regional importance has not advanced according to the timetable⁽³⁰⁾. For the electricity sector, in 2016 the interconnection level was 4 % — the lowest in the EU, exposing Poland to a risk of supply shortages. The LitPolink electricity connection with Lithuania became operational in 2016 and improved the situation, but reaching the goal of 10 % of production capacity by 2020 seems challenging. The current national arrangements for congestion management and bidding zone definition in central Europe do not necessarily reflect actual congestion accurately. This is leading to increasing limitations on cross-border flows of electricity and there is no joint regional solution agreed by all affected neighbouring countries.

Polish energy markets are becoming more competitive, although progress is uneven. In recent years, the Polish electricity wholesale market has become increasingly competitive, but the gas wholesale market remains relatively closed. Wholesale electricity prices are slightly higher than in most neighbouring central European countries. In 2015, wholesale gas prices were comparable to those of neighbouring central European countries, but higher than in Germany and Austria. On the retail markets, Poland continues to regulate electricity and gas prices for households and gas prices for companies. The gas retail market is dominated by the incumbent company. On the retail electricity market, the supply is dominated by regional power suppliers with low competition pressures between and within the regions.

Climate and environmental issues

Poland is well on track to deliver on the target for greenhouse gas (GHG) emissions in sectors outside the Emissions Trading System. In 2014, Poland's non-ETS emissions increased by 2 % compared to 2005 and the country already

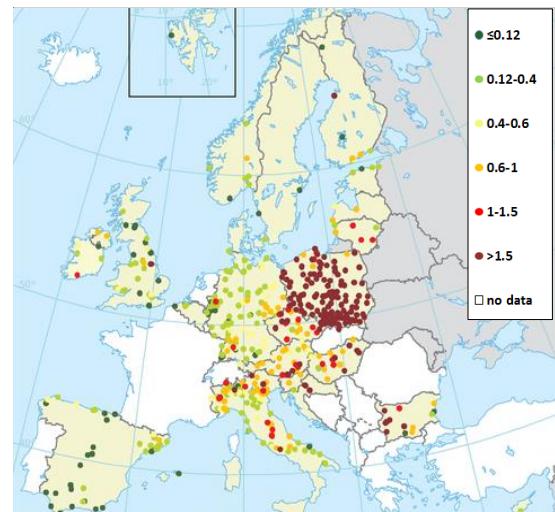
⁽³⁰⁾ Notably the gas interconnector Poland – Lithuania (GIPL) and the gas interconnectors Poland – Czechia (Stork II) that are critical for the establishment of the North-South gas corridor, are delayed.

performed better than the interim target for 2014 (+10 %). According to national projections, Poland will reach its 2020 target by a wide margin, achieving only a 6.5 % increase against a +14 % target. Transport emissions in Poland still remain a source of major concern, as emissions and energy consumption from transport have increased in recent years.

Poland does not yet use environmental taxes to stimulate a more efficient energy usage and a reduction of GHG emissions. The implicit tax rate on energy and fuels remains comparatively low in Poland. There is a number of tax exemptions (e.g. agriculture and energy-intensive industries) and environmental taxes are not automatically indexed. Vehicles' taxation in Poland is not linked to environmental performance (CO₂ emissions).

Air quality continues to be a major concern, with air quality standards among the lowest in the EU-28. Poland has not yet taken sufficient measures to limit the emission of pollutants from its main sources, which include heating of individual houses by obsolete boilers and low-quality coal. In 2014, the EU air quality standards were often severely breached by pollutants mostly emitted via the combustion of solid fuels, including, e.g. emissions of particulate matter and benzo[a]pirene limits (Graph 3.5.2). The recent evidence confirms a further deterioration, with an increasing number of premature deaths per year associated with bad air quality in Poland (EEA, 2016).

Graph 3.5.2: Annual average concentrations of benzo[a]pirene (BaP) in 2014 in ng/m³



Source: European Environment Agency

Waste management has improved, although the separate waste collection system for all municipalities is not yet launched. In 2014, at 16 % the incineration rate almost doubled in comparison with the previous year. Also the recycling rate increased to 21 % (from 16 % in 2013) though still remains well below the EU average of 28 %. The recently adopted Ministry for Environment regulation setting out common requirements for the collection of five waste streams (paper, glass, metal, plastic and biowaste) for all municipalities is expected to significantly improve the quality of recyclables and their economic value.

Box 3.5.1: Selected highlights in Poland

In the years 2012- 2014, the country-specific recommendations for Poland recommended increasing the intensity of private research and development (R&D) expenditures via the introduction of R&D tax incentives. The Polish government addressed this challenge in a series of legislative measures. As from January 2016 a new system of R&D tax incentives operates in Poland which has increased the deduction rates for labour cost and other R&D costs. As of 1 January 2017, a further significant change to the design of R&D tax credits was made, which increased their availability and size, (according to the first Act on Innovativeness), expanded the deduction period, proposed new eligible cost categories and proposed additional incentives for start-ups like cash refunds for start-ups conducting R&D activities. Currently, a second innovation law is being prepared on the basis of the White Paper of innovation (published in September 2016). This was developed by representatives of science, business and public administration, in view of proposing more attractive tax incentives as from 1 January 2018. To date, the more R&D-friendly tax regulations have been already been appreciated by the business sector and are expected to trigger proportional increases in BERD.

3.6. PUBLIC ADMINISTRATION

Regulatory business environment

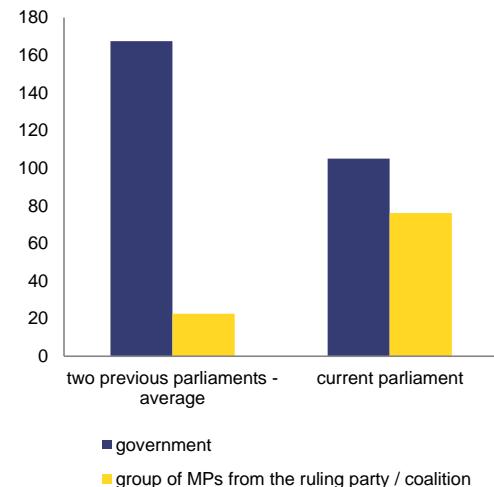
The ease of doing business in Poland has been gradually improving. The country ranked 24th in the 2017 World Bank ‘Doing Business’ report, an improvement of one position compared to 2016. This is mainly due to the introduction of the new insolvency law, faster procedures for property registration, and amendments to the construction law. Poland fell in the 2017 World Bank report rankings on setting-up firms (from 84th to 107th place) and protection of minority shareholders rights (World Bank, 2016a). The government has plans to further simplify certain business procedures with a range of proposals put forward within the Strategy for Responsible Development.

The quality of the regulatory framework continues to be a weak element in the otherwise generally favourable business environment. This positive environment has been supporting strong economic growth over the last years. International rankings, such as the Global Entrepreneurship Index identify key strengths including export performance, human capital development, delivering innovative products and the size of the capital market (Global Entrepreneurship Development Institute, 2016). In contrast, the quality of various regulations and institutions brings Poland’s ranking down. For instance, the top five most problematic factors for doing business as identified in the Global Competitiveness Report are all regulatory in nature (World Economic Forum, 2016).

Uncertainty related to the regulatory environment is increasingly weighing on business confidence. In 2016, policy instability became the third most problematic factor for doing business, from a previous ranking of 10th (World Economic Forum, 2016). Business confidence may be affected by the limited public consultation on several new laws. In contrast to the situation in the two previous terms of Parliament, since November 2015 almost half of all laws passed were formally initiated by parliamentarians from the ruling party and not the government and hence were not subject to the typical consultation process (Graph 3.6.1). In addition, changes to the government’s rules of procedure, introduced in June 2016, reduced the requirements concerning preparations for an initial outline of new legislation and regulatory tests. This

in fact limits the extent of consultation on legal changes initiated by the government.

Graph 3.6.1: Legislative practice: number of laws passed in the first year of subsequent governments by the promoter of the draft



(1) data for the first year since formation of the government in subsequent parliaments

Source: Obywatelskie Forum Legislacji - Fundacja Batorego (2017).

Multiple business inspections add to the administrative burden for businesses. The mandates of numerous non-tax inspection services are not always clearly delineated, which may lead to an unnecessary number of controls. For example, Polish food retailers, caterers and restaurants are inspected more often than in some other EU countries for which data are available⁽³¹⁾. A relatively weak point of the inspection system is the limited availability of guidance on how to comply with the existing regulations, which particularly impacts small- and medium-sized enterprises (SMEs).

Weaknesses in spatial planning increase administrative burden related to the need for construction permits. Land-use plans cover limited part of Poland’s territory and are often of low quality. In areas without them, construction permits are granted on the basis of one-off administrative decisions on land development conditions. The extensive use of these acts,

⁽³¹⁾ In 2014/2015 the inspections ratio (number of inspections/number of firms) in Poland amounted to 0.82, compared to 0.45 in the Netherlands and 0.64 in the UK. The differences may be partly explained by differences in market structures (World Bank, 2016b).

combined with limitations on local authorities' capacity to handle the necessary procedures within regulatory deadlines, creates uncertainty and financial burden for investors obliged to document their land rights (NIK, 2016). Poland recently initiated a reform of its spatial planning legislation. The draft construction code, currently under revision, entails fundamental changes aimed at consolidating spatial planning processes and easing the burden for investors. While this reform offers the chance for significant improvement, its benefits depend on the code's final details. Furthermore, the implementation may take several years due to the complexity of revising some 120 legal acts and introducing transitional rules.

There continues to be a systemic threat to the rule of law in Poland and the Polish justice system suffers from lengthy proceedings and contract enforcement. The recent events in Poland have led the European Commission to adopt two Rule of Law Recommendations in order to ensure that Poland's Constitutional Tribunal is able to fully carry out its responsibilities under the Constitution. This ongoing crisis undermines trust in the Polish legal system. In addition, the length of proceedings remains a challenge. In first instance courts, the average length of civil litigation proceedings is 10 months, while commercial cases take over 13 months. The clearance rate of civil cases is below 93 %, while the EU average is over 103 % (MS, 2016) (³²). The time needed to deal with insolvency cases is among the highest in the EU — Poland ranks 32nd in a worldwide comparison, with insolvency proceedings taking up to 36 months on average. The length of contract enforcement also remains a challenge, with 685 days needed to enforce a contract.

Despite recent progress in public procurement, the limited administrative capacity of local governments remains a source of concern. Local governments undertake a large share of public infrastructure projects (see Section 3.3), yet they often lack the relevant administrative capacity to ensure efficiency (OECD, 2016d). The central authorities do not support local governments with structured technical assistance to carry out and implement large procurement projects. The July

(³²) 100% clearance rate is when the number of incoming cases equals the number of cases closed.

2016 amendment of the public procurement law could improve the efficiency of public procurement, transposing two EU procurement-related directives and implementing a number of measures aimed at facilitating the procurement process and cutting red tape. The changes include, *inter alia*, authorities' obligation to consider splitting of works and non-price criteria to gain more importance. The law is set to trigger public procurement procedures that were put on hold before its entry into force.

Significant progress was achieved in deregulation of professions, but some restrictive barriers remain. Poland has undertaken ambitious reforms of regulated professions in recent years (European Commission, 2016a) and some positive results can already be seen in terms of employment and entrepreneurship for certain professions (Rojek and Masior, 2017). However, the recent Commission study covering seven professions shows that differences between professions exist. For example, the level of restrictiveness is higher in Poland compared to the EU weighted average for lawyers and tax advisers, while it is significantly lower for tourist guides and real estate agents (European Commission, 2016e). In turn, for nearly all the reviewed sectors, business churn rates in Poland are similar to the EU average (³³). This may indicate relatively high dynamism and competitive pressure within regulated professions in these sectors in Poland.

Digitalisation of public administration

Online interaction between public authorities and citizens remains one of the lowest in the EU. With 26.6% of citizens using e-government services, Poland ranks among the worst performers in the EU. In contrast, e-services for business were used by 92% of enterprises in 2015. The fragmentation, complexity and at times unstable operation of e-government services are still the main obstacles to their effective use by citizens. The updated Programme of the Integrated Digitalisation of the State aims to enhance policy coordination and strategic planning and addresses a number of challenges, including fragmentation, user-friendliness and public visibility of e-services

(³³) Business churn rate is calculated as the ratio of the sum of newly founded and closed enterprises to the total number of enterprises in a given year.

(Ministerstwo Cyfryzacji, 2016). It is currently at the initial state of implementation.

ANNEX A

Overview Table

Commitments	Summary assessment ⁽³⁴⁾
2016 Country-specific recommendations (CSRs)	
<p>CSR 1: Achieve an annual fiscal adjustment of 0.5 % of GDP towards the medium-term budgetary objective in 2016 and in 2017. Strengthen the fiscal framework, including by establishing an independent fiscal council. Improve tax collection by ensuring better VAT compliance, and limit the extensive use of reduced VAT rates.</p> <p>Achieve an annual fiscal adjustment of 0.5 % of GDP towards the medium-term budgetary objective in 2016 and in 2017.</p> <p>Strengthen the fiscal framework, including by establishing an independent fiscal council.</p> <p>Improve tax collection by ensuring better VAT compliance, and limit the extensive use of reduced VAT rates.</p>	<p>Poland has made limited progress in addressing CSR1 (this overall assessment of CSR 1 does not include an assessment of compliance with the Stability and Growth Pact):</p> <p>The compliance assessment with the Stability and Growth Pact will be included in spring when final data for 2016 will be available.</p> <p>No progress has been made on establishing a fiscal council. The authorities do not envisage implementing one.</p> <p>Some progress was made in improving tax collection. Several measures aimed at fighting tax fraud in the fuel sector entered into force in 2016. They are followed by a large amendment of the VAT law that entered into force in 2017. A new National Revenue Administration will become operational in March 2017. In contrast, no progress was made on limiting the extensive use of reduced VAT rates.</p>
<p>CSR 2: Ensure the sustainability and adequacy of the pension system and increase participation in the labour market, by starting to reform the preferential pension arrangements, removing obstacles to more permanent types of employment and improving the labour market-relevance of education and training</p> <p>Ensure the sustainability and adequacy of the pension system and increase participation in the</p>	<p>Poland has made no progress in addressing CSR2.</p> <p>No progress in ensuring the sustainability and</p>

⁽³⁴⁾ The following categories are used to assess progress in implementing the 2016 country-specific recommendations:

No progress: The Member State has not credibly announced nor adopted any measures to address the CSR. 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 CSR, such as commissioning a study or setting up a study group to analyse possible measures that would need to be taken (unless the CSR explicitly asks for orientations or exploratory actions), while clearly-specified measure(s) to address the CSR has not been proposed.

Limited progress: The Member State has:

- announced certain measures but these only address the CSR 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 CSR will be implemented;

Some progress: The Member State has adopted measures that partly address the CSR and/or the Member State has adopted measures that address the CSR, but a fair amount of work is still needed to fully address the CSR 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 CSR and most of which have been implemented.

Full implementation: The Member State has implemented all measures needed to address the CSR appropriately.

<p>labour market, by starting to reform the preferential pension arrangements</p> <p>Ensure the sustainability and adequacy of the pension system and increase participation in the labour market [...] by removing obstacles to more permanent types of employment and improving the labour market-relevance of education and training.</p>	<p>adequacy of the pension system. Contrary to the CSR, a lowering of the statutory retirement age has been voted in and will enter into force as of October 2017. In the longer term, it will worsen sustainability and adequacy of the pension system. No progress in reforming the preferential pension arrangements, although there are plans to review them with a view to reform them (including those for farmers and miners).</p> <p>No progress in increased participation in the labour market. Some measures undertaken so far seem to go in the opposite direction. In particular, lowering the statutory retirement age and the new child benefit could have adverse effects on the labour market participation. Limited progress in removing obstacles to more permanent types of employment. Despite measures taken to reduce segmentation, the use of open-ended contracts is still discouraged by a number of obstacles. To address this, two codification committees were set up to prepare new draft individual and collective Labour Codes by early 2018. Limited progress in improving the labour market-relevance of education and training. The reforms of the higher education system seem to be going in the right direction, but the changes in general education could go in the opposite direction.</p>
<p>CSR 3: Take measures to remove obstacles to investment in transport, communication and energy infrastructure, and increase the coverage of spatial planning at local level</p> <p>Take measures to remove obstacles to investment in transport, communication and energy infrastructure</p> <p>increase the coverage of spatial planning at local level</p>	<p>Poland has made limited progress in addressing CSR3.</p> <p>Limited progress in removing obstacles to investment in infrastructure. Despite the 2016 amendment to the rail transport law simplifying some investments procedures and enabling their faster implementation, its scope is rather limited and the observed progress with investments on the ground throughout the year has been very slow. In renewable power generation infrastructure, the situation worsened in 2016, as a result of the new law on investment in on-shore wind installations and long-delayed revision of the Renewable Energy Law.</p> <p>Limited progress in simplifying construction permitting and rationalising spatial planning at the local level. Construction permits were practically abolished for constructing private houses and other smaller structures, though they are still required for other construction projects. The newly drafted Construction Code contains elements related to spatial planning and aimed at improving the current system, like: consolidating old legislation on spatial planning and construction permitting, streamlining procedures</p>

	into a single investment decision, reinforcing the role of municipal studies on territorial development and making more stringent the conditions, under which new developments could take place in the absence of the spatial development plan.
Europe 2020 (national targets and progress)	
Employment rate target: 71 %	69.1 % (Q1-Q3 2016)
R&D target set in the 2013 NRP: R&D intensity target is 1.7 % for 2020	1 % (2015)
Greenhouse gas (GHG) emissions target: - National greenhouse gas (GHG) emissions target: +14 % in 2020 compared to 2005 (in non-ETS sectors)	According to the latest projections, the 2020 target is expected to be achieved: 6.5 % growth is projected in 2020 as compared to 2005 (a margin of 7.5 percentage points). The GHG emissions increased between 2005 and 2014 in the sectors not covered by the EU ETS by 2 % against an interim target of +10 % for 2014.
2020 Renewable energy target: 15% Share of renewable energy in all modes of transport: 10%	With a renewable energy share of 11.4 % in 2014, Poland is currently on track to meet its target for 2020, but the new law would imply close monitoring of progress.
Energy efficiency: reduction of energy consumption Poland has set an indicative national energy efficiency target of 13.6 Mtoe primary energy savings in 2020 reaching a 2020 level of 96.4 Mtoe primary consumption and 70.4 Mtoe final energy consumption.	Poland increased its primary energy consumption by 0.9 % from 89.17 Mtoe in 2014 to 90 Mtoe in 2015. Final energy consumption increased by 1 % from 61.6 Mtoe in 2014 to 62.25 Mtoe in 2015. Even if levels of primary and final energy consumption are currently below the indicative national 2020 targets (96.4 Mtoe in primary energy consumption and 71.6 Mtoe in final energy consumption) keeping these levels until 2020 is challenging.
Early school leaving target: 4.5 %	5.2 % (2016 – provisional data)
Tertiary education target: 45 %	44.3 % (2016 – provisional data)
Risk of poverty or social exclusion target: Target on the reduction of population at risk of poverty or social exclusion in number of persons: 1 500 000	Since 2012, the EU 2020 target has been achieved. By 2015 the reduction by 2.7 million persons has been achieved.

ANNEX B

MIP Scoreboard

Table B.1: The MIP scoreboard for Poland

		Thresholds	2010	2011	2012	2013	2014	2015
	Current account balance, 3 year average (% of GDP)	-4%/6%	-5.3	-4.8	-4.8	-3.4	-2.4	-1.3
	Net international investment position (% of GDP)	-35%	-65.1	-62.4	-65.4	-69.0	-69.1	-62.8
External imbalances and competitiveness	Real effective exchange rate - 42 trading partners, HICP deflator 3 years % change	±5% & ±11%	-1.4	-11.5	1.2	-4.3	-1.3	-1.0
	Export market share - % of world exports 5 years % change	-6%	25.1	15.7	2.1	0.5	5.3	9.7
	Nominal unit labour cost index (2010=100) 3 years % change	9% & 12%	11.3b	4.2	5.3	3.1	2.9	-0.4p
	Deflated house prices (% y-o-y change)	6%	-6.1e	-4.6	-6.6	-4.7	1.1	2.8
Internal imbalances	Private sector credit flow as % of GDP, consolidated	14%	4.3	6.7	4.8	3.3	4.6	3.2
	Private sector debt as % of GDP, consolidated	133%	69.7	73.9	73.5	75.4	78.1	79.0
	General government sector debt as % of GDP	60%	53.1	54.1	53.7	55.7	50.2	51.1
	Unemployment rate 3 year average	10%	8.3	9.2	9.8	10.0	9.8	8.9
	Total financial sector liabilities (% y-o-y change)	16.5%	13.5	4.9	10.6	7.4	0.7	2.4
	Activity rate - % of total population aged 15-64 (3 years change in p.p.)	-0.2%	2.1b	1.9	1.8	1.7	2.2	1.6
New employment indicators	Long-term unemployment rate - % of active population aged 15-74 (3 years change in p.p.)	0.5%	-2.1	1.1	1.5	1.4	0.2	-1.1
	Youth unemployment rate - % of active population aged 15-24 (3 years change in p.p.)	2%	2.1	8.6	5.9	3.6	-1.9	-5.7

Flags: b: break in time series. e: estimated. i: see metadata. p: provisional. na: not available.

(1) Nominal unit labour cost: 2010 break in time series. Since the indicator is a three year % change the break affects all the following years.

(2) House price index: e = NSI estimates.

(3) Unemployment rate: for 2009 i = Eurostat back-calculation to include 2011 Population Census results.

(4) Youth unemployment rate: for 2009 i = Eurostat back-calculation to include 2011 Population Census results.

Source: European Commission, Eurostat and Directorate General for Economic and Financial Affairs (for Real Effective Exchange Rate), and International Monetary Fund"

ANNEX C

Standard Tables

Table C.1: Financial market indicators

	2011	2012	2013	2014	2015	2016
Total assets of the banking sector (% of GDP)	81.4	90.9	91.5	92.4	91.7	94.6
Share of assets of the five largest banks (% of total assets)	43.7	44.4	45.2	48.3	48.6	-
Foreign ownership of banking system (% of total assets)	65.3	62.8	65.3	65.8	61.7	-
Financial soundness indicators: ¹⁾						
- non-performing loans (% of total loans)	6.0	6.4	6.0	5.4	5.0	5.0
- capital adequacy ratio (%)	13.3	14.9	15.6	14.9	15.8	16.7
- return on equity (%) ²⁾	12.0	10.8	10.0	9.4	7.7	4.2
Bank loans to the private sector (year-on-year % change)	5.9	7.3	4.0	5.4	5.8	3.7
Lending for house purchase (year-on-year % change)	8.8	6.8	3.0	3.5	4.5	2.8
Loan to deposit ratio	105.4	101.7	99.5	98.3	97.2	95.9
Central Bank liquidity as % of liabilities	0.0	0.0	0.0	0.0	0.0	0.0
Private debt (% of GDP)	73.9	73.4	75.4	78.1	78.6	-
Gross external debt (% of GDP) ¹⁾ - public	23.6	29.6	28.3	29.3	29.2	28.1
- private	27.6	28.7	28.5	29.0	28.6	29.3
Long-term interest rate spread versus Bund (basis points)*	334.8	350.5	246.3	235.3	220.6	291.5
Credit default swap spreads for sovereign securities (5-year)*	172.0	154.1	77.4	60.8	61.1	75.9

1) Latest data Q2 2016.

2) Quarterly values are not annualised

* Measured in basis points.

Source: European Commission (long-term interest rates); World Bank (gross external debt); Eurostat (private debt); ECB (all other indicators).

Table C.2: Labour market and social indicators - part 1**Table II. Labour market and social indicators**

	2011	2012	2013	2014	2015	2016 ⁴
Employment rate (% of population aged 20-64)	64.5	64.7	64.9	66.5	67.8	69.1
Employment growth (% change from previous year)	0.6	0.1	-0.1	1.7	1.5	0.8
Employment rate of women (% of female population aged 20-64)	57.2	57.5	57.6	59.4	60.9	62.1
Employment rate of men (% of male population aged 20-64)	71.9	72.0	72.1	73.6	74.7	76.1
Employment rate of older workers (% of population aged 55-64)	36.9	38.7	40.6	42.5	44.3	45.6
Part-time employment (% of total employment, aged 15-64)	7.3	7.2	7.1	7.1	6.8	6.4
Fixed-term employment (% of employees with a fixed term contract, aged 15-64)	26.8	26.8	26.8	28.3	28.0	27.7
Transitions from temporary to permanent employment	19.5	20.4	16.4	18.3	21.8	:
Unemployment rate ¹ (% active population, age group 15-74)	9.7	10.1	10.3	9.0	7.5	6.3
Long-term unemployment rate ² (% of labour force)	3.6	4.1	4.4	3.8	3.0	2.2
Youth unemployment rate (% active population aged 15-24)	25.8	26.5	27.3	23.9	20.8	18.3
Youth NEET ³ rate (% of population aged 15-24)	11.5	11.8	12.2	12.0	11.0	:
Early leavers from education and training (% of pop. aged 18-24 with at most lower sec. educ. and not in further education or training)	5.6	5.7	5.6	5.4	5.3	:
Tertiary educational attainment (% of population aged 30-34 having successfully completed tertiary education)	36.5	39.1	40.5	42.1	43.4	:
Formal childcare (30 hours or over; % of population aged less than 3 years)	3.0	5.0	4.0	5.0	:	:

1) Unemployed persons are all those who were not employed but had actively sought work and were ready to begin working immediately or within two weeks.

2) Long-term unemployed are peoples who have been unemployed for at least 12 months.

3) Not in education employment or training.

4) Average of first three quarters of 2016. Data for total unemployment and youth unemployment rates are seasonally adjusted.

Source: European Commission (EU Labour Force Survey).

Table C.3: Labour market and social indicators - part 2

Expenditure on social protection benefits (% of GDP)	2010	2011	2012	2013	2014	2015
Sickness/healthcare	4.4	4.2	4.1	4.2	4.0	:
Disability	1.7	1.6	1.6	1.6	1.5	:
Old age and survivors	11.1	10.6	10.9	11.3	11.2	:
Family/children	1.3	1.3	1.3	1.4	1.4	:
Unemployment	0.4	0.3	0.3	0.3	0.2	:
Housing	0.1	0.1	0.1	0.1	0.1	:
Social exclusion n.e.c.	0.2	0.2	0.1	0.1	0.1	:
Total	19.2	18.2	18.4	19.0	18.5	:
of which: means-tested benefits	0.7	0.6	0.7	0.8	0.7	:
Social inclusion indicators	2010	2011	2012	2013	2014	2015
People at risk of poverty or social exclusion ¹ (% of total population)	27.8	27.2	26.7	25.8	24.7	23.4
Children at risk of poverty or social exclusion (% of people aged 0-17)	30.8	29.8	29.3	29.8	28.2	26.6
At-risk-of-poverty rate ² (% of total population)	17.6	17.7	17.1	17.3	17.0	17.6
Severe material deprivation rate ³ (% of total population)	14.2	13.0	13.5	11.9	10.4	8.1
Proportion of people living in low work intensity households ⁴ (% of people aged 0-59)	7.3	6.9	6.9	7.2	7.3	6.9
In-work at-risk-of-poverty rate (% of persons employed)	11.4	11.1	10.4	10.7	10.6	11.2
Impact of social transfers (excluding pensions) on reducing poverty	27.9	26.6	25.3	24.8	26.4	23.1
Poverty thresholds, expressed in national currency at constant prices ⁵	10286	10551	10548	10549	10847	11247
Gross disposable income (households; growth %)	4.7	5.3	4.4	1.8	2.5	2.1
Inequality of income distribution (S80/S20 income quintile share ratio)	5.0	5.0	4.9	4.9	4.9	4.9
GINI coefficient before taxes and transfers	48.0	47.9	47.7	47.7	47.8	:
GINI coefficient after taxes and transfers	31.1	31.1	30.9	30.7	30.8	:

1) People at risk of poverty or social exclusion: individuals who are at risk of poverty and/or suffering from severe material deprivation and/or living in households with zero or very low work intensity.

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

3) Proportion of people who experience at least four of the following forms of deprivation: not being able to afford to i) pay their rent or utility bills, ii) keep their home adequately warm, iii) face unexpected expenses, iv) eat meat, fish or a protein equivalent every second day, v) enjoy a week of holiday away from home once a year, vi) have a car, vii) have a washing machine, viii) have a colour TV, or ix) have a telephone.

4) People living in households with very low work intensity: proportion of people aged 0-59 living in households where the adults (excluding dependent children) worked less than 20 % of their total work-time potential in the previous 12 months.

5) For EE, CY, MT, SI and SK, thresholds in nominal values in euros; harmonised index of consumer prices = 100 in 2006 (2007 survey refers to 2006 incomes)

Source: For expenditure for social protection benefits ESSPROS; for social inclusion EU-SILC.

Table C.4: Product market performance and policy indicators

Performance indicators	2010	2011	2012	2013	2014	2015
Labour productivity (real, per person employed, year-on-year % change)						
Labour productivity in industry	13.56	6.80	3.57	-1.50	1.99	5.21
Labour productivity in construction	10.47	11.05	-0.66	1.17	8.93	3.21
Labour productivity in market services	3.42	3.10	2.18	4.75	-1.48	2.58
Unit labour costs (ULC) (whole economy, year-on-year % change)						
ULC in industry	-3.17	-1.42	2.35	0.16	1.11	-4.85
ULC in construction	2.92	-1.09	1.82	1.47	-7.05	-1.70
ULC in market services	4.28	2.33	3.69	-0.13	3.28	0.44
Business environment	2010	2011	2012	2013	2014	2015
Time needed to enforce contracts ¹ (days)	830.0	830.0	685.0	685.0	685.0	685.0
Time needed to start a business ¹ (days)	39.0	39.0	39.0	37.0	37.0	37.0
Outcome of applications by SMEs for bank loans ²	na	0.52	na	0.59	0.75	0.46
Research and innovation	2010	2011	2012	2013	2014	2015
R&D intensity	0.72	0.75	0.88	0.87	0.94	1.00
Total public expenditure on education as % of GDP, for all levels of education combined	5.17	4.94	4.91	5.00	na	na
Number of science & technology people employed as % of total employment	37	37	39	40	41	42
Population having completed tertiary education ³	19	20	22	23	24	24
Young people with upper secondary education ⁴	91	90	90	90	90	91
Trade balance of high technology products as % of GDP	-2.30	-2.21	-1.97	-1.68	-1.44	-1.59
Product and service markets and competition				2003	2008	2013
OECD product market regulation (PMR) ⁵ , overall				na	2.04	1.65
OECD PMR ⁵ , retail					2.52	2.43
OECD PMR ⁵ , professional services					3.29	3.33
OECD PMR ⁵ , network industries ⁶					3.20	2.70
						2.34

1) The methodologies, including the assumptions, for this indicator are shown in detail at:
<http://www.doingbusiness.org/methodology>.

2) Average of the answer to question Q7B_a. '[Bank loan]: If you applied and tried to negotiate for this type of financing over the past six months, what was the outcome?'. Answers were scored as follows: zero if received everything, one if received most of it, two if only received a limited part of it, three if refused or rejected and treated as missing values if the application is still pending or if the outcome is not known.

3) Percentage population aged 15-64 having completed tertiary education.

4) Percentage population aged 20-24 having attained at least upper secondary education.

5) Index: 0 = not regulated; 6 = most regulated. The methodologies of the OECD product market regulation indicators are shown in detail at: <http://www.oecd.org/competition/reform/indicatorsofproductmarketregulationhomepage.htm>

Source: European Commission; World Bank — Doing Business (for enforcing contracts and time to start a business); OECD (for the product market regulation indicators); SAFE (for outcome of SMEs' applications for bank loans).

Table C.5: Green growth

Green growth performance		2010	2011	2012	2013	2014	2015
Macroeconomic							
Energy intensity	kgoe / €	0.28	0.27	0.25	0.25	0.23	0.23
Carbon intensity	kg / €	1.30	1.24	1.20	1.17	1.09	-
Resource intensity (reciprocal of resource productivity)	kg / €	2.08	2.44	2.10	1.95	1.88	1.81
Waste intensity	kg / €	0.51	-	0.49	-	0.52	-
Energy balance of trade	% GDP	-2.6	-3.3	-3.4	-2.7	-2.6	-
Weighting of energy in HICP	%	13.05	13.94	15.41	15.67	14.93	15.65
Difference between energy price change and inflation	%	1.5	3.4	2.9	-1.3	-0.1	0.6
Real unit of energy cost	% of value added	19.5	21.0	20.9	19.9	18.9	-
Ratio of environmental taxes to labour taxes	ratio	0.22	0.21	0.19	0.18	0.19	-
Environmental taxes	% GDP	2.6	2.5	2.5	2.4	2.5	-
Sectoral							
Industry energy intensity	kgoe / €	0.18	0.18	0.17	0.17	0.17	0.16
Real unit energy cost for manufacturing industry excl. refining	% of value added	22.2	23.9	22.8	22.4	20.3	-
Share of energy-intensive industries in the economy	% GDP	14.09	14.76	14.78	14.48	14.62	-
Electricity prices for medium-sized industrial users	€ / kWh	0.10	0.10	0.09	0.09	0.08	0.09
Gas prices for medium-sized industrial users	€ / kWh	0.03	0.03	0.04	0.04	0.04	0.04
Public R&D for energy	% GDP	-	-	0.01	0.01	0.01	0.01
Public R&D for environmental protection	% GDP	-	-	0.02	0.02	0.03	0.02
Municipal waste recycling rate	%	21.4	17.5	19.6	24.2	32.3	42.5
Share of GHG emissions covered by ETS*	%	51.7	52.5	51.7	52.4	51.9	52.1
Transport energy intensity	kgoe / €	1.43	1.25	1.12	1.03	1.04	1.13
Transport carbon intensity	kg / €	3.87	3.39	3.05	2.79	2.81	-
Security of energy supply							
Energy import dependency	%	31.3	33.4	30.6	25.6	28.6	29.3
Aggregated supplier concentration index	HHI	29.5	28.9	29.8	27.0	27.4	-
Diversification of energy mix	HHI	0.38	0.38	0.36	0.37	0.36	-

All macro intensity indicators are expressed as a ratio of a physical quantity to GDP (in 2005 prices)

Energy intensity: gross inland energy consumption (in kgcoe) divided by GDP (in EUR)

Carbon intensity: greenhouse gas emissions (in kg CO₂ equivalents) divided by GDP (in EUR)

Resource intensity: domestic material consumption (in kg) divided by GDP (in EUR)

Waste intensity: waste (in kg) divided by GDP (in EUR)

Energy balance of trade: the balance of energy exports and imports, expressed as % of GDP

Weighting of energy in HICP: the proportion of 'energy' items in the consumption basket used for the construction of the HICP

Difference between energy price change and inflation: energy component of HICP, and total HICP inflation (annual % change)

Real unit energy cost: real energy costs as a percentage of total value added for the economy

Environmental taxes over labour taxes and GDP: from European Commission's database, 'Taxation trends in the European Union'

Industry energy intensity: final energy consumption of industry (in kgcoe) divided by gross value added of industry (in 2005 EUR)

Real unit energy costs for manufacturing industry excluding refining : real costs as a percentage of value added for manufacturing sectors

Share of energy-intensive industries in the economy: share of gross value added of the energy-intensive industries in GDP

Electricity and gas prices for medium-sized industrial users: consumption band 500–20 000MWh 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 greenhouse gas emissions

(excl land use, land use change and forestry) as reported by Member States to the European Environment Agency.

Transport energy intensity: final energy consumption of transport activity (kgcoe) divided by transport industry gross value added (in 2005 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 over natural gas, total petrol products, nuclear heat, renewable energies and solid fuels

* European Commission and European Environment Agency

Source: European Commission (Eurostat) unless indicated otherwise

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