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

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EXECUTIVE SUMMARY

This report assesses Lithuania'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.

Following several years of strong growth, Lithuania's economy continued to grow in 2015 and 2016, albeit at a slower pace. Having grown consistently above 3% in the years following the 2009 economic crisis, Lithuania's GDP growth has been just below 2% for the past two years. While private consumption growth has been strong throughout, in 2015 exports suffered from the embargo and economic deterioration of Russia. Furthermore, a temporary contraction in investment weighed considerably on GDP, which grew 2.2% in 2016. However, growth is expected to pick up in 2017 to 2.9%, as exports and investments recover, more than offsetting slowing private consumption growth due to higher inflation.

Strong employment growth and a declining working age population brought the unemployment rate down in 2016. At the same time, labour supply increased as more elderly workers stayed in the labour market after retirement age. Yet, this did little to relieve the pressure on wages, which continued to grow strongly in 2016, and the labour market is tightening. With wage growth set to remain strong over the coming years, competitiveness might dampen in the future unless balanced by matching productivity growth. The shortage of high-skilled workers is likely to generate some additional wage pressures, albeit to a limited extent because of the relatively small sectors recruiting such workers. On the other hand, unemployment is high among the disabled and the low-skilled living outside the capital. In 2016, Lithuania introduced major revisions to its labour law, which should enter into force in mid-2017. These are likely to make labour relations more flexible by significantly reducing dismissal costs and expanding the use of fixed term contracts. However, doubts remain as to whether the new social model provides for sufficient social security.

Demographic challenges weigh on potential growth. Lithuania's population has been declining since the early 1990s at an accelerating pace. For the past 10 years, it declined on average by 1.3% annually and the rate of decline is projected to accelerate even further in the years to come. The main drivers of the country's population decline are high net emigration and negative natural growth, which is exacerbated by the population's poor health. The population decline is negatively affecting potential output by limiting labour supply. Up to 2014, the impact on potential output has been somewhat mitigated as the share of the prime working-age population actually increased.

Whereas Lithuania benefitted from high productivity growth up to 2009, these growth rates have dropped since then. This can partly be linked to the significant fall in private investment, which has not managed to recover from the crisis and remains well below historical levels. On the other hand, the declining growth rates of productivity can also be attributed to a natural slowing down of the catching up process as the country's productivity level approaches the EU average. In view of the unfavourable demographics, total factor productivity growth and capital growth rates are essential drivers of growth, which is required to improve the standard of living in Lithuania and help stem high emigration.

Inequality is high and increasing. Inequality of incomes in Lithuania is one of the highest in the EU, and has been increasing since 2012. It results from high employment gaps between low-skilled and high-skilled workers, strong wage dispersion, the limited progressivity of the tax system and weak social safety nets. The tax benefit system in Lithuania is less effective at reducing inequality than in other EU countries. Furthermore, high income inequality is considered to be detrimental to economic growth and macro-economic stability. In Lithuania, it could also be contributing to high emigration. Also, the poverty rate remains high, especially among the disabled, pensioners, in particular older women, and the unemployed, primarily due to weak protection provided by the social welfare system.

Lithuania's public finances are solid, but its structural deficit is set to increase in 2017 as a result of structural reforms. Lithuania gradually reduced its structural budget deficit from 3.5% in 2011 to 0.7% in 2015. The deficit increased somewhat in 2016 and is forecast to increase further to 1.4% of GDP, due also to the costs of structural reforms. In the medium term, fiscal challenges are set to become more difficult as the declining population and increasing dependency ratios will drive an increase in expenditure on pensions and long-term care. Public debt currently stands at 40% of GDP.

Overall, Lithuania has made some progress ([1]) in addressing the 2016 country-specific recommendations. Lithuania has made some progress in addressing CSR 1([2]) as it has taken measures to reduce the tax burden on low income earners and to improve tax compliance. However, the measures to compensate for revenue loss due to lowering the tax burden on labour (tax shifting) were limited. Some progress has been achieved in addressing CSR 2 as Lithuania has taken incremental steps in all areas covered except for an increase in investment in human capital, where only limited progress has been achieved. Finally, limited progress has been achieved in addressing CSR 3 – while Lithuania has made some progress in promoting alternative means of financing, limited action has been taken to improve the coordination of innovation policies and no additional measures besides the EU fund programmes have been taken to strengthen productivity growth.

Regarding progress in reaching the national targets under the Europe 2020 strategy, Lithuania has already achieved some of its objectives, but concerns remain. It has reached its overall renewable energy target as well as the targets regarding the employment rate of the working age population, reducing greenhouse gas emissions, bringing down the share of early school leavers and increasing the share of the population having attained tertiary education. It is on track to meet its energy efficiency target. However, more effort is needed to reduce the number of people at risk of poverty or social exclusion and to increase private expenditure on research and development.

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

- **Lithuania has adopted several measures aimed at improving its low tax compliance**. However, tax collection, in particular that of value-added tax and labour taxes, could still be raised.

- **The declining population and ageing pose a challenge to Lithuania's growth prospects and fiscal balance.** A decreasing supply of labour and growing per capita infrastructure costs will burden Lithuania's growth potential in the coming decades. Moreover, the rising dependency ratio, which is set to double in the next twenty years, will make it more difficult to fund pensions, health care and education and will aggravate the fiscal challenges in the medium term.

- **While Lithuania's GDP growth has recovered strongly from the crisis, investment and productivity growth rates are not back to their pre-crisis levels**. Poor research and innovation outcomes, the mediocre quality of education and ineffective adult learning programmes weigh more heavily on Lithuania's productivity performance as the country becomes richer. They are also an obstacle to future growth as productivity gains are expected to come increasingly from knowledge-based activities. Improving public investment planning, increasing transparency and competition in public procurement, better coordination and implementation of research and innovation policies, and raising the quality of education provide opportunities to spur productivity growth.

- **Skills shortages are high and risk becoming an important bottleneck to Lithuania's growth.** The gap between the high-skilled and the low-skilled in terms of pay and employment opportunities is high and increasing in Lithuania, pointing to a widening skills shortage. Moreover, low coverage of active labour market policies means too few of

([1]) Information on the level of progress ad actions taken to address the policy advice in each respective subpart of a CSR is presented in the Overview Table in the Annex.

([2]) This assessment does not cover the fiscal subpart of CSR1, which will have the final assessment published in Spring 2017

the low-skilled get the training they need. As Lithuania's growth will increasingly depend on knowledge-based activities, ensuring the supply of skilled labour will be crucial to improve its living standard.

- **Lithuania's education system outcomes are worsening and the system is inefficient.** Lithuania's scores in the Programme for International Student Assessment are lower than those of the other Baltic countries and the proportion of low achievers has increased significantly in recent years. Despite high tertiary education attainment rates, the reported lack of high-skilled workers is increasing. Lithuania's education system has struggled to adapt to rapidly decreasing numbers of pupils and students and hence its education system is overstaffed and burdened with maintaining infrastructure that is too large for its needs. Furthermore, low salaries and limited opportunities for professional development hinder schools to attract talented graduates to replace retiring teachers. Higher education is marred by poor quality standards and financial incentives that promote oversize and inefficiency.

- **While Lithuania's per capita income has grown remarkably since the crisis, the reduction in poverty has been meagre and inequality has increased**. Lithuania's social security coverage does not keep pace with economic growth. Spending on social protection is low and low tax revenue as a share of GDP limits the scope for a potential increase in such expenditure. Moreover, the low labour share of national income, weak trade unions and a large skills gap in the labour market further contribute to the high inequality and precariousness of low-wage earners.

- **Poor health outcomes hamper the potential of the workforce and the competitiveness of the Lithuanian economy.** Stronger disease prevention and health promotion policies could contribute to an improvement in health outcomes. The equity of the health-care system is negatively affected by high levels of out-of-pocket payments and regional disparities.

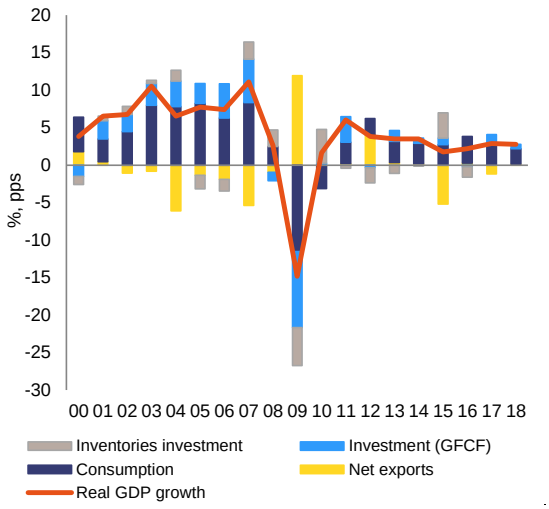
- **Lithuania, along with Latvia and Estonia, has achieved good progress in improving the security of energy supply.** The implementation of several gas and electricity projects connecting the region with neighbouring energy markets has diversified the Baltic countries' energy sources and brought overall lower prices. Finishing the construction of the gas connector between Lithuania and Poland and the synchronisation of the Baltic countries' electricity grids with the European network are the next steps in the implementation of the Baltic Energy Market Interconnection Plan.

1. ECONOMIC SITUATION AND OUTLOOK

GDP growth

GDP grew 2.2% in 2016, led by private consumption and recovering exports. Solid wage and employment growth combined with subdued inflation supported household disposable incomes which in turn fuelled private consumption growth. Exports are forecast to have grown by 2.6% following their disappointing performance in 2015. However, a decline in investments due to a temporary slowdown of EU fund disbursements weighed on overall growth.

Graph 1.1: **Real GDP growth and contributions**



Source: European Commission

According to the Commission's winter forecast, growth is expected to accelerate to 2.9% in 2017. Rising inflation is expected to slow private consumption growth somewhat, while investment growth is expected to be strong as EU fund spending gathers pace.

Consumption

Private consumption growth is the main contributor to growth. Driven by increasing employment, rising wages and subdued inflation, private consumption growth is forecast to have accelerated to 5.3% in 2016. Government consumption rose only slightly in 2016. The disposable income boost provided by negative and then low inflation is expected to come to an end in 2017 as mildly recovering energy prices and rapidly growing service prices carry inflation to around 2%.

Investment

Investment saw a temporary dip in 2016 as a result of a pause in public investment. Overall, investment is forecast to have declined by 1.2% in 2016. This follows a 4.7% growth in 2015. The decline is mainly due to the slowdown in the implementation of EU funds following the end of the 2007-2013 programming period. The disbursements made by Lithuania to beneficiaries fell some 50% in 2016 compared to 2015, causing construction investment to shrink. The dynamic is expected to reverse in 2017 as EU fund disbursements are expected to return to the level they were at in 2015.

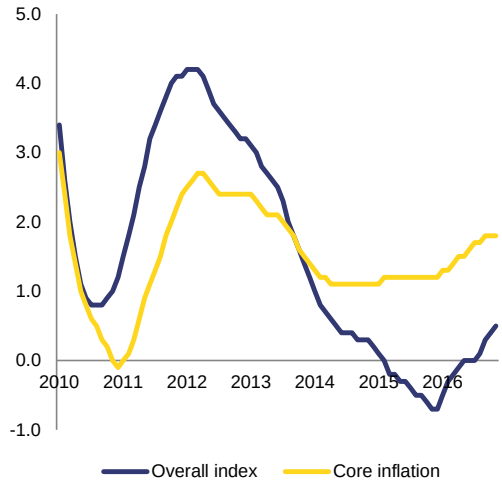
Trade

Drags on export performance are subsiding. Following the weak export performance in 2015, exports somewhat recovered in 2016, with growth forecast at 2.6%. While exports to Russia continued to decline in 2016, exports to the rest of the EU increased thanks to an especially strong increase in service exports, which are believed to have grown by 9.0% in 2016. Imports, meanwhile, slowed down as a result of declining investment.

Inflation

Inflation moved to positive territory and is gradually picking up. In 2016, the HICP average annual inflation was 0.7%, up from a 0.7% deflation in 2015. The substantial decline in energy prices has dominated the inflation dynamics for the past three years. This has been somewhat countered by services prices which have grown considerably above the HICP rate due to rapid wage growth. Recovering oil prices and rising wages are expected to drive HICP inflation further up in 2017 and 2018. Core inflation, which excludes energy prices, is also on the rise. It is set to reach 2% at the end of 2016 after hovering only slightly above 1% for much of 2014 and 2015.

Graph 1.2: **12 month average HICP inflation**

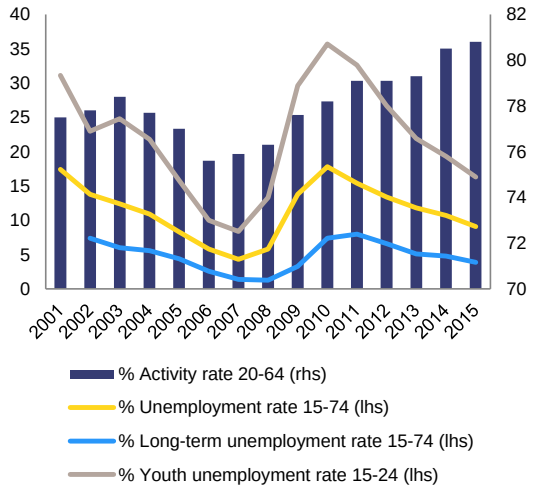


Source: European Commission

Labour market

The Lithuanian labour market continues to improve. The activity and the employment rates have been steadily increasing since the crisis and are now both above the EU average. In 2016, the unemployment rate was 7.9%, well below the EU average. These improvements are due to economic growth and the declining working age population.

Graph 1.3: **Major labour market trends in Lithuania**



Source: European Commission

While starting from a relatively low level in the EU context, wages are rising strongly in Lithuania. The average gross monthly earnings in 2016 stood at EUR 771, 7.9% up from 2015. Unit labour costs (ULC) grew 4.8% in 2015, up from 3.2% in 2014. This was one of the highest increases in the EU after Estonia and Latvia. In 2016 and 2017, nominal unit labour cost growth is expected to slow down somewhat as a result of stronger productivity growth.

The minimum monthly wage is increasing fast in Lithuania. From EUR 300 at the beginning of 2015, it has been raised to EUR 380 in 2016. As a share of the average wage, the level of Lithuania's minimum wage is relatively high (close to 50%) when compared to other EU countries. The Labour Code stipulates that the minimum wage is fixed by Government resolution upon recommendation of the Tripartite Council, which comprises the government, the trade unions, and the employers. There are no specified rules on how to incorporate economic factors in a structured way in minimum wage setting, therefore increasing the risk that haphazard minimum wage hikes could lead to adverse effects on employment.

Social developments

In 2015, economic and employment growth did not translate into poverty reduction. The at-risk-of-poverty or social exclusion rate increased in 2015 to 29.3 %, the fifth highest in the EU, with the unemployed and the elderly mostly affected. This is mainly driven by the fact that social protection benefits (pensions, unemployment benefits and minimum income) are failing to keep pace with economic growth (see also Section 3.3 of this report).

Income inequality has risen in recent years, making Lithuania one of the most unequal Member States in the EU. In 2015, the income of the richest 20 % of Lithuanian households was 7.5 times higher than that of the poorest 20 % of households. This is one of the highest ratios in the EU. The situation has worsened, with inequality ([3]) now being 18% higher than it was in 2012. Similarly, the richest 10 % of households claimed 28.8 % of all income in 2015, up from 23.9 % for 2012. The tax benefit system is relatively

([3]) Measured by GINI coefficient

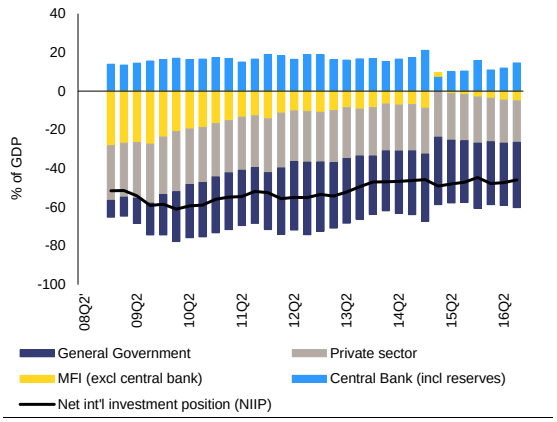
ineffective at reducing inequalities, especially given the flat tax regime which has a limited distributional function. According to 2014 SILC data, taxes and benefits reduce inequality by only 32.6 %, as against an EU average of 39.2%. There is also a significant rural and urban inequality, with median incomes of rural households only 67.9 % of those of urban households. While not yet apparent in the data, recent reforms to increase the minimum wage and to reduce the tax burden on low income earners are likely to counteract this trend to some extent (see Section 3.1).

External position

The current account is expected to have returned to balance after recording a 2.3% deficit in 2015. While the balance of goods and services improved, large dividend payments by several Nordic banks saw the primary balance deteriorate somewhat compared to 2015. Private remittances which make up the bulk of secondary income, also decreased somewhat. Notably, the terms of trade improvement linked to cheaper energy prices over the last two years was worth the equivalent of some 5% of GDP.

The net international investment position (NIIP) in 2015 stood at minus 45 % of GDP and it has been gradually improving. The government (including the Central Bank's position) and the private sector contribute equally to the total negative net position. The NIIP had declined dramatically in the years leading up to the financial crisis, going from -35% of GDP in 2004 to -58% of GDP in 2009. Since then, it has increased substantially and now stands -45% of GDP. The build-up of the negative position came mainly in the form of government foreign borrowing and of local banks' borrowing from their Nordic parents. While the government's negative external position continued to grow after the crisis, the financial flows of monetary financial institutions (excluding the Central Bank) (MFIs) reversed and account for the bulk of the change in country's NIIP in the years following the crisis. The government's negative net position is entirely due to government long-term debt, while private sector liabilities consist almost entirely of foreign direct investment. As a result, the short term risks associated with the NIIP are low.

Graph 1.4: **Net international investment position**



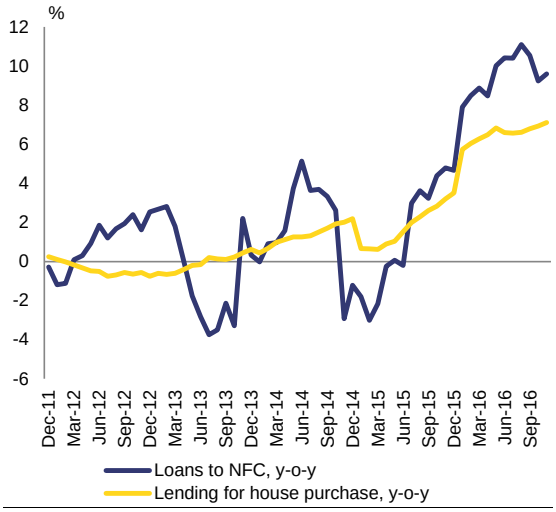
Source: European Commission

Financial sector

Having resumed in 2015, lending growth in 2016 has doubled the pace. Loans to non-financial corporations grew by 9.6 % in 2016 ([4]) compared to 4.7% growth in 2015 (Graph 1.5), driven by increasing corporate demand for credit on the back of improving economic growth prospects. Corporate credit growth, however, has not been uniform across sectors. While trade, transport, real estate, and IT contributed most to the overall credit growth, outstanding loans to manufacturing continued to decline. Mortgage loan growth accelerated to 7.1% in 2016, compared to 3.5% growth in 2015.

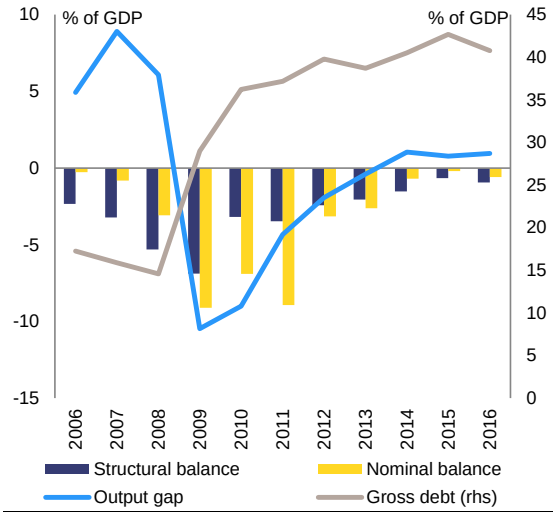
([4]) November 2016 data

Graph 1.5: **Lending trends in Lithuania**



Source: European Central bank

Graph 1.6: **General government balance and gross debt**



Source: European Commission

Public finances

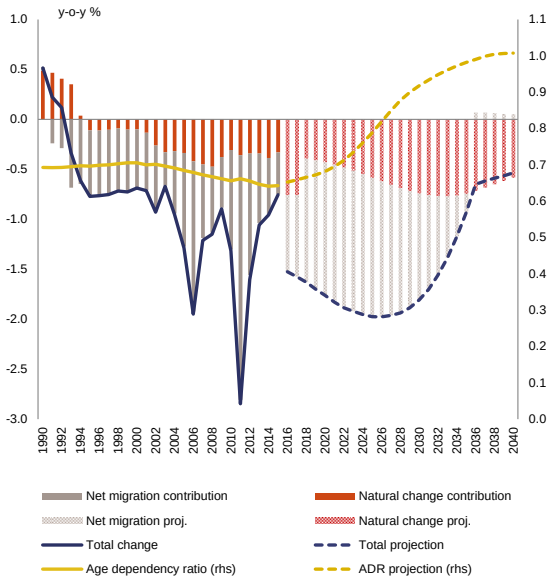
Lithuania's public finances are solid, but its structural deficit is set to increase in 2017 as a result of structural reforms. Lithuania's budget deficit is forecast to have been 0.5% of GDP in 2016, up from 0.2% in 2015. In 2017, however, the general government budget deficit is forecast to increase to 0.7% of GDP. In the medium term, however, fiscal challenges are set to become more difficult as the declining population and increasing dependency ratios will drive an increase in expenditure on pensions, health care, long-term care and education.

Demographic developments

Demographic challenges are set to intensify significantly in the coming decade. Driven by negative net migration and ageing, Lithuania's population has declined from 3.7 million in 1990 to 2.9 million in 2015. As emigration intensified during the past decade, the pace of decline has also increased and is projected to accelerate even further in the coming two decades. While the overall working age population has declined dramatically, the share of prime working age population([5]) in the total population increased in the period from 1990 to 2014. However, it declined in 2015 and will continue to decline at an increasing rate, which is set to peak in the mid-2020s. According to current projections, the share of prime working age population is projected to increase again only after 2060([6]).

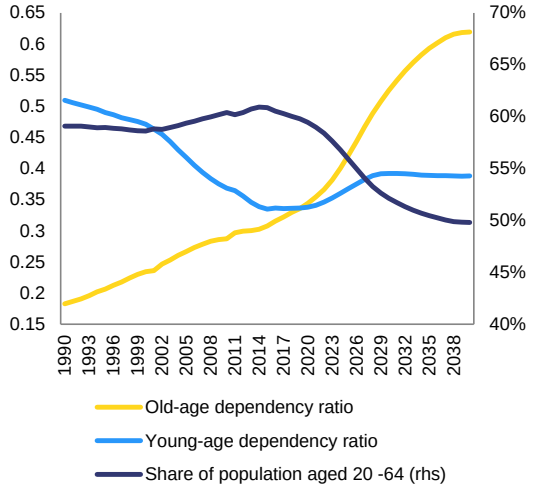
([5]) Aged between 20 and 64.
([6]) Actual data for 2013 - 2015, though, indicate that the current population projections have been overly pessimistic. An update of the projections is expected to be published in 2017.

Graph 1.7: **Annual change in population, 1990 - 2040**



Source: European Commission

Graph 1.8: **Share of working age population and age-dependency ratios**



Source: European Commission

The declining share of the population at working age means that the dependency ratios will rise. The old-age dependency ratio ([7]) is projected to double over the next 20 years – from 0.3 in 2015 to 0.6 in 2035. Moreover, while the young-age dependency ratio ([8]) has declined for the past 25 years, it is set to rise from 0.33 to 0.39 over the next 15 years, adding further to the burden carried by the working age population. These developments will have important implications for long term fiscal sustainability (section 3.1), labour supply (section 3.3) and productivity (section 3.4).

([7]) Measured as the ratio of those aged 65 and over to those aged 20-64.

([8]) Measured as the ratio of those younger than 20 to those aged 20-64.

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

									forecast		
	2004-2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Real GDP (y-o-y)	7.1	-14.8	1.6	6.0	3.8	3.5	3.5	1.8	2.2	2.9	2.8
Private consumption (y-o-y)	12.0	-17.4	-3.4	4.6	3.1	4.3	4.3	4.1	5.3	4.0	2.6
Public consumption (y-o-y)	2.4	-1.3	-3.2	-0.4	1.2	0.7	0.3	0.9	1.1	2.2	2.1
Gross fixed capital formation (y-o-y)	13.0	-38.9	1.5	20.1	-1.8	8.3	3.7	4.7	-1.2	6.0	3.0
Exports of goods and services (y-o-y)	10.8	-12.8	18.9	14.9	12.2	9.6	3.5	-0.4	2.6	3.4	3.7
Imports of goods and services (y-o-y)	14.6	-28.0	18.7	14.2	6.6	9.3	3.3	6.2	2.2	5.1	3.5
Output gap	5.0	-10.5	-9.0	-4.3	-1.9	-0.4	1.0	0.7	1.0	1.6	1.9
Potential growth (y-o-y)	6.0	0.9	0.0	0.9	1.3	1.9	2.1	2.1	1.9	2.3	2.5
Contribution to GDP growth:											
Domestic demand (y-o-y)	9.7	-21.7	-2.7	6.3	1.8	4.3	3.4	3.6	3.3	4.1	2.6
Inventories (y-o-y)	0.5	-5.1	4.5	-0.4	-2.0	-1.1	-0.1	3.4	-1.4	0.0	0.0
Net exports (y-o-y)	-3.1	11.9	-0.2	0.2	4.0	0.3	0.2	-5.2	0.3	-1.2	0.1
Contribution to potential GDP growth:											
Total Labour (hours) (y-o-y)	-0.1	-0.9	-1.4	-1.2	-0.7	-0.2	0.2	0.5	0.4	0.4	0.4
Capital accumulation (y-o-y)	2.8	0.5	0.5	1.0	0.8	1.0	1.1	1.1	1.0	1.1	1.1
Total factor productivity (y-o-y)	3.3	1.3	0.9	1.0	1.1	1.1	0.8	0.4	0.5	0.8	1.0
Current account balance (% of GDP), balance of payments	-10.8	2.1	-0.3	-3.9	-1.2	1.5	3.6	-2.3	.	.	.
Trade balance (% of GDP), balance of payments	-9.8	-1.7	-1.9	-2.6	0.9	1.3	1.9	-0.6	.	.	.
Terms of trade of goods and services (y-o-y)	2.3	-3.8	0.1	-1.1	-0.7	0.1	0.8	3.2	0.9	-0.5	0.0
Capital account balance (% of GDP)	1.5	4.4	3.8	3.2	2.9	3.1	2.7	3.0	.	.	.
Net international investment position (% of GDP)	-46.4	-58.4	-55.9	-52.5	-53.4	-47.0	-45.8	-44.7	.	.	.
Net marketable external debt (% of GDP) (1)	-18.9	-32.4	-29.1	-25.6	-26.7	-21.1	-21.7	-20.9	.	.	.
Gross marketable external debt (% of GDP) (1)	53.5	77.5	76.2	70.7	68.2	59.9	60.8	67.1	.	.	.
Export performance vs. advanced countries (% change over 5 years)	55.9	41.9	28.7	41.4	48.2	30.8	44.5	17.94	.	.	.
Export market share, goods and services (y-o-y)	7.8	-11.5	4.8	13.0	6.0	8.2	-1.0	-10.0	.	.	.
Net FDI flows (% of GDP)	-3.1	0.6	-2.2	-3.2	-0.7	-0.6	0.0	-1.9	.	.	.
Savings rate of households (net saving as percentage of net disposable income)	-1.8	1.1	4.1	0.9	-2.0	-1.5	-4.5	-5.9	.	.	.
Private credit flow, consolidated (% of GDP)	15.1	-9.4	-6.0	-2.2	0.4	-1.2	0.1	2.2	.	.	.
Private sector debt, consolidated (% of GDP)	60.8	83.4	74.5	64.7	61.2	56.3	54.0	55.0	.	.	.
of which household debt, consolidated (% of GDP)	19.6	32.6	29.6	25.8	23.7	22.4	21.5	22.2	.	.	.
of which non-financial corporate debt, consolidated (% of GDP)	41.2	50.8	44.9	38.9	37.5	33.9	32.5	32.8	.	.	.
Corporations, net lending (+) or net borrowing (-) (% of GDP)	-6.8	15.2	8.1	4.9	7.0	9.4	11.1	6.1	6.8	5.6	5.6
Corporations, gross operating surplus (% of GDP)	33.2	31.9	36.3	38.4	38.4	38.3	37.4	35.3	33.6	33.1	33.4
Households, net lending (+) or net borrowing (-) (% of GDP)	-1.1	0.4	2.2	3.5	-1.9	-2.2	-3.9	-5.0	-5.0	-4.3	-3.7
Deflated house price index (y-o-y)	14.2	-32.8	-8.6	2.4	-3.2	0.2	6.3	4.6	.	.	.
Residential investment (% of GDP)	2.6	3.3	2.1	2.0	1.9	2.2	2.5	2.8	.	.	.
GDP deflator (y-o-y)	6.9	-3.3	2.4	5.2	2.7	1.4	1.0	0.2	1.7	2.1	2.3
Harmonised index of consumer prices (HICP, y-o-y)	4.9	4.2	1.2	4.1	3.2	1.2	0.2	-0.7	0.7	2.1	1.9
Nominal compensation per employee (y-o-y)	15.0	-9.3	-0.1	6.4	4.2	5.4	4.7	5.3	5.5	6.1	6.3
Labour productivity (real, person employed, y-o-y)	7.0	-7.7	7.3	5.5	2.0	2.1	1.5	0.5	.	.	.
Unit labour costs (ULC, whole economy, y-o-y)	7.4	-1.7	-7.0	0.8	2.2	3.1	3.2	4.8	5.1	3.7	3.6
Real unit labour costs (y-o-y)	0.5	1.7	-9.1	-4.2	-0.5	1.7	2.2	4.6	3.3	1.5	1.2
Real effective exchange rate (ULC, y-o-y)	4.6	-2.1	-8.3	0.2	-1.9	3.3	2.6	1.7	4.5	2.6	1.6
Real effective exchange rate (HICP, y-o-y)	1.3	6.8	-5.3	0.5	-2.0	0.9	2.7	0.4	2.0	-4.4	.
Tax rate for a single person earning the average wage (%)	25.9	22.2	22.1	22.3	22.5	22.7	22.6	22.9	.	.	.
Tax rate for a single person earning 50% of the average wage (%)	19.9*	17.5	17.3	17.6	18.0	18.5	17.2	17.8	.	.	.
Total Financial sector liabilities, non-consolidated (y-o-y)	30.0	-4.1	-0.7	0.5	0.3	-0.7	8.8	10.1	.	.	.
Tier 1 ratio (%) (2)	.	8.5	8.9	11.8	12.0	9.3	10.6	12.9	.	.	.
Return on equity (%) (3)	.	-9.4	-6.6	-4.1	4.3	2.1	1.0	14.0	.	.	.
Gross non-performing debt (% of total debt instruments and total loans and advances) (4)	.	15.4	16.1	13.4	10.9	8.5	6.5	5.2	.	.	.
Unemployment rate	7.0	13.8	17.8	15.4	13.4	11.8	10.7	9.1	8.0	7.5	7.1
Long-term unemployment rate (% of active population)	3.1	3.3	7.4	8.0	6.6	5.1	4.8	3.9	.	.	.
Youth unemployment rate (% of active population in the same age group)	13.9	29.6	35.7	32.6	26.7	21.9	19.3	16.3	13.9	.	.
Activity rate (15-64 year-olds)	68.4	69.6	70.2	71.4	71.8	72.4	73.7	74.1	.	.	.
People at risk of poverty or social exclusion (% total population)	33.5	29.6	34.0	33.1	32.5	30.8	27.3	29.3	.	.	.
Persons living in households with very low work intensity (% of total population aged below 60)	7.6	7.2	9.5	12.7	11.4	11.0	8.8	9.2	.	.	.
General government balance (% of GDP)	-1.2	-9.1	-6.9	-8.9	-3.1	-2.6	-0.7	-0.2	-0.5	-0.7	-0.7
Tax-to-GDP ratio (%)	30.1	30.6	28.7	27.6	27.3	27.3	27.9	29.4	30.1	29.9	30.1
Structural budget balance (% of GDP)	.	.	-3.2	-3.5	-2.4	-2.1	-1.5	-0.6	-1.0	-1.4	-1.5
General government gross debt (% of GDP)	16.8	29.0	36.2	37.2	39.8	38.7	40.5	42.7	40.8	43.5	39.6

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

2. PROGRESS WITH COUNTRY-SPECIFIC RECOMMENDATIONS

Progress with the implementation of the recommendations addressed to Lithuania in 2016 ([9]) has to be seen in a longer term perspective since the introduction of the European Semester in 2011. The broad policy areas covered by the 2016 CSRs - fiscal policy, human capital, and poverty and inequality - have featured in CSRs since they were first adopted in 2011.

Lithuania has generally maintained sound **fiscal policy** – containing budget deficits, strengthening the fiscal rules, and realigning the tax structure to support growth and employment. Lithuania has improved its budget position significantly since 2011, reducing its structural budget deficit from 3.5% of GDP in 2011 to an estimated 1.0% in 2016. It also revised its national fiscal framework, although it did not include binding multi-annual targets, as was specifically recommended in the 2011 – 2014 CSRs. On taxes, Lithuania has considerably reduced the tax wedge on labour and the low-wage earners, in particular; but it did not adequately compensate the resulting revenue loss by tapping other revenue sources that are less detrimental to growth. In 2014, Lithuania started a gradual increase in the retirement age, thereby improving the pension system's long term sustainability. Though welcome, these changes remain insufficient to prevent a significant rise in pension expenditure in the future.

Lithuania has taken some important steps in strengthening investment in **human capital**, covered by CSRs relating to the quality of teaching, labour market relevance of education, improving the employability of the low-skilled and promoting adult and work-based learning. While Lithuania has taken measures to improve the quality of vocational education and increase the use of apprenticeship schemes, other parts of the education system have seen limited progress and continue to face challenges of quality and efficiency. On the one hand, Lithuania has taken steps to address the skills shortages by introducing the skills forecasting system. On the other hand, improvement has been lacking in the coverage of active labour market policies, which are essential to improving the employability of the low skilled as well as increasing the labour supply at a time when it is becoming increasingly scarce.

Lithuania has struggled to reduce **poverty and inequality** substantially. Poverty has decreased significantly since 2011, but this has been mainly due to increased employment. Lithuania has generally targeted its tax cuts to the lowest earners and thus helped reduce their risk of poverty and contain the rise of inequality somewhat. By contrast, the measures taken to aid the non-working poor have been insufficient and as a result their material situation has not improved significantly. The social and material challenges faced by those who are not in work have not diminished substantially as the funding to social assistance programmes has remained tenuous, and as only a small share of low-skilled have benefitted from programmes helping them to find work.

Finally, Lithuania has achieved **substantial** progress in implementing a reform of state-owned enterprise governance and improving the security of energy supply.

Overall, Lithuania has made some progress ([10]) in addressing the 2016 country-specific recommendations. Lithuania achieved some progress addressing the recommendations regarding fiscal issues and strengthening of human capital. However, progress in adopting measures to strengthen productivity was limited.

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

([10]) 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: **Summary table of 2016 CSR assessment**

Lithuania	**Overall assessment of progress with 2016 CSRs: Some progress**
CSR 1: *Ensure that the deviation from the medium-term budgetary objective is limited to the allowance linked to the systemic pension reform in 2016 and in 2017. Reduce the tax burden on low-income earners by shifting the tax burden to other sources less detrimental to growth and improve tax compliance, in particular in the area of VAT.*	**Some progress**(1): • It has made substantial progress in reducing the tax burden on low income earners • It has made some progress in compensating the revenue losses by shifting the taxation to other sources • It has made some progress in improving the tax collection
CSR 2: *Strengthen investment in human capital and address skills shortages, by improving the labour market relevance of education, raising the quality of teaching and adult learning. Reinforce the coverage and effectiveness of active labour market policies. Strengthen the role of social dialogue mechanisms. Improve the performance of the healthcare system by strengthening outpatient care, disease prevention and health promotion. Improve the coverage and adequacy of unemployment benefits and social assistance.*	**Some progress** • It has made limited progress in strengthening the investment in human capital • It has made some progress in reinforcing the effectiveness and coverage of active labour market policies • It has made some progress in strengthening the role of social dialogue • It has made some progress in improving the performance of healthcare system • It has made some progress in improving the coverage and adequacy of unemployment benefits and social assistance
CSR 3: *Take measures to strengthen productivity and improve the adoption and absorption of new technology across the economy. Improve the coordination of innovation policies and encourage private investment, inter alia, by developing alternative means of financing.*	**Limited progress** • It has made limited progress in taking measures to strengthen productivity • It has made limited progress in improving the coordination of innovation policies • It has made some progress in developing alternative means of financing

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

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

Lithuania is a major beneficiary of the European Structural and Investment Funds (ESIF) with an allocation of up to EUR 8.4 billion for the period 2014-2020. This is equivalent to 3% of GDP annually (over 2014-2017). Out of EU financing EUR 726 million is planned to be delivered via financial instruments, which is 50% increase compared to the 2007-2013 period. By 31 December 2016, an estimated EUR 2.4 billion, which represents about 29 % of the total allocation for ESI Funds, have already been allocated to concrete projects.

Financing under the European Fund for Strategic Investments, Horizon 2020, the Connecting Europe Facility and other directly managed EU funds is additional to the ESI Funds. By end 2016, Lithuania has signed agreements for nearly EUR 369 million for projects under the Connecting Europe Facility. The EIB Group approved financing under EFSI amounts to EUR 289 million, which is expected to trigger EUR 581 million in total investments (as of end 2016).

ESI Funds helped progress on a number of structural reforms in 2015 and 2016 via ex-ante conditionality and targeted investment. Examples include RD&I, healthcare, education, energy and transport infrastructures, making active labour market policies more targeted and more efficient and enhancing institutional capacity of public authorities and stakeholders. The implemented structural reforms are generating benefits going beyond the very realm of cohesion policy in that they have prepared the ground for successful and smooth public investments in general, including from national sources and other EU instruments mentioned above. All necessary reforms and strategies as required by the ex-ante conditionality have been met. In addition to that, administrative reforms support is available through targeted financing under 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 include reinforcing active labour market policies targeting older workers, low-skilled and long-term unemployed, modernising the education system and making it more relevant to labour market needs, reinforcing institutional capacity of public services and of social partners, taking measures to strengthen productivity and improve the adoption and absorption of new technology across the economy. Structural changes in the design, coordination and implementation of the Youth policy are being implemented in addressing specific challenge of the youth unemployment and are supported mainly via Youth Employment Initiative (YEI). The programming of the Funds also seeks to improve the coordination of innovation policies and encourage private investment, inter alia by developing alternative means of financing. The Commission has assessed the 2016 CSRs addressed to Lithuania and concluded, based on the above, that there is no need to re-programme ESIF OPs at the current stage.

In addition to the challenges specifically identified in past CSRs, ESI Funds address wider structural obstacles to growth and competitiveness. These include improving the energy performance in houses (for additional 30 000 households), public buildings and businesses; addressing bottlenecks in infrastructure via improving accessibility through reconstructed or modernised roads and railway lines; incentivising innovation and supporting 4 400 enterprises.

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

3. REFORM PRIORITIES

3.1. PUBLIC FINANCES AND TAXATION

3.1.1. FISCAL POLICY

Lithuania over-achieved its fiscal targets for several years in a row and stabilised its debt level, helped by revenue gains from strong domestic demand growth. In 2015, the general government deficit stood at 0.2% of GDP. It is set to increase to 0.5% of GDP in 2016, partially due to fading one-off revenues from the deposit insurance scheme's surpluses. In 2017, the deficit is expected to widen to 0.7% of GDP, mostly due to an additional cost of 0.5% of GDP for labour market and pension reforms. The additional revenues from a set of small tax increases and efforts to improve tax compliance are set to be offset by the lost revenues from the increase in non-taxable incomes. The government also plans higher spending on public wages and pensions. The general government debt is set to stay well below the 60% of GDP threshold over the forecast horizon as it is expected to decline to 39.6% of GDP in 2018.

3.1.2. FISCAL FRAMEWORK

Lithuania's medium-term budgetary framework extends over a three-year horizon for fiscal policy-making, but the substance of the multiannual targets is weak. Lithuania went through the second cycle of budget planning since it joined the euro area in 2015 and raised the structural balance rule to the level of a constitutional law following its ratification of the Treaty on Stability, Coordination and Governance. Lithuania in general adhered to its national procedures and strengthened their implementation capacities. However, the multiannual targets, specifically the consolidated indicators of the State budget and municipal budgets for the following three budgetary years, only provides an indicative base for multi-year planning. This weakens the credibility of such targets and increases the likelihood of deviation from them.

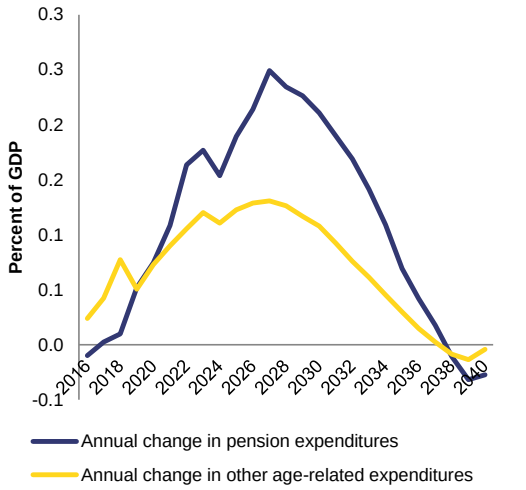
Budgetary reporting does not yet allow for fully effective and complete assessment of general government budgets vis-à-vis national fiscal rules. The national audit office has been tasked with assessing the compliance of the general government budgets with national fiscal rules. Although the national fiscal rules have been in place for two budgetary cycles already, implementing provisions for the assessment process are lacking. Notably, the absence of adequate reporting standards and designation of reporting responsibilities make the assessment process cumbersome and inefficient. Furthermore, at the level of municipalities, the reports come too late for an *ex ante* assessment.

3.1.3. MEDIUM AND LONG TERM FISCAL CHALLENGES

As a result of population ageing, expenditures on education, health care, long-term care and pensions are set to increase as a share of GDP. Overall, total age-related expenditures are projected to increase from 16% of GDP in 2015 to 20.7% of GDP by the end of the 2030s, declining thereafter. Rising dependency ratios (see Section 2.1) and rapidly increasing years spent in retirement are the main drivers of the increase in age-related costs. The bulk of this increase is due to pension expenditures which account for about 2.7 pps of GDP in spending increase. While the legislated increase in retirement age([11]) does mitigate the fiscal impact somewhat, it fails to account for the increasing life expectancy beyond 2020. Consequently, pension expenditure is projected to increase to 9.5% of GDP by the end of the 2030s (from 6.7% in 2015).

([11]) Lithuania's retirement age will increase by 2 months a year for men and 4 months a year for women to reach 65 years by 2026.

Graph 3.1.1: **Annual change in age-related expenditures**



Source: 2015 Ageing report

Graph 3.1.1 shows the annual change of pension and other age-related expenditure, in terms of pps. of GDP. The amount of additional funding that pensions and age-related services will require each year is expected to reach 0.36% of GDP ([12]) in the late 2020s.

The contributions to the public pension scheme are also projected to fall - from 6.3% of GDP in 2015 to 5.8% in 2020. A one-off drop in contributions worth some 0.3% of GDP is expected in 2020 as the share of pension contributions to the funded scheme (second pension pillar) is set to increase from 2% to 3.5% of the gross wage. Without addressing the parameters of the pension system, the decrease in contributions to the public pension scheme will add to the fiscal challenge posed by increasing expenditure.

3.1.4. TAXATION

Despite some progress made in recent years, tax compliance remains a concern in Lithuania. According to the latest calculation (CASE, 2016), the VAT gap in Lithuania was 36.8% in 2014. Although it had decreased by 1.8 pp. compared to 2013, it was still the one of the highest VAT gaps in EU. In 2016, the State Tax Inspectorate continued to implement its Tax Compliance Strategy, which saw the introduction of an electronic invoicing system and an electronic waybill system. Having shown promising results in their pilot phase in 2015, these systems are hoped to improve tax collection considerably in the coming years. In addition to the above, Lithuania's State Tax Inspectorate is also investing in developing a new IT system that would greatly enhance its analytical capabilities. The actual effect of these measures will only be seen in the coming years but their introduction can be viewed as good progress in raising the efficiency of the tax administration.

Better tax compliance could contribute to the overall fairness of the tax system and improve the competitiveness of Lithuania's economy. Overall, Lithuania's shadow economy is estimated to be between 15% - 26% (Putnins and Sauka, 2016; Schneider F., 2015). Besides the large VAT gap, underreporting of wages is pervasive and affects many economic sectors in Lithuania. Construction and services are reported to have the highest share of shadow activity. This distorts incentives and leads to resource misallocation and therefore can have negative repercussions for the overall competiveness of the economy. Moreover, the high wedge between effective and statutory tax rates undermines the effectiveness of the tax policy. The revenue lost due to non-compliance exacerbates the income inequality problem by limiting the level of redistribution that Lithuania can afford.

Broadening the tax base might help raise more revenue in ways less detrimental to growth and address the high levels of inequality and social exclusion. Lithuania has one of the lowest overall tax burdens in the EU ([13]).This is partially due to the high share of the shadow economy and partially due to relatively low environmental and capital taxes. Revenues from environmental taxes and recurrent property taxes are considerably lower than the EU average. In 2014, revenues from recurrent property taxes represented 0.3 % of GDP, (EU average was 1.6 %), while revenue from environmental taxes amounted to 1.7% of GDP (EU average 2.5%). These untapped sources, together with improved tax collection, offer an opportunity to rebalance the tax system in a way that supports employment, promotes income

([12]) EUR 140 million in 2015 prices

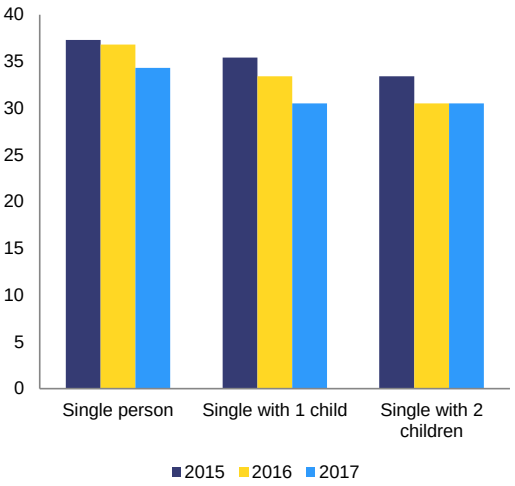
([13]) In 2015 tax revenue was 29.2% of GDP

equality and improves the resilience of the tax system to shocks.

In recent years, Lithuania has lowered the tax wedge on low-income earners significantly. Lithuania has raised the upper threshold of the non-taxable income allowance from EUR 166 to EUR 200 in 2016, and to EUR 310 in 2017. This is estimated to lower the tax burden on low-income earners (earning 50% of average wages) to 33.5% in 2017, in line with the EU average (see Graph 3.1.2). The measure targets low income earners as the upper threshold applies to revenues below or equal to EUR 380 per month, starting from January 2017. It is proportionally reduced for higher incomes. The personal income tax exemptions for dependent children and disabled persons have been raised as well. The increases in the tax allowance imply that single persons with two children earning 67% of the average wage do not pay personal income tax anymore in 2017. However, these measures fail to lower the tax burden for the most vulnerable households because their income tax liability is insufficient to benefit from additional increases in non-taxable allowance. Their tax wedge nevertheless remains substantial due to the relatively high rate of social contributions.

Other measures do not fully compensate for the reduced revenue due to labour tax cuts. In 2015, Lithuania broadened the base for property taxes. However, the additional revenue generated by this measure was meagre. The tax on land-filled waste was introduced in 2016 and will increase annually from 2017 until 2020, but the tax rate is low and significantly less ambitious than initially planned. Lithuania also remains among the few European countries that do not have any type of car taxation or road-use tax for private passenger vehicles. Although the introduction of car taxation has been publicly discussed, there are no concrete plans to introduce it at the moment. Increases in excise duties on tobacco products and alcohol in 2016 and 2017 are the most important sources of additional revenue. Overall, while the total revenue loss from the increases in the non-taxable allowances in 2017 is estimated at around EUR 140 million, the adopted tax increases are expected to cover around half of this.

Graph 3.1.2: **Tax wedge of different types of households earning 50% of average wage**



Source: European Commission

3.2. FINANCIAL SECTOR

3.2.1. FINANCIAL STABILITY

Lithuania's banking sector is relatively stable and profitable. Moderate risks stem from the high dependence on Nordic parent banks' financing. The banking sector has fully recovered from the financial crisis and currently shows no signs of stress (table 3.2.1). The sector is well capitalised on average with the Tier 1 capital ([14]) adequacy ratio at 24.3% being among the highest in the EU in 2015. The quality of bank assets continues to improve. The average ratio of non-performing loans (NPL) stands at 5.2 % in 2015 compared to the peak of 16 % in 2010. At the same time, the coverage ratio was somewhat below the euro area average at 35 % of outstanding NPLs and below the levels in Lithuania's Baltic peers ([15]). With 7.5% return on equity and 0.9% return on assets, the sector's profitability is well above EU average (4.4% and 0.3% return on equity and assets, respectively).

Table 3.2.1: **Financial soundness indicators**

(%)	2010	2011	2012	2013	2014	2015	2016Q2
Non-performing loans	16.1	13.4	10.9	8.5	6.5	5.2	4.7
Coverage ratio	45.5	45.8	44.1	40.6	36.2	35.3	37.5
Loan to deposit ratio*	144.9	133.2	125.4	115.7	99.3	97.1	105.7
Tier 1 ratio	10.8	12.0	14.6	17.0	20.9	24.3	19.1
Return on equity	-3.8	15.5	7.8	8.6	7.7	7.5	-
Return on assets	-0.3	1.5	0.9	1.0	0.9	0.9	-

(1) ECB aggregated balance sheet: loans excl. to gov. and MFI / deposits excl. from gov. and MFI
Source: European Central Bank

In response to accelerating credit growth, the Bank of Lithuania has put in place a number of measures aimed at keeping associated risks in check. They were based on the macro-prudential strategy adopted in March 2015. They include a capital add-on for concentrated exposures, a capital buffer for four systemically important banks ([16]), a 85% loan-to-value cap, a 40% debt-service-to-income limit, a 30-year maturity limit, a stress tests with a 5% interest rate and the frontloaded application of a 100% liquidity coverage ratio.

The funding gap is increasing as local deposit growth lags behind credit growth. While during 2010 to 2015, deposit growth exceeded credit growth, allowing the banks to strengthen their funding structure and reduce their external liabilities, in 2016 the trend reversed and the loan-to-deposit ratio increased again to reach 106% at the end of 2016. Looking ahead, domestic deposits may not be sufficient to finance expanding credit amidst the growing economy. This funding gap will need to be closed by either the Nordic parent banks or borrowing from the bond markets.

The dominance of Nordic banks in Lithuania's banking sector poses an inward spillover risk. A possible emergence of financial stress in the Nordic banking system, e.g. caused by a correction in housing prices in Sweden, could have adverse impact on Lithuania's banking sector. In case foreign parent banks' balance sheets were to deteriorate, they might become less able to provide further credit ([17]). In such a scenario, the funding gap created by a divergence in credit and deposits growth would create and additional vulnerability to Lithuania's economy.

3.2.2. ACCESS TO FINANCE

The Lithuanian capital market has a substantial development potential. Banks play the primary role in funding of non-financial corporations in Lithuania (total bank loans to NFCs equal 21% of GDP). Funds raised by companies on the stock market (9% of GDP) account for the second largest external source of financing. While the local equity market is shallow compared with the EU average, access to the much more developed Nordic OMX and Warsaw stock exchanges is relatively easy and offers scope to raise more financing on the equity markets in the future. On the other hand, the annual gross operating surplus of Lithuanian companies is higher than on average in the EU, suggesting that companies have the potential to finance investment from their retained profits.

([14]) Tier 1 capital includes equity and reserves, it is the 'highest grade' capital
([15]) This results from particularly low level of provisions in one large Swedish subsidiary, which was compensated by particularly high capital buffers.
([16]) SEB, Swedbank and DNB – each 2% of risk weighted assets; Šiaulių Bankas – 0.5% of risk weighted assets.
([17]) For a more detailed analysis of potential financial spill-overs in the Baltic-Nordic region see the *Country Report Sweden 2016.*

Lithuania faces a shortage of sustainable, well-functioning financing sources for business development. The presence of seed and venture capital is meagre and funding opportunities are not well known to businesses, despite the fact that business access to venture capital markets increased dramatically during 2011-2014 (Paliokaitė, Krūminas and Stamenov, 2016 ([18]). The shortage of alternative financing sources partly accounts for the high dependence on bank loans - Lithuanian SMEs tend to refer to banks for loans more often than the EU average, and at the same time they are denied funding most often in the EU. The percentage of Lithuanian SMEs which received the full amount of the bank loan they applied for is among the lowest in the EU (46% compared to 67% EU average) according to the EC SAFE survey (European Commission/European Central Bank, 2016).

Lithuania has made strong efforts to increase venture capital investment in recent years. Among EU countries, Lithuania ranks 8th in venture capital financing as a share of GDP (European Commission, 2016a). Lithuania had the fastest growth in venture capital financing among the Member States and now ranks above the EU average. Developing the venture capital market is important, since Lithuanian firms facing financial constraints are often those with higher levels of labour productivity. Lithuania contributed to the Baltic Innovation Fund, which is jointly financed by each of the Baltic countries and which invests in existing private equity and venture capital funds that then finance high potential firms in the Baltic countries. The government promotes new forms of financing – a law on crowd-investing is enforced as of 1 December, 2016. Venture capital financing is expected to pick up further in 2017. However, the financial portfolio of alternative financing sources still mostly relies on European Structural and Investment Funds, raising concerns about their longer-term sustainability.

The government also took other initiatives to improve companies' access to finance beyond bank loans. These include reforms to facilitate the issuance of corporate bonds (by ensuring a higher level of protection of bondholders' interests) and amendments to the Law on Companies that would make it easier for private companies to offer their bonds publicly. Both legal acts came into force on 1 November 2016. Additionally, further amendments to the Law on Companies are under consideration, including a revision of rules on private placement and stock options for employees. Finally, the Ministry of Finance, in partnership with the European Bank for Reconstruction and Development, initiated a review of Lithuania's national legal system to facilitate securitisation and covered bond issuance.

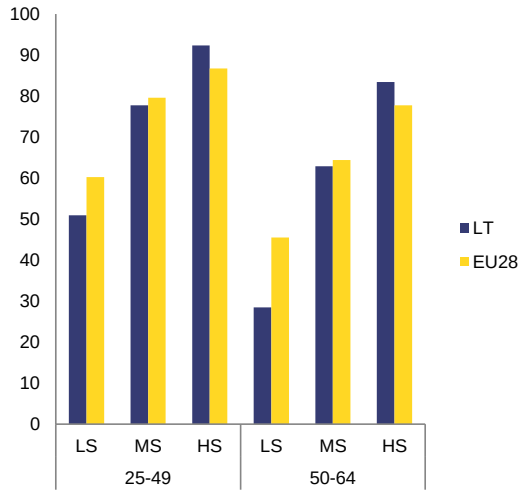
([18]) EUR 179.6 million were secured for loans, guarantees and venture capital in a new "Business Financing Fund" (managed by INVEGA).

3.3. LABOUR MARKET, EDUCATION AND SOCIAL POLICIES

3.3.1. LABOUR MARKET: SKILLS

Labour market outcomes in Lithuania are more strongly differentiated by education levels compared with other countries. While employment rates of highly skilled workers are at about the EU average, employment rates of low- and medium-skilled are below average. Employment rates are particularly low for low-skilled elderly workers (aged 50-64) (see Graph 3.3.1). The large disparity in labour market outcomes across skills groups points to a potential shortage of high-skilled workers in Lithuania ([19]). While the skills gap has motivated an increase in tertiary attainment, there are concerns about the quality and labour market relevance of Lithuania's education system (see Section 3.3.5).

Graph 3.3.1: **Employment rates by age group and skill level**

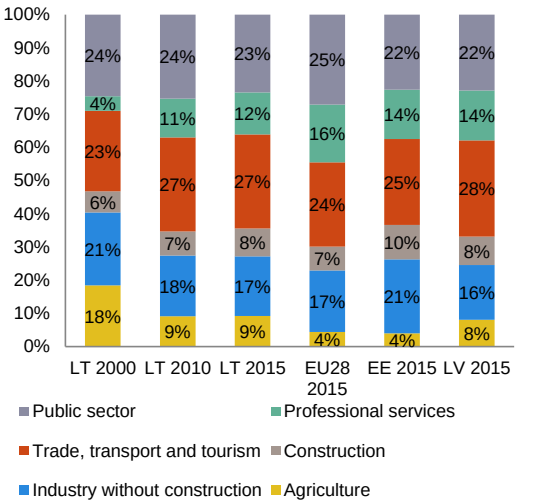


Source: European Commission
Note: LS - low skill, MS - medium skill, HS - high skill

The shortage of high-skilled workers is likely to generate some wage pressure in sectors recruiting this type of workers. They are remunerated significantly better than low- and medium-skilled workers. High wage growth is already observed in the IT and communication sector, possibly related to the high inflow of FDI in shared services, ICT and financial services outsourcing (Skills Panorama, 2016) and the scarce supply of digital skills ([20]). The average worker in the ICT sector receives twice the mean hourly compensation in Lithuania ([21]), and wage growth has been strong in recent years. Average compensation is also relatively high in financial and insurance activities. Nevertheless, both of these sectors remain relatively small, each representing less than 2 % of total employment.

The sectoral composition of employment is shifting gradually away from agriculture and industry towards tradable and non-tradable service sectors. From a broad perspective, Lithuania is converging to the EU average sectoral composition, although it remains somewhat more specialised in lower-paying jobs such as in wholesale and retail, transport and storage, and agriculture; and the share of employment in higher-paying jobs such as information and communication, finance and insurance is still relatively low compared to the EU average and to other Baltics (see Graph 3.3.2). However, assuming Lithuania's structural transformation continues along the same path, the demand for highly skilled professionals will increase in the future.

Graph 3.3.2: **Employment by economic activity**



Source: European Commission

Employment is shifting increasingly towards more high-skilled occupations (from 34% of employment in 2005 to 42% in 2015, as compared

([19]) In 2015, the unemployment rate (15-74) for high-skilled in Lithuania stood at 3.7%, as compared to an EU-average of 5.6%. 2016 sees a further decline.

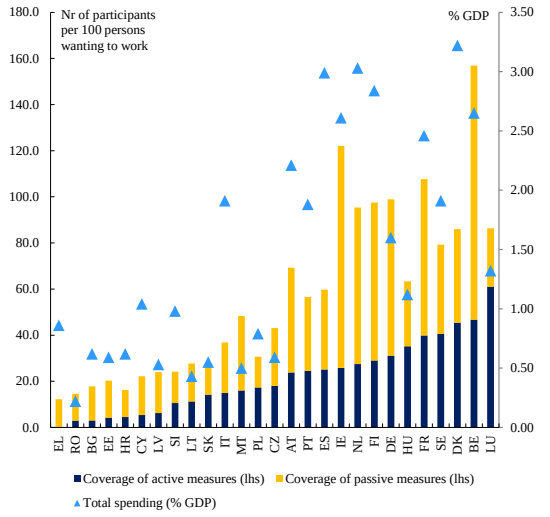
([20]) Lithuania is below the EU average in advanced and basic digital skills (European Commission, 2016b).

([21]) This is one of the highest levels in the EU, whose average is 1.5 times the mean wage.

to the EU average of 41%) (ILO, 2007)([22]). Especially the share of the professional services sector has increased, and now exceeds the EU average. The share of skilled agricultural workers and of craft and related trade workers has declined over time, but remains above the EU average.

Investment in human capital is crucial to support economic growth and further labour market improvements. The high impact of skills on labour market outcomes underscores the importance of both the initial education as well as the upskilling and reskilling of adults. A substantial share of active labour market policy (ALMP) resources in Lithuania is already targeted towards training and upskilling of low- and medium-skilled unemployed. However, the general level of expenditures, and the coverage of active measures remains limited in Lithuania compared to other EU countries (Graph 3.3.3) ([23]).

Graph 3.3.3: **Coverage of labour market policies**



Source: European Commission

Participation in adult learning remains stagnant at a low level (5.8%) compared with the EU average (10.7% in 2015). According to PIAAC results, adults in Lithuania show above-average proficiency in numeracy and average proficiency in literacy skills compared with adults in the OECD countries. However, Lithuanian adults have low computer familiarity and skills, and low levels of problem-solving skills in technology-rich environments, compared with other countries. A number of policy actions and planning documents were adopted during recent years to develop Lithuania's adult learning system, including the establishment of a network of adult learning coordinators in all municipalities. As yet, the policy measures taken are at an initial stage of implementation and participation in adult learning remains low.

The 2016 revision of the Labour Code underscores the importance of raising skills and workforce adaptability. The reforms of the Labour Code, and more broadly of other aspects of the social model, aim at making labour markets more flexible (see Box 3.3.1) while increasing security. This implies that careers will become more dynamic and workers would need to adjust flexibly across occupations and sectors. Therefore it is important that they can reskill and upskill according to the economy's needs. In 2016, Lithuania adopted a new law on Employment ([24]) that is expected to mitigate the risk of unemployment, in particular by expanding the range of ALMP measures, and integrating them with other services provided by the Public Employment Service. So far, only limited additional funds have been allocated to support these measures.

([22]) High-skilled occupations are defined as those classified under ISCO08 1-digit levels 1, 2 and 3, according to a definition by ILO.

([23]) For more detailed analysis, see Country Report Lithuania 2016.

([24]) Entry into force has been postponed from 1 January 2017 to 1 July 2017.

Box 3.3.1: The new labour code

In 2016, Lithuania adopted a new comprehensive legislative package establishing new regulations in labour relations, social security provision and the pension system. Referred to as the "social model" reform, the aim of this reform package is to make labour market more flexible, while providing at the same time more security through the unemployment insurance system, and, eventually, improved collective bargaining. The social partners were involved in preparation of the package, but some agreements reached in the Tripartite Councile were not included in the final version of the legislation. In response to widespread criticism, in December 2016 the newly elected Lithuanian government decided to postpone the entry into force of the package until 1 July 2017 and announced further amendments.

Labour relations have been made more flexible. While Lithuania's labour market showed a high degree of flexibility over the crisis period, it has been argued that this was to some extent the result of circumvention of formal regulations, and that a more flexible labour code with better enforcement can increase labour market efficiency and support investment. The conclusion, amendment, and termination of employment contracts have been made simpler and new types of employment contracts have been introduced. The dismissal from work is liberalised through shorter notice periods (from 2 down to 1 month in most cases) and lower severance payments (from 6 down to 2 months in most cases). In addition, new grounds for dismissal are established, in return for higher severance pay. Certain aspects of the organisation of working time have been deregulated as well, so that more opportunities for flexible working time regimes arise. On the one hand, working time can be increased in peak production periods, on the other hand, this flexibility may facilitate the reconciliation of work and family life. The new Code allows for a very flexible use of fixed-term contracts (with a maximum cumulative duration of 2 years) and the use of short-time working schemes. The regulation of labour disputes changes as well.

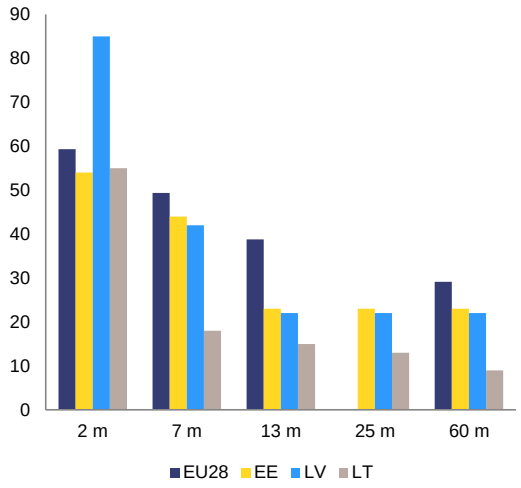
To support income security, the unemployment benefits system was expanded, but parallel changes in the severance payment system imply that the net income effect for unemployed may still be neutral or even negative. The required contribution period is reduced from 18 out of the previous 36 months to 12 out of 24 months, which keeps the ratio of the qualification over the reference period stable. Theoretically, it is not clear *ex ante* whether this should increase coverage or reduce it (increasing the reference period usually increases coverage, increasing the qualification period usually reduces coverage). However, simulations based on EU SILC data suggest that this change would raise coverage. Currently being at a very low level, the replacement rates are increased: the fixed part is set at 30% of the minimum wage, and the variable part is raised to 50% of the employee's average salary for the first 2 months, 40% for the next 2 months, and 30% during the last 2 months – as compared to the previous rate of 40% during the first 3 months and 20% during the last 3 months. The ceiling for unemployment benefits is also raised to 75% of the average wage. On the other hand, the duration of unemployment benefits is capped at 6 months instead of being raised to 9 months as initially planned. For those with long tenure, an additional severance payment, paid from a collective fund, applies upon dismissal in the amount of 1-3 monthly wages. However, the positive income effects of the higher replacement rates are mitigated by a broad reduction of severance payments and the introduction of personal income tax on unemployment insurance benefits. As a result, for those unemployed who already qualified for unemployment insurance under the previous scheme, the income effects of the reform are not expected to be substantial, casting some doubts on the balance between flexibility and security of this new social model.

3.3.2. LABOUR MARKET: COLLECTIVE BARGAINING

The new Labour Code aims to encourage labour union membership and strengthens work councils. The social dialogue in Lithuania is weak, evidenced by low union and employer organisation density and bargaining coverage (European Commission, 2016)([25]). The government anticipates that the reforms will support the development of a stronger social dialogue. Important changes in collective bargaining concern collective representation. Trade unions will no longer represent all employees, but rather only their members, with the aim to encourage trade union membership and representativeness. In addition, a stronger role for works councils is established. Both the trade unions and the employer organisations have expressed their reservations over this reform, as it represents a major overhaul of the social dialogue at the firm level, and it is not clear whether there will be sufficient capacity on the ground for successful and effective implementation of the reform. The government has planned measures to support capacity building of the social partners, but more active involvement of the social partners themselves in designing these measures would benefit the effectiveness of the reform.

([25]) Union density is calculated as net union membership as a proportion of wage and salary earners in employment. Employer organisation density is calculated as the proportion of wage and salary earners in firms organised in employers' organisations. Bargaining coverage measures the % of employees covered by collective wage bargaining agreements as a proportion of all employees with the right to bargaining.

Graph 3.3.4: **Net replacement rates at different lengths of unemployment duration in 2015**

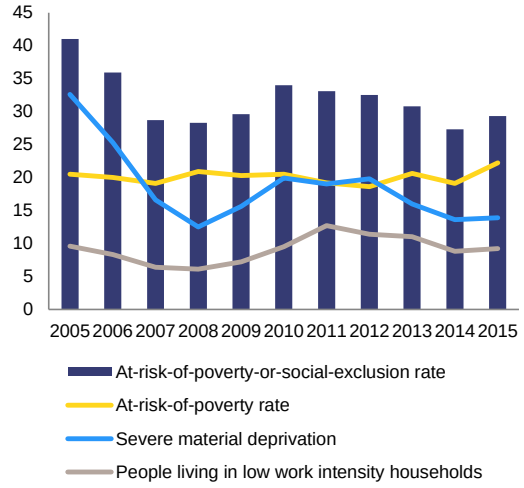


Source: European Commission

3.3.3. SOCIAL POLICIES: POVERTY

The decline of at-risk-of-poverty-or-social-exclusion (AROPE) rate stalled in 2015 and there are some signs of reversal. Despite positive developments in previous years and steady GDP and employment growth, the AROPE increased from 27.3% in 2014 to 29.3 % in 2015, mostly on account of the at-risk-of-poverty rate, but there was also a slight uptick in the severe material deprivation rate and in the population share in low work intensity households (Graph 3.3.5). Poverty increased more for children and for elderly than for the working age population. It is high especially among unemployed and retired persons, mainly due to the low adequacy of unemployment insurance benefits and pensions. The AROPE for unemployed persons stood at 74.5%, among the highest in the EU. The AROPE for retired persons aged 65+ amounts to 37.7%, also among the highest in the EU, and has increased since 2010. There is also a significant gender gap in poverty for the population aged 65+: AROPE reaches 41.0 % for women, while for men it is at 26.2 % (2015). These trends suggest that Lithuania's welfare system is failing to keep pace with economic growth.

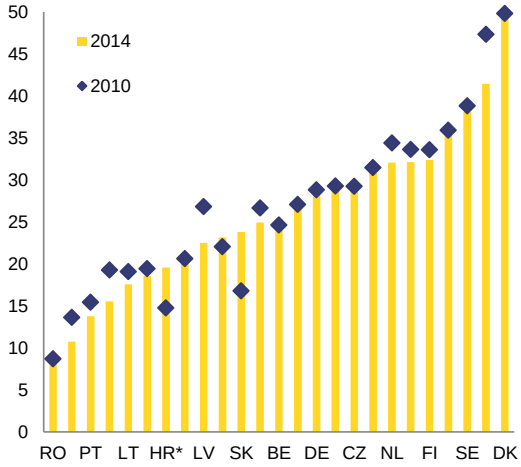
Graph 3.3.5: **Poverty indicators**



Source: European Commission

Lithuania's social safety net offers weak protection against poverty. The relative income level of Cash Social Assistance recipients (as a % of full time workers) is low compared to other EU countries. The amount of state supported income (EUR 102), which is the base for the cash social assistance, remains at the level of 2008 in spite of the strong average income growth observed since then. To promote better coverage, Lithuania adopted a set of amendments to the Law on Cash Social Assistance for Poor Residents (No XII-2611) which expands eligibility for receiving cash social assistance (e.g. grants for unemployed who take part in vocational training are not included in the means-test) and establishes a list of circumstances under which cash social assistance cannot be reduced (e.g. if the Public Employment Service did not offer any activation measures). It also expands the eligibility for in-work benefits to those who are in unemployment for 6 months (rather than the previous 12).

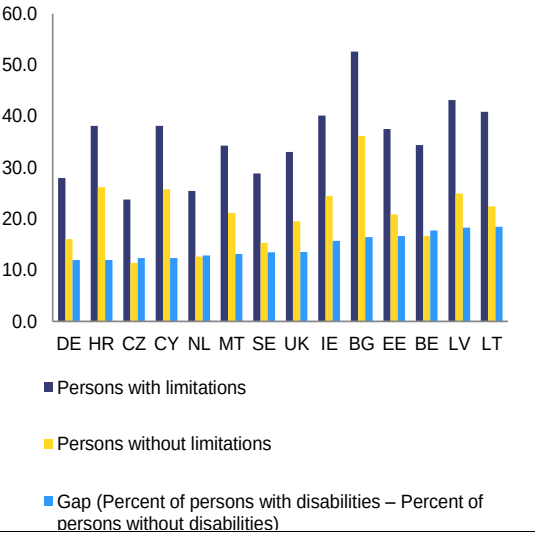
Graph 3.3.6: **Median income as a share of average income, %**



Source: OECD data, European Commission calculations

The share of people with disabilities at risk of poverty or social exclusion is among the highest in the EU. Moreover, the gap between persons with and without disabilities (at 18.5 pps) is the largest in the EU (Graph 3.3.7). The at-risk-of-poverty-or-social-exclusion rate is particularly high for persons with a severe disability at working age (65.7%, one of the highest in the EU).

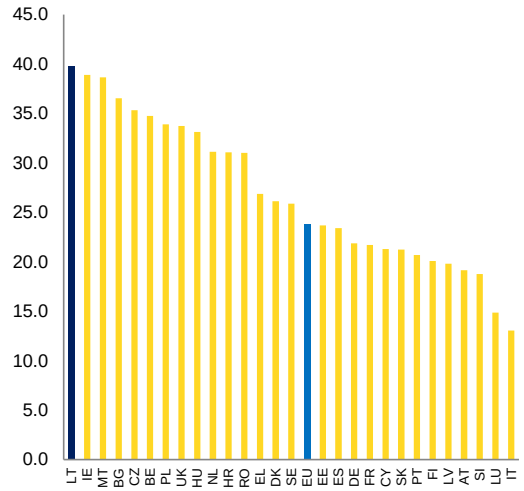
Graph 3.3.7: **Share of people at risk of poverty or social exclusion by disability status, %**



Source: European Commission
Note: Graph includes 14 EU countries with the highest gap

High poverty among disabled people relates to their weak labour market integration and low adequacy of social safety nets. In 2014 only 23 % of all disabled persons were employed (ANED, 2016a). Lithuania has one of the highest employment gaps (40 ppt) between people with and without disabilities (Graph 3.3.8). While the legal environment and national level strategies programmes for the disabled are in place, Lithuania lacks comprehensive measures for the effective integration of disabled persons into the labour market, which is the most efficient way to protect them against poverty. In this respect, the functioning and effectiveness of current system of social enterprises is reportedly weak (ANED, 2016b).

Graph 3.3.8: **Employment gap of people with disabilities aged 20 to 64**



Source: European Commission
Note: Employment gap is the difference of employment rate of people without disabilities and of those with disabilities

3.3.4. SOCIAL POLICIES: INEQUALITY OF INCOME

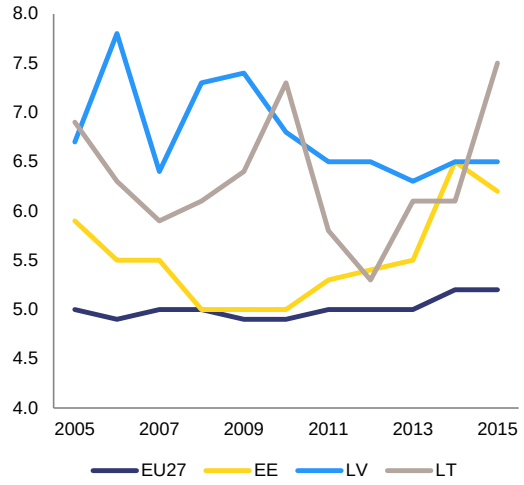
The inequality of incomes in Lithuania is one of the highest in the EU, and has been increasing since 2012. In 2015, the income quintile share ratio (S20/S80) ([26]) stood at 7.5, one of the highest levels in the EU (Graph 3.3.9). Inequality is the result of high employment gaps between low-skilled and high-skilled workers, the strong wage dispersion, the limited progressivity of the tax system, and weak social safety nets, including for the elderly (IMF, 2016). Besides the fact that excessive income inequality is considered to be detrimental to economic growth and macro-economic stability, in Lithuania it could also be one of the causes of emigration.

The tax-benefit system seems insufficient to correct for inequality of market incomes in Lithuania. Lithuania has one of the lowest tax-to-GDP ratios in the EU. Total tax revenues were 27.7 % of GDP in 2015 as compared to the EU average of 40 %. Combined with weak social safety nets, the system is less able to correct market income inequalities than in other Member States. Lithuania has one of the highest Gini coefficients for household income after tax and benefits in 2015([27]).

([26]) The ratio of total income received by the 20 % of the population with the highest income (top quintile) to that received by the 20 % of the population with the lowest income (lowest quintile). Income must be understood as equivalised disposable income.

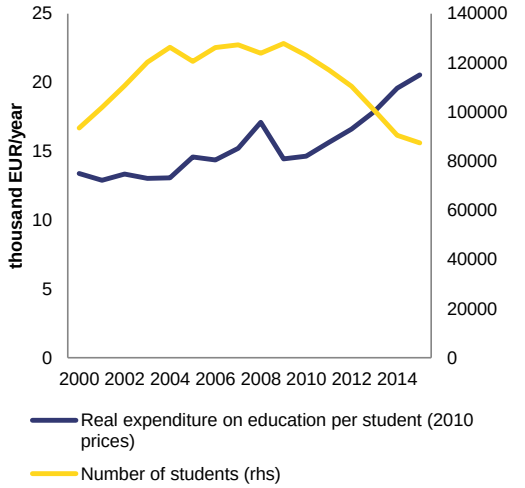
([27]) The Gini-coefficient is an indicator of income inequality with a value between 0 and 1. Lower values indicate higher equality and high values higher inequality. A value equal to 0 indicates that everybody has the same income,. A value equal to 1 indicates that one person has all the income in a country.

Graph 3.3.9: **S80/S20 income ratio**



Source: European Commission
Note: S80/S20 shows the ratio of the total income of the 20% of the highest earners divided by the total income of 20% of the lowest earners

Graph 3.3.10: **Real public expenditure on education per student (2010 prices)**



Source: European Commission, Statistics Lithuania

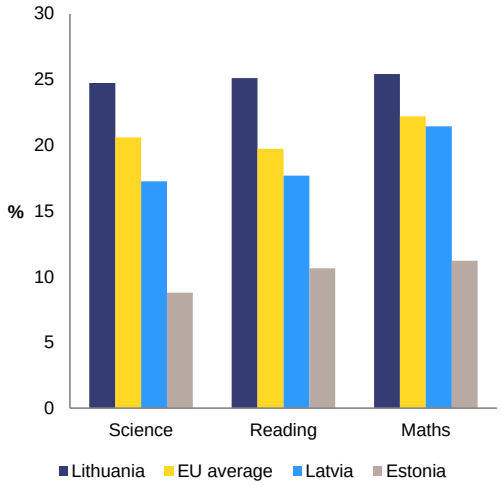
3.3.5. EDUCATION

Lithuania's education system has struggled to adapt to the decreasing number of pupils and students. In 2015, Lithuania spent 5.4 % of GDP on education, down from 6.4 % in 2010 and in line with a target reduction for educational expenditure to 4.8 % of GDP by 2020. Yet, the public expenditure on education per student has increased (see Graph 3.3.10). Increasing expenditure per student and stagnant education quality suggest the system is struggling to maintain efficiency in the face of the need to downsize. The declining number of pupils for the past decade, with 39 % fewer students in 2015 than in 2005, meant that the student-teacher ratio has been constantly falling. Consequently, Lithuania has one of the highest concentrations of teachers in the active population in Europe (OECD, 2016) and a comparably large support staff (LFMI, 2016a). The steady and continuing decline in average class size in the same period left many schools with buildings that are too big for their needs and thus requiring an ever increasing share of resources to be spent on heating and maintenance (LFMI, 2016b).

School education outcomes in terms of basic skills proficiency are below EU average and have deteriorated in recent years. In the 2015 OECD Programme for International Student Assessment (PISA), Lithuanian 15-year-olds perform below the EU average in basic skills and the proportion of low achievers is high in all three fields (science, reading and maths) tested, at 25 %. Compared to 2012, the proportion of low achievers has increased significantly in reading and science and has only slightly decreased in mathematics. Girls continue to strongly outperform boys in reading, although the gender gap decreased between 2012 and 2015. 40 % of students in the bottom socio-economic quarter are low achievers in science (OECD, 2016a; European Commission, 2016e). The difference in performance in science between children studying in rural and urban areas is among the highest in the EU (56 points). The 2015 results of the Assessment of Achievement of the Lower-Secondary Education Programme (NTCL, 2015) confirm that almost one fifth of 16-year-olds (10^{th} grade students) lack basic knowledge and skills. Weaknesses in reading and writing are already evident for 10-year-olds (4^{th} grade students); those in mathematics become evident at the age of 14 (8^{th} grade students). New curricula for the Lithuanian language were approved in January 2016 to improve pupils' writing and reading skills. Standardised

instruments were created to enable detailed analyses at the level of the individual child. In 2017, a national system for evaluating school children's learning outcomes in general education will be fully rolled out.

Graph 3.3.11: **Proportion of low achievers**



Source: OECD, PISA 2015

Teacher quality is key to tackling the low performance of the education system, but there are concerns related to the supply and demography of teachers. The teaching workforce is ageing. 44 % of lower secondary education teachers were aged 50 years or older in 2014. There is evidence that the teaching profession is not attractive to young talented people (MOSTA, 2015; Lithuanian Education Council, 2015a). The number of applicants to a teacher training programme has halved over the past 5 years and, for example, no students were admitted to physics and chemistry teacher training programmes in the last 3 years (Lithuanian Education Council, 2015a). A significant proportion of entrants into initial teacher education, as high as 85 %, end up not entering the teaching profession. This suggests that, despite the current oversupply of teachers, in the medium to long term schools may encounter teacher shortages.

Teachers' wages are low and funding for continuous professional development is scarce. Wage growth in education has failed to keep up with the overall pay increase and is now below national average. Moreover, basic statutory teacher's salaries are the lowest in the EU when compared with GDP per capita (European Commission/EACEA/Eurydice, 2016). New recruits to teaching are likely to earn close to the minimum salary. Low wages are aggravated by the practice of setting salaries on the basis of the actual workload, thus reducing the young teachers' earnings as they usually have less teaching hours than their experienced colleagues. Obligatory in-school practice during teachers' initial training is limited and innovative teaching methods remain underutilized. There are also large discrepancies in the funding of teacher qualification development with some municipalities receiving three times as much as others (Shewbridge, C. et al., 2016).

The government has taken some steps to improve the attractiveness of the teaching profession. It raised salaries for novice teachers, and allocated funding for early retirement compensation in order to create more vacancies and provide more employment opportunities for young teachers. Developing strategies for redeploying and retiring teachers currently employed in schools is a positive step, but it requires careful planning to avoid future teacher shortages and a loss of accumulated knowledge. Also, scholarships for teaching degrees and a mentoring programme supporting young teachers have been set up. However, these steps are relatively minor and a larger scale rationalisation of education system would be needed to free up resources for higher pay and professional development programmes.

Higher education is grappling with maintaining the quality and efficiency of funding in the face of large drops in student numbers. The number of young people entering higher education has decreased by 9 % since 2015 and by 21% since 2012 for demographic reasons (MOSTA, 2016a). Due to the allocation of public funding for higher education on the basis of input rather than output indicators, the competition to attract students has resulted in a mushrooming of overlapping study programmes and a lowering of entry requirements ([28]). There has, however, been a light redistribution of students across study fields and an increase in the number of entrants into natural

([28]) For example, management studies are offered by 23 higher education institutions (HEIs) in 40 study programmes; business studies are offered by 20 HEIs in 32 study programmes. (MOSTA, 2016b)

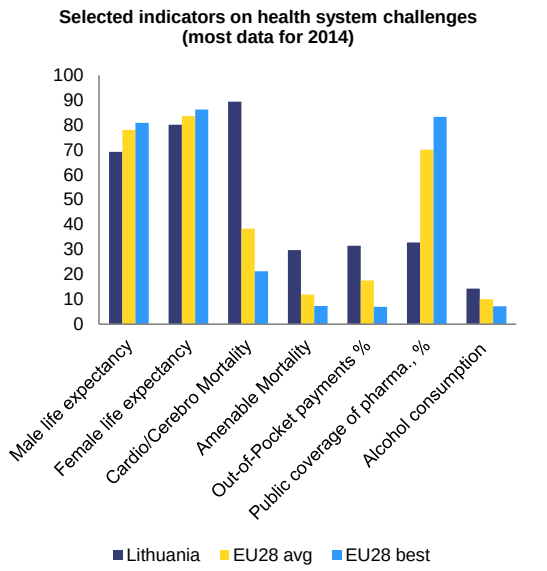
sciences. Consequently, the class sizes have dropped - in 2016, one third of all study programmes in Lithuania had no more than 10 enrolled students. The reform of tertiary education is high on the political agenda – in December 2016, the parliament adopted a resolution urging the government to work out a restructuring plan. Setting up the institutions' financial incentives in a way that promotes quality and efficiency of the higher education will be the key challenge of this reform.

Lithuania has taken steps to improve the labour market relevance of education. On 29 June 2016 parliament adopted the new law on higher education and research. The law lays down minimum admission requirements for all universities and compulsory pre-entry career guidance. Furthermore, it provides for more cooperation on curriculum development with social partners and the expansion of work-based learning opportunities in tertiary education. New pathways from professionally-oriented programmes to traditional academic master's programmes will be opened up. Moreover, a national human resources monitoring framework plan came into force on 1 June 2016. The monitoring system covers all levels of education, including the observation of the labour market outcomes of graduates and forecasting of future skills needs. Successful implementation of this framework should improve the planning process and policy design in education.

3.3.6. HEALTH

Poor health outcomes exacerbate the problem of the declining working age population by further reducing the country's workforce. Male life expectancy continues to increase but is still amongst the lowest in the EU. High mortality rates hamper the potential of the Lithuanian workforce and economy (OECD, 2016). Amenable mortality in Lithuania is among the highest in the EU, indicating a poor performance of the health system. The main challenges in health care provision are high regional inequalities in access (people in rural areas make fewer visits to physicians and their life expectancy is three years lower), too high reliance on inpatient care (631 hospital beds per 100 000 inhabitants in Lithuania; EU: 396), and ineffective health promotion policies - alcohol consumption in Lithuania continues to be among the highest in the EU.

Graph 3.3.12: **Select health system performance indicators**



Source: European Commission
Note: most data from 2014

Financial barriers to health care access and corruption affect the equity of the health system. Out-of-pocket payments are very high, representing almost one third of current health expenditure as compared to an EU average 15 % and reduce equity in access to health care (Health at a Glance: Europe 2016). Out-of-pocket payments are particularly high for medicines. There is a potential for the further promotion of generic medicines (IMF, 2015). Corruption in the health sector, in particular the frequent practice of informal payments (Stepurko et al, 2014), further reduce equity in access to health care.

Health care remains among the sectors most vulnerable to corruption in Lithuania. Social acceptance of informal payments is slowly diminishing, especially among younger patients, but the preponderance of informal relations in the sector continues to jeopardise equal access to treatment and merit-based appointment of managers (European Commission, 2017a). The government is prioritising the health care sector in its anti-corruption programme. Supervisory councils of Vilnius municipal hospitals were opened to civil society representatives. State and municipal doctors are required to report any

conferences they attend funded by pharmaceutical companies. Rules also oblige clinical staff to inform patients about anti-corruption matters, including contact details for complaints. Advertisers are banned from offering gifts to health care professionals. Continued monitoring is necessary to ensure implementation of these policies.

3.4. INVESTMENT

3.4.1. INVESTMENT SITUATION

The investment level is considerably lower than before the crisis. During the last 5 years, investment in Lithuania has remained stable at around 18% of GDP. This follows a period where it increased steadily from around 19.1% of GDP in 2000 to 28.6% of GDP in 2007. Lithuania's investment rates were consistently above EU average during the period from 2000 to 2008. However, since the crisis, Lithuania's investment rate has lagged both the EU average and the other Baltic countries. Non-residential construction has seen the largest drop in investment, followed by investment in equipment. Residential investment has held up the best and is the only investment type that has seen sizeable increase, in terms of percent of GDP, in recent years (European Commission, 2016d).

Non-EU funded public investments are low and suffer from poor planning. Lithuania crucially relies on EU funds for its public investments, as only around one third of all public investments are financed by own-resources (see Box 2.1). Moreover, the investment programmes that are financed from own resources suffer from poor planning and coordination (see Section 3.6).

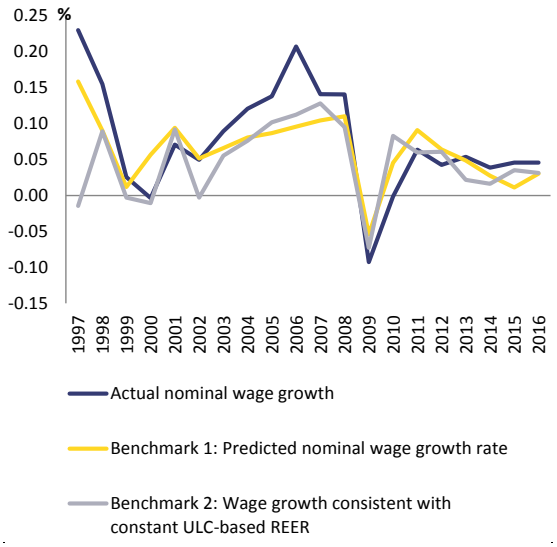
3.4.2. PRICE COMPETITIVENESS

Unit labour costs (ULC) have been increasing since 2012. Following a rapid increase during the years leading up to the 2009 crisis, ULC declined substantially in 2009 and 2010. Since then, the growth has resumed and reached 4.8% in 2015. The growth in ULC is a clear sign of the tightening of the labour market, leading to strong wage growth, while productivity growth has been lagging behind since 2012. At the same time, at 46%, the labour share of income is one of the lowest in EU and also below that in the other Baltic countries, implying a possible space for increase in labour income share.

Other indicators of external competitiveness give a mixed message. While the real effective exchange rate appreciated by 4% from 2012 to 2015, the export market shares in the meantime grew by 15%. Nevertheless, they declined by 10% in 2015, mainly as a result of a drastic fall of exports to Russia. At the same time, exports to the EU have continued to grow, albeit more slowly. The current account has returned close to balance in 2016. This indicates that, unlike in the years leading up to the 2009 crisis, the risk of external financial inflows fuelling unsustainable growth in domestic consumption and wages is low.

In recent years, wage growth has exceeded the benchmark wage growth rates. As Graph 3.4.1 shows, nominal wage growth in Lithuania has been higher than both what would be consistent with productivity growth, and what would be consistent with a constant real effective exchange rate since 2013. While the wage growth divergence from the benchmarks is not nearly to the scale it had been before the 2009 economic crisis, it may negatively affect Lithuania's competitiveness if this trend continues.

Graph 3.4.1: **Wage growth in comparison to benchmarks**



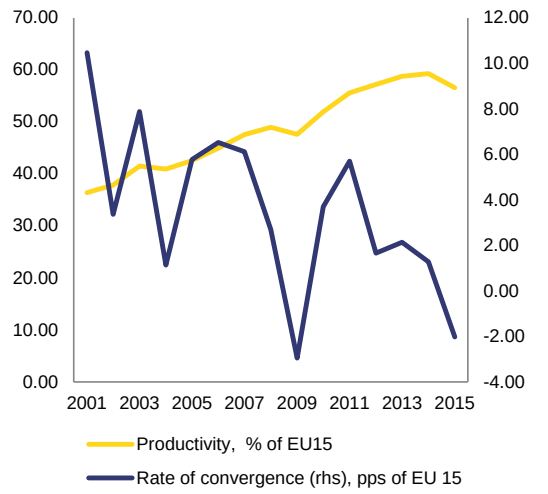
Source: Update of Arpaia and Kiss

3.4.3. PRODUCTIVITY GROWTH

The imminent decline of the population share in prime working age means that growth will increasingly depend on labour productivity. Over the period 2000-2015, Lithuania has had one of the highest labour productivity growth rates among EU Member States, reflecting a catching up process. From 32.8% of EU15 average in 2000, its productivity per hour worked had grown to 56.6% in 2015. However, as the country's productivity level approached the EU average, the growth rates

slowed down and so has the catching up rate with the western European countries.

Graph 3.4.2: **Lithuania's convergence of productivity**



Source: European Commission

Manufacturing was the biggest contributor to productivity growth during the past 15 years and also the main reason behind the post-crisis slowdown. Over the period 2000 to 2010, average productivity growth in manufacturing was 8.6%, well above the economy average of 5.6%. While productivity growth has slowed down across all activity branches during 2010 – 2015, manufacturing slowed down the most and, at an average 2.9%, its productivity growth was barely above the economy-wide productivity growth of 2.5%.

The recent productivity slowdown coincides with a slowdown in structural change of the economy. As discussed in section 3.3.1, since transforming to a market economy in early 1990s, Lithuania underwent a structural change in the economy – the employment in agriculture and industry sectors decreased as they caught up with modern technologies and become much more productive. At the same time, the employment share of the modern services sectors grew substantially. This transformation was largely behind the rapid productivity growth up to 2010. The potential productivity gains from the structural adjustment diminished as Lithuania's sectoral composition converged to the EU average. Notably, as Graph 3.3.2 shows, no significant structural change took place in Lithuania between 2010 and 2015. This may largely explain the corresponding slowdown in productivity growth - the relatively easy gains from the catching up process had been exhausted by 2010 and any further growth was much harder to achieve. The parallel slowdown in investment growth, notably following the economic crisis of 2009, aggravated the diminishing growth potential. Adjusting to a more knowledge-intensive growth model is the major challenge Lithuania faces to ensure productivity growth drives further living standard convergence with the EU average.

The change in external financial flows may be another reason behind the productivity growth slowdown. While during 2004 – 2010 Lithuania's net liabilities to the rest of the world increased on average by 3.4% of GDP annually, during 2010 – 2015 they have decreased on average by 2.2% of GDP per year. This constitutes a reversal in the flow of funds of 5.6% of GDP annually. Some of this reversal reflects lower investment demand, although a part of the pre-crisis financial inflows was fuelling an unsustainable growth in domestic consumption, which inflated both the GDP and productivity growth rates. Hence, while current financial outflows may suppress the productivity growth somewhat, at the same time this means that the risk of an unsustainable growth path is much lower than during the pre-crisis years.

3.4.4. PRODUCTIVITY ENHANCING POLICIES

Knowledge-based activities are expanding, but the high-tech sector remains small. There are few firms in medium-high and high-technology sectors. Chemicals, refined petroleum products, apparel, textiles and furniture are the most important sectors within manufacturing. Knowledge-based activities within manufacturing and services are expanding and they are of particular importance for innovation and productivity growth. These include for example biotechnology industries, laser manufacturing, mechatronics and information technology. Innovation and firm productivity growth would benefit from greater international knowledge spill-overs and improvements in firms' absorptive capacity, which would make Lithuania more attractive for foreign direct investment and boost the participation of Lithuanian firms in global value chains.

Lithuania is supporting the uptake of new technologies and business models. A number of grant schemes support SME investment into innovative manufacturing or service ventures. They also promote introduction of modern technologies, adapting and developing new production capacities, and new products and services. Lithuania is the first Member State to have passed a peer-to-peer ridesharing law. It sets out light registration procedures for drivers of "passenger carriage for a fee" who can be either businesses or individuals.

Lithuania is increasingly benefitting from the digital economy. There is a steady increase in the number of enterprises that make use of specific applications of digital technology in business activities (European Commission, 2016f). The number of households that subscribe to fixed broadband is still below the EU average. However, the percentage of subscriptions to fast broadband networks is well above the EU average. Concerning e-commerce, Lithuania has further improved and is performing above the EU average. The share of SMEs selling online, including to other EU countries, is also above the EU average. The Digital Agenda (Government of the Republic of Lithuania, 2014) has set ambitious targets to increase number of internet subscriptions and the volume of online sales by 2020. The measures to support digital businesses include the recently introduced scheme ‘e-Business LT’ (*e-Verslas LT*), which supports investment in e-business solutions. It may also support innovative information and communication technologies solutions which align several business processes.

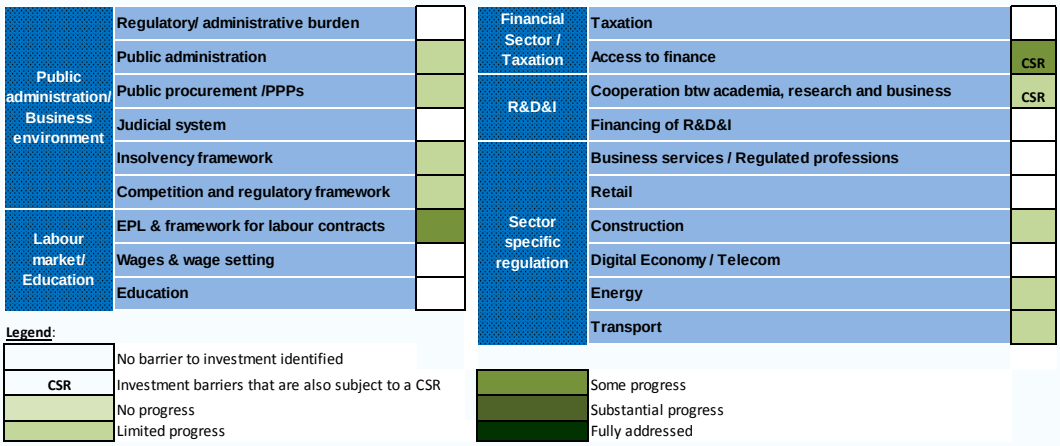
Lack of national rules for directly transferring companies' registered offices into and out of Lithuania makes it more difficult and costly for companies to take advantage of cross-border business opportunities.

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

Section 1. Macroeconomic perspective

Investment has been stable for the past 5 years at around 18% of GDP. This is; however, considerably below the average investment levels before the economic crisis. Lately, investment has been driven by residential construction and transport equipment, while investment in other types of equipment and infrastructure in 2016 were subdued due to a temporary disruption in EU fund disbursements. For more information on the investment trends in Lithuania, please see sections 1.1 and 3.4

Section 2. Assessment of barriers to investment and ongoing reforms



Barriers to private investment in Lithuania are overall moderate (European Commission, 2015a). In 2016, Lithuania adopted major revisions to its labour law making it more flexible by expanding the use of fixed term contracts (see Box 3.3.1). Also, Lithuania has made substantial progress in promoting alternative sources of financing, as the share of venture capital financing has markedly increased in recent years (see Section 3.2.2).

Main barriers to investment and priority actions underway

1. While public investment in R&D has been solid, both the scientific and innovation output of publicly funded research institutions has been poor. Moreover, public investment has failed to leverage with matching private investment into R&D which has been low with meagre upward trend. Improving the competitive aspect of public funding allocation, creating incentives for public actors to engage with the private sector and improving the overall policy planning and coordination are the priority areas to work on in order to increase the country's innovation output.

2. Efficiency of public investment in Lithuania could be improved by better planning and coordination among the line ministries and private sector stakeholders. Making public procurement more competitive and transparent could also benefit the overall investment environment. Revising the excessively detailed public procurement laws and increasing the reach of tender publications have the potential to make the process leaner and more competitive.

3.5. SECTORAL POLICIES

3.5.1. RESEARCH AND DEVELOPMENT AND INNOVATION

Overall, the innovation performance of Lithuania remains moderate. European Innovation Scoreboard (EIS) 2016 ranks the country 24th in EU. Despite some improvements, Lithuania's innovation performance therefore remains among the lowest in the EU. Lithuania faces numerous challenges to improve its innovation performance. In particular, the low efficiency of the public R&D system, the need to incentivise the commercialisation of research results, and the urgency to foster a governance system and a policy mix that are supportive of innovation.

Lithuania's investment in R&D steadily increased in recent years to reach 1.04 % of GDP in 2015. However, growth in R&D investment is mostly propelled by the use of European Structural and Investment Funds, only a modest contribution is coming from businesses. Public R&D intensity increased up to a value slightly above the EU average in 2015 ([29]), while business R&D intensity lags behind ([30]). As a result, Lithuania is not on track to meet the national R&D intensity target of 1.9% of GDP.

Private sector capacity to invest into research and innovation remains low in Lithuania due to the structure of the economy. The medium-high-tech and high-tech sectors are small ([31]) and their aggregate share in the economy stagnates. Photonics and bio-pharmaceuticals are the leading Lithuania's high-tech sectors. The latter has a strong science base with good connections to business and has proven capable of attracting foreign direct investment. Generous tax incentives have so far failed to increase business R&D investment significantly, indicating a possible need for more guidance and promotion. However, the tax relief was recently extended to 5 years in the hope of boosting its use. Also, on the regulatory basis for pre-commercial procurement of innovation was created in 2015.

The cooperation between businesses and the public R&D sector is weak. There were only 1.7 public-private co-publications per million of population ([32]) in 2014 (ranking 27th in the EU). Businesses only modestly use research infrastructures available in open access centres and scientific valleys financed by European Structural and Investment Funds (ESIF). These infrastructures are expected to incur heavy upgrading and maintenance costs for the national budget by 2020([33]) (Technopolis group; Ernst and Young, 2014). There is a need for a systemic approach to improve knowledge transfer, for university intellectual property rights policies that favour collaboration with businesses, and for incentives for researchers to take part in firms' R&D activities. Available R&D infrastructures need to open up to the business sector and the regional economic systems in which they operate.

Return on public R&D investment is low. Although public R&D intensity is at around the EU average, the volume of highly cited scientific publications ([34]) fell during recent years to pre-crisis levels, placing Lithuania second last in the EU. On a value-for-money comparison, Lithuania is also one of the worst performers in EU (Graph 3.5.1). The majority of R&D output is produced by public research institutions, with weak capacity to exploit results for economic benefits. The dependence of public funding on ESIF raise sustainability concerns for the future.

([29]) Public R&D intensity (public R&D expenditure as % of GDP) stood at 0.76 in 2015 (EU average: 0.71).

([30]) Business enterprise expenditure on R&D (BERD) as % of GDP stood at 0.28 in 2015, with Lithuania ranking 25th in the EU (EU average is 1.30).

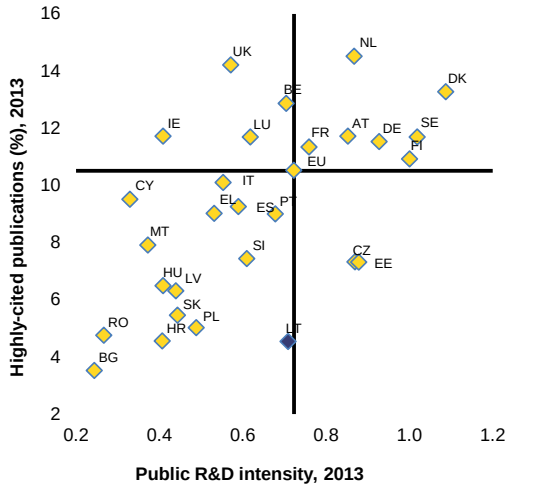
([31]) Value added in high-tech and medium-high-tech manufacturing and in knowledge-intensive services as % of total value added – 29.7 (ranks 28th), EU: 48. Compare with added value in manufacturing – 19.3 (ranks 8th), EU: 15.5.

([32]) As compared with the EU average of 34 per million of population in 2014.

([33]) These infrastructures will require additional ~ EUR 118 million for the upgrading of outdated equipment.

([34]) Scientific publications within the top 10% most cited scientific publications worldwide as % of total scientific publications of the country: 4.5% (2013), ranks 27st among EU Member States. EU average: 10.5%.

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



(1) Fractional Counting method
Source: European Commission

Lithuania has pockets of international scientific excellence, but these do not outweigh the disadvantages of the low critical mass for research. The scientific potential is dispersed across too many institutions ([35]) and the *status quo* is maintained by an inefficient research funding system that is not well suited to promoting excellence. Public research institutes were merged but attempts to merge universities were met with limited success so far ([36]). Large emigration of the high-skilled has created a shortage of talent for Lithuania's research community. Moreover, the research entities attract an insignificant number of foreign talent, partly due to the heavy burden associated with hiring foreign specialists (OECD, 2016c). As a result, low scientific production is exacerbated by an additional problem of the lack of available quality human resources ([37]) in public and private sectors.

The research and innovation policy planning and implementation continue to suffer from fragmentation and lack of coordination. The policy planning and implementation is split among several ministries and implementing agencies. Often, their work overlaps and is poorly coordinated. This leads to a lack of leadership and sometimes ill-conceived policy. Recently, however, important policy reform initiatives have been launched and are hoped to provide a significant impetus to country's innovation performance ([38]) ([39]). Furthermore, the government requested that the European Commission's Horizon 2020 Policy Support Facility supports the design of Lithuanian policies on cooperation between the public science base and business and the attraction of innovation-oriented foreign direct investment[40]. The launch of this policy support activity is envisaged in early 2017.

3.5.2. TRANSPORT

The Rail Baltica European-gauge railway infrastructure project is of high strategic importance to both Europe and the Baltic countries. The project foresees a new fully interoperable electrified 1435 mm higher speed railway line from Warsaw via Elk, Kaunas and Riga to Tallinn. The target date for completion in the Baltic States (as agreed by all the partner countries) is 2025. Together with the upgrades on the line between Warsaw and the Polish-Lithuanian border, it would considerably shorten the journey time for both freight and passengers between Tallinn and Warsaw, as well as connect with the rest of the European rail network in Poland and further west. It is also expected to stimulate economic growth across the Baltic region and result in environmental benefits due to the expected modal shift from road to rail in passenger and freight transport, as well as gains over the current system where only diesel powered traction can be used.

Rail Baltica's success depends primarily on the concerned Member States' commitment to the project's implementation and on the effectiveness of their cooperation. Up until recently, Lithuania's approach to implementing the Rail Baltica has not been uniform. While it has

([35]) Lithuania is a country with less than 3 million inhabitants and it has 22 universities and 23 colleges.
([36]) Only two universities merged and as a result formed the Lithuanian University of Health Sciences.
([37]) New doctoral graduates per thousand population aged 25-34 – 1.11 (2014), ranks 22nd. EU average – 1.97
([38]) Science and Innovation policy reform guidelines were issued by the President's Office and adopted by the parliament in 2016.
([39]) The Smart Specialisation Coordinating group was set up as platform for stakeholders' involvement in the policy mix. It will continue to work in 2017-2020 and this might improve co-ordination of research and innovation policies.
([40]) https://rio.jrc.ec.europa.eu/en/policy-support-facility

expressed strong interest to connect to Poland, it has shown comparatively less commitment to realise the line between Kaunas and the Latvian border. Nevertheless, Lithuania's stance has changed recently as the new government, formed in December 2016, has taken a more balanced and forward-looking view towards the Rail Baltica project.

Looking forward, it is important that the optimal solution to ensuring the rail line between the Polish-Lithuanian border and Kaunas meets the project's speed and interoperability standards and is sought in transparent and objective manner where all parties take a constructive approach and that the construction of embankment towards the Latvian border progresses without delay.

In October 2016, the procurement procedures for the project were agreed upon, further defining the role of the Joint Venture RB RAIL AS and paving the way for successful negotiation and signature of the Grant Agreement. Furthermore, milestone progress was achieved in January 2017 when the prime ministers of the Baltic countries signed an intergovernmental agreement, which underlines the countries' commitment to project to timely implementation. The agreement has to be ratified by the Baltics countries' parliaments, before it takes effect.

The Lithuanian rail network remains among the least electrified rail networks in the EU. No progress has been observed over the period of 2010-2014 and only 6.9 % of rail tracks are electrified (European Commission, 2016g). With the help of different financial and funding instruments, significant progress is expected over the coming years.

Although formally open to competition, Lithuania's rail market remains non-competitive. No entrants have emerged in rail freight and passenger transport markets since the opening to competition. Moreover, the Commission is investigating a possible abuse of a dominant market position by the incumbent railway company Lietuvos Geležinkeliai and sent it a Statement of Objections in 2015 (European Commission, 2015b).

The number of road fatalities in Lithuania remains among the highest in the EU. There were 83 fatalities per 1 million people in 2015, while the EU average was 51.5 (European Commission, 2016h). There is further scope to enhance road safety by improving road users' behaviour, developing safer infrastructure, and introducing safer vehicles.

3.5.3. ENERGY

Several recently completed energy infrastructure projects in Lithuania and the other Baltic countries have significantly increased the security of gas and electricity supply. Following the arrival of the liquefied natural gas (LNG) terminal in Klaipeda and the construction of the Klaipeda – Kursenai pipeline, Lithuania and the two other Baltic countries now have access to two independent sources of gas.

Lithuania also continues work on its section of the gas interconnector with Poland (known as GIPL) which is to connect for the first time the gas transmission systems of the Baltic countries with the continental European gas network.

Lithuania and the two other Baltic countries have substantially increased their level of electricity interconnection ([41]) with the rest of the European grid. The total capacity of interconnections as a percentage of total electric energy capacity has increased from 4% in early 2014 to approximately 22% now, exceeding the target of 10%. This has been possible due to the commissioning of electricity interconnections with Finland via the two Estlink interconnections, with Poland via LitPol Link and with Sweden via NordBalt ([42]).

The energy infrastructure projects have also had a positive impact on electricity and gas wholesale prices in the Baltics, which used to be among the highest in EU due to energy market isolation. Now they are much closer to prices in western European countries.

The construction of the above mentioned energy infrastructure was financially supported by the Union under various programmes, including the

([41]) The capacity of electricity interconnectors (electricity lines) divided by the total installed capacity.
([42]) Combined cross-border capacity amounts of 2200 MW.

Connecting Europe Facility (CEF), the European Energy Programme for Recovery (EEPR) and the "old" TEN-E programme. The total support provided to Lithuania under these programmes between 2006 and 2016 amounts to approximately EUR 190 million.

One of the key objectives of Lithuania (and Latvia and Estonia) is to synchronise their electricity systems with the European network. For historical reasons, the Baltic States are today operated in a synchronous mode with IPS/UPS forming the so-called BRELL ring (Belarus-Russia-Estonia-Latvia-Lithuania). The three Baltic States aim to synchronise their grids with the European network by 2025. The core of the work is being carried out within the Baltic Energy Market Interconnection Plan (BEMIP).

The share of energy coming from renewable sources reached 24.3% in 2015, up from 23.4% in 2014, thus exceeding Lithuania's Europe 2020 target. The largest contributor was the heating sector, where the renewables share reached 41.6%, considerably above the planned trajectory and the 2020 target. The most important source of renewable energy in Lithuania is biomass and waste - 92% in 2015. The contribution of wind power represents 5.5%. Linked to this success, Lithuania has been named as one of the renewable energy exporting Member States within the cooperation agreement format foreseen in the Renewable Energy Directive. Nevertheless, with a renewable energy share of 4.3 % in 2015, the transport sector still has some way to go towards reaching the 10 % Europe 2020 target.

Lithuania's final energy consumption decreased by 2% in 2015, mainly due to an increase in final energy consumption in the transport sector by 11%. As such, Lithuania has to increase its effort to decrease its final energy consumption further in order to achieve its indicative final energy consumption 2020 target (4.3 Mtoe) and to keep its current primary energy consumption below its primary energy 2020 target (6.5 Mtoe).

According to latest national projections, Lithuania is expected to meet its greenhouse gas emissions target ([43]) by a margin of 18 pp. In fact, it expects it will emit 3 % less greenhouse gases in 2020 than it did in 2005.

3.5.4. ENVIRONMENTAL TAXES

Revenue generated by pollution and resource taxation is very low and the social and environmental benefits they bring are limited. The largest proportion of the revenue derived from environmentally-related taxation is obtained through energy taxes. Revenue from pollution and resource taxes and transport taxes, excluding taxes on fuel constitute only around 3% of all environmental tax revenue. Taxes on transport in Lithuania are the lowest in the EU, and besides a low level, they do not take into account the environmental performance of vehicles (European Commission, 2014a; European Commission, 2014b). As a result, the emissions of newly registered cars in Lithuania are well above the EU average ([44]) (European Commission, 2014c; European Environment Agency, 2014). The overall implicit tax rate on energy is one of the lowest in the EU-28 (Eurostat, 2014).

3.5.5. WASTE MANAGEMENT

Managing waste efficiently and fulfilling the obligations from the EU Directives on waste remains a challenge in Lithuania. In 2015, municipal waste generation in Lithuania was 448 kg/inhabitant per year - slightly below the EU average and 16% more than 10 years ago. Although, Lithuania landfills significantly less waste than it did 6 years ago ([45]) it was still significantly above the EU average of 26% and disposal in landfills remains Lithuania's main waste treatment method. Meanwhile recycling has increased only slightly from 2009 and is far behind Lithuania's Europe 2020 target ([46]). In 2016, Lithuania introduced a deposit system for plastic

([43]) For its Europe 2020 target, Lithuania's agreed not to increase its greenhouse gas emissions by more than 15% in 2020 compared to 2005.

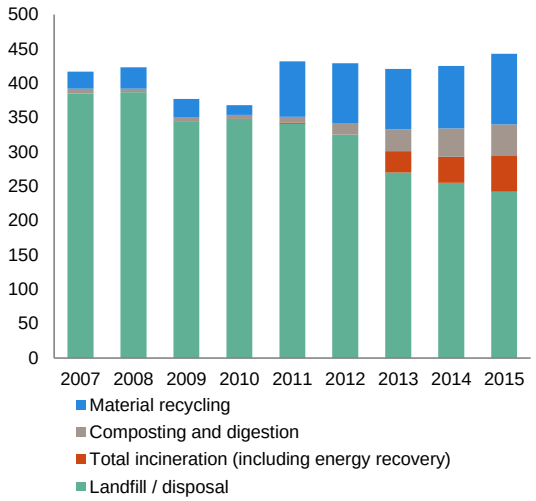
([44]) The average age of passenger cars in Lithuania is around 15 years while it is between 7 and 8 years in the EU.
New passenger car emissions are 135.82 g CO2/km against the EU average of 123.40 g CO2/km.

([45]) In 91% of all waste was landfilled, in 2015 54% of waste was landfilled

([46]) 50% of all waste should be recycled

bottles and cans. This is expected to increase the recycling share somewhat.

Graph 3.5.2: **Waste treatment by type of disposal**



Source: European Commission

Furthermore, Lithuania plans to build two new Combined Heat and Power plants in Vilnius and in Kaunas with combined incineration capacity of 360,000 tons of waste per year. The construction of the second plant, however, is likely to lead to excess capacity of waste incineration. Excess incineration capacity is likely further to hinder Lithuania's path towards meeting its 50% recycling target.

The landfill tax was introduced in 2016. Although it started a low level, it will increase substantially until 2020 ([47]). The landfill tax could encourage resource efficiency in waste management and divert waste disposal away from landfilling.

([47]) From 3 EUR/t to 27.51 EUR/t for non-hazardous waste, and from 47.79 EUR/t to 70.96 EUR/t for hazardous waste

3.6. PUBLIC ADMINISTRATION

3.6.1. PUBLIC INVESTMENT PLANNING

Lithuania could improve productivity growth by better planning and coordinating the public investment. The public investment programme, which is the main planning tool for public investment, has serious shortcomings and did not in fact serve its purpose of centralised planning of the country's public investment strategy (National Audit Office of Lithuania, 2016). The audit found that the programme planning was fragmented, lacked coordination, that the project selection procedures were often formalistic, and that there was no monitoring of implementation and no *ex post* impact assessment. Overall, the link between public investment planning and country's strategic goals was deemed weak.

3.6.2. EFFICIENCY OF PUBLIC ADMINISTRATION

Lithuania has further improved its online public services. The share of businesses and citizens that use e-government services (43 %) remains solidly above the EU average (34 %). Lithuania has further enhanced the availability and sophistication of available online services and has made continuous progress compared to previous years towards increasing its uptake of eGovernment. The latest EU survey on eGovernment reflects this improvement, placing Lithuania among the accelerator EU Member States, with growth and an absolute score above the EU average (European Commission, 2016i). However, it is lagging behind in promoting open data (European Commission, 2017b).

3.6.3. PUBLIC PROCUREMENT

Raising the efficiency of public procurement remains important. In 2016, there was only one bidder for 17 % of the public procurement procedures published in the EU Official Journal. There was no call for tender in 5 % of them (European Commission, 2016i). Improving the efficiency of the public tender market and the quality of public investments may need further strengthening of the public procurement agents as well as increasing the transparency throughout the process.

Transparency is insufficient in public procurement, in particular at the municipal level. In a 2015 study, 39 % of business managers claimed that corruption prevented them from winning a public tender or public procurement contract, compared with the EU average of 34 % (European Union Open Data Portal, 2015). To reduce corruption risks and conflicts of interest in low-value procurement, the government obliged contracting authorities to publish online information on initiated tenders, the successful bidders and the contracts awarded. In addition, weak whistleblower arrangements discourage tip-offs about potential irregularities in the public and private sectors. In a 2015 study of the largest 41 companies operating in Lithuania, only three were found to publicly state that staff reporting suspected corruption would not suffer repercussions (TI Lithuania, 2015a).

Lithuania is past the deadline for transposing the three new public procurement directives. They are expected to ease and simplify complex public tender requirements and introduce stability into the legal system of public procurement. Also, they aim to facilitate the transition of public procurement systems to fully digital mode.

3.6.4. ANTI-CORRUPTION

The number of bribery cases that reach courts is on the rise. From 2013 to 2014, there was a further increase in the officially reported number of bribery investigations (1053 to 1237), persons involved (880 to 1032) and final convictions (776 to 907) (European Commission, 2016j). However, provisions against petty and high-level corruption are not always applied in practice. A greater number of local elected officials declare their assets and interests but the capacity to monitor, analyse and follow-up on declarations remains limited. The Chief Officials Ethics Commission is responsible for overseeing lobbying, but a 2015 study finds that much of the actual lobbying activity takes place outside the scope of regulation (TI Lithuania, 2015b). The lobbyist register contains only 36 active lobbyists. A legislative loophole has not yet been closed after the Supreme Court ruled in March 2014 that private-to-private bribery could no longer be criminalised by reference to provisions for public officials.

ANNEX A

Overview Table

Commitments	Summary assessment
2016 Country-specific recommendations (CSRs)	
CSR 1: Reduce the tax burden on low-income earners by shifting the tax burden to other sources less detrimental to growth and improve tax compliance, in particular in the area of VAT.	Lithuania has made **some progress** in addressing CSR 1 (this overall assessment of CSR1 does not include an assessment of compliance with the Stability and Growth Pact):
• Reduce the tax burden on low-income earners...	• **Substantial progress** has been made in reducing the tax burden on low-wage earners. Lithuania has substantially increased the non-taxable allowance for the low wage earners. • Lithuania raised the non-taxable allowance and the allowance for dependent children substantially as from 2017. • As a result, the tax wedge to low earners is lowered by up to 2.5 pp for households without children and by up to 3.5 pp to households with children. • However, these tax measures fail to further lower the tax wedge to some of the most vulnerable households, e.g. single earners with two children or more.
• …by shifting the tax burden to other sources less detrimental to growth…	• **Some progress** in shifting the tax burden to other sources. Measures to compensate for the revenue loss due to reduced tax burden on labour cover about a half of those losses. • The diversity of new tax sources; however, is limited however as the vast majority of additional revenue comes from increase in excise taxes on cigarettes and alcohol.
• …and improve tax compliance, in particular in the area of VAT.	• **Some progress** in improving tax compliance. Lithuania has adopted a number of measures that are expected to improve its analytical and tax collection ability substantially. The actual impact on tax collection of these efforts; however is yet to be seen. • During 2016 Lithuania introduced an electronic invoicing system and an electronic waybill system.
CSR 2: Strengthen investment in human capital and	Lithuania has made **some progress** in

address skills shortages, by improving the labour market relevance of education, raising the quality of teaching and adult learning. Reinforce the coverage and effectiveness of active labour market policies. Strengthen the role of social dialogue mechanisms. Improve the performance of the healthcare system by strengthening outpatient care, disease prevention and health promotion. Improve the coverage and adequacy of unemployment benefits and social assistance.	addressing CSR 2:
• Strengthen investment in human capital and address skills shortages, by improving the labour market relevance of education, raising the quality of teaching and adult learning.	• **Limited progress** has been made in strengthening the investment in human capital. Overall, Lithuania has adopted some measures that partly address the CSR, but a fair amount of work is still needed to fully address the CSR. • Lithuania continues implementing measures to improve the attractiveness of vocational education and training, and has taken steps to expand availability of work-based learning. • However, there is limited progress on improving the quality of teaching, and especially the working conditions and professional development of teachers. • Also, there is a lack of improvement in the uptake of adult learning.
• Reinforce the coverage and effectiveness of active labour market policies.	• **Some progress** has been made in reinforcing the coverage and effectiveness of active labour market policies. Overall, LT has adopted some measures that partly address the CSR, but a fair amount of work is still needed to fully address the CSR. • Lithuanian Public Employment Service implemented specific activation projects targeting the low-skilled, long-term unemployed, older and disabled persons. • Lithuania has adopted the new Law on Employment, which is planned to come into force in July 2017.
• Strengthen the role of social dialogue mechanisms.	• **Some progress** in strengthening the role of social dialogue mechanisms.

	• LT has adopted the legislative package on the "new social model", among them a new labour code. It includes new provisions for collective bargaining, industrial action, and the participation in the Tripartite Council, but the implementation is postponed to 1 July 2017. • The Ministry of Social Affairs and Labour has adopted the Action Plan for Strengthening of Social Dialogue in Lithuania for 2016-2020. It will support the promotion of social dialogue between employers and employees' representatives (at national and local levels), and include other measures, including capacity building for the social partners, in order to foster the social dialogue. However, some social partners indicated that they were not fully involved in designing the Action Plan, which may not cover their real needs.
• Improve the performance of the healthcare system by strengthening outpatient care, disease prevention and health promotion.	• **Some progress** has been made in improving the performance of healthcare system. • Lithuania has advanced on the fourth stage of the health system reform, particularly on shifting patients from inpatient to outpatient settings. • A State Health Promotion Fund was established in 2016 funded by resources from alcohol excise duties and some projects are being supported by the fund; other small projects are being implemented. • Other actions that could support the improvement of the performance of the health system, as the Action Plan for reducing health inequalities 2014-2023 are still to be effectively launched. • Regarding corruption on healthcare the authorities have concrete plans that seem to be adequate, but, as in all other areas, the success of implementation will be crucial.
• Improve the coverage and adequacy of	• **Some progress** has been made in

unemployment benefits and social assistance.	improving the coverage and adequacy of unemployment benefits. There was no progress in the adequacy of social assistance but a slight one as regards coverage. • LT 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, and their effect is not tangible yet. • LT has adopted the new labour code and the "social model", but the implementation is postponed to 1 July 2017. The initial analysis shows that while coverage of the unemployment insurance benefits may increase, the increase in adequacy could be only marginal. The effect of the new legislation "on the ground" is not clear at the moment. • Regarding the social benefits, the amendments indeed increase the coverage, and for some beneficiary groups, the adequacy might be slightly improved. However, overall the adequacy of the social benefits remains low, and no major changes have been implemented since 2008.
CSR 3: Take measures to strengthen productivity and improve the adoption and absorption of new technology across the economy. Improve the coordination of innovation policies and encourage private investment, inter alia, by developing alternative means of financing.	Lithuania has made **limited progress** in addressing CSR 3:
• Take measures to strengthen productivity and improve the adoption and absorption of new technology across the economy.	• **Limited progress** has been made in strengthening the productivity. • Although, implementation of the European Structural and Investment Funds and the Lithuanian Smart Specialisation Framework are expected to support this process in the coming years, no additional measures to address the challenge have been adopted.
• Improve the coordination of innovation policies…	• **Limited progress** has been made to improve coordination of innovation

	policies. • President's Office called for reforms in the "Lithuanian Science and Innovation Policy Reform Guidelines", these were adopted by the Parliament and are expected to trigger the reform process in 2017.
• …and encourage private investment, inter alia, by developing alternative means of financing.	• **Some progress** has been made in developing alternative means of financing. • Lithuania has helped establish and fund a number of venture capital and seed capital funds. Also, the government has recently passed a law on crowd-investing.
Europe 2020 (national targets and progress)	
Employment rate: 72.8%	The employment rate reached 75.1 % in 2016.
R&D: 1.9 % of GDP with half coming from private sector	In 2015, Lithuania's R&D investment was 1.04 % of GDP compared to 0.78% of GDP in 2010. While improving, the R&D investment is unlikely to reach the target level by 2020, mainly due to low level of private investment.
Greenhouse gas (GHG) emissions target: +15% compared to 2005 emissions, ETS (Emissions Trading System) emissions are not covered by this national target.	**Europe 2020 target**: 15 % Lithuania is expected to meet its target by a margin of 18 pp.: -3 % in 2020 compared with 2005. This is according to the latest national projections submitted to the Commission, and when existing measures are taken into account. **Non-ETS 2014 target**: -1 %. Greenhouse gas emissions from sectors not covered by the emissions trading scheme fell by 10 % between 2005 and 2015. Therefore Lithuania has achieved its 2015 target.
Renewable energy target: 23 % Share of renewable energy in transport sector: 10 %	With a renewable energy share of 23.9 % in 2014, Lithuania is already above its 23% target in 2020. Lithuania has also considered holding negotiations with other Member States on sharing its excess renewables production (up to 2020) under cooperation mechanisms for renewable energy. The Commission strongly encourages this

	initiative and hopes that it will result in the signing of relevant cooperation agreements in 2015/2016.
Energy efficiency: 17 % reduction in final energy use compared to 2009 level (reduction of 740 ktoe), which implies reaching a 2020 level of 6.49 Mtoe of primary and 4.28 Mtoe of final energy consumption.	Comparing the trend of primary energy consumption with changes in GDP over the past decades, shows evidence that there has been a strong decoupling of both in Lithuania. However, in light of the increase of the final energy consumption in 2014, Lithuania will have to increase its effort to decrease its final energy consumption further in order to achieve its 2020 energy efficiency targets.
Early school leaving target: <9 %	The early school leaving rate among 18-24 year olds decreased further to 5.5% in 2015. Lithuania is successful at staying below the 9% national target. This figure is also significantly below the EU average of 11%.
Tertiary education target: 48.7 %	Tertiary attainment among 30-34 year olds in Lithuania is the highest in the EU, having reached 57.6% in 2015. It is above the national target and among the highest in the EU.
Risk of poverty or social exclusion target: 814,000	Lithuania has met its national target: in 2015 there were 857 000 people at risk of poverty or social exclusion (29.3 % of the total population). Compared to 2014, the number and share of people at risk of poverty or social exclusion has increased.

ANNEX B

MIP Scoreboard

Table B.1: **Macroeconomic imbalances scoreboard**

			Thresholds	2010	2011	2012	2013	2014	2015
External imbalances and competitiveness	Current account balance, (% of GDP)	3 year average	-4%/6%	-3.9	-0.7	-1.8	-1.2	1.3	0.9
	Net international investment position (% of GDP)		-35%	-55.9	-52.5	-53.4	-47.0	-45.8	-44.7
	Real effective exchange rate - 42 trading partners, HICP deflator	3 years % change	±5% & ±11%	7.2	1.7	-6.7	-0.6	1.5	4.0
	Export market share - % of world exports	5 years % change	-6%	19.4	30.1	33.3	20.2	34.4	15.5
	Nominal unit labour cost index (2010=100)	3 years % change	9% & 12%	0.3	-7.8	-4.2	6.2	8.8	11.6
Internal imbalances	Deflated house prices (% y-o-y change)		6%	-8.6	2.4	-3.2	0.2	6.3	4.6
	Private sector credit flow as % of GDP, consolidated		14%	-5.9	-2.2	0.3	-1.2	0.2	2.2
	Private sector debt as % of GDP, consolidated		133%	74.5	64.7	61.1	56.3	54.0	55.0
	General government sector debt as % of GDP		60%	36.2	37.2	39.8	38.7	40.5	42.7
	Unemployment rate	3 year average	10%	12.5	15.7	15.5	13.5	12.0	10.5
	Total financial sector liabilities (% y-o-y change)		16.5%	0.3	2.5	-0.6	-1.3	16.3	6.7
New employment indicators	Activity rate - % of total population aged 15-64 (3 years change in p.p)		-0.2%	2.3	3.0	2.2	2.2	2.3	2.3
	Long-term unemployment rate - % of active population aged 15-74 (3 years change in p.p)		0.5%	6.0	6.7	3.3	-2.3	-3.2	-2.7
	Youth unemployment rate - % of active population aged 15-24 (3 years change in p.p)		2%	27.3	19.3	-2.9	-13.8	-13.3	-10.4

Source: Alert mechanism report 2017
Highlighted figures are those falling outside the threshold established in the European Commission Alert Mechanism Report. For REER and ULC, the first threshold applies to euro area Member States

ANNEX C
Standard Tables

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

	2011	2012	2013	2014	2015	2016
Total assets of the banking sector (% of GDP)	79.0	73.2	68.7	69.7	66.4	69.7
Share of assets of the five largest banks (% of total assets)	84.7	83.6	87.1	85.7	86.8	-
Foreign ownership of banking system (% of total assets)	73.5	72.0	72.7	73.4	72.2	-
Financial soundness indicators:[1)]						
- non-performing loans (% of total loans)	13.4	10.9	8.5	6.5	5.2	4.7
- capital adequacy ratio (%)	14.2	15.7	17.5	21.3	24.8	19.3
- return on equity (%)[2)]	15.5	7.8	8.6	7.7	7.5	6.4
Bank loans to the private sector (year-on-year % change)	-1.4	2.2	-1.0	-0.3	5.3	11.1
Lending for house purchase (year-on-year % change)	0.2	-0.8	0.6	2.2	3.5	7.1
Loan to deposit ratio	133.2	125.4	115.7	99.3	97.1	102.6
Central Bank liquidity as % of liabilities	1.4	1.9	1.7	0.0	1.9	1.4
Private debt (% of GDP)	64.7	61.1	56.3	54.0	55.0	-
Gross external debt (% of GDP)[1)] - public	32.3	38.2	33.2	37.9	38.1	35.2
- private	21.2	18.8	19.2	17.4	17.5	17.7
Long-term interest rate spread versus Bund (basis points)*	255.2	333.6	226.2	162.9	88.5	87.6
Credit default swap spreads for sovereign securities (5-year)*	234.5	203.1	107.5	100.9	76.4	62.8

(1) Latest data Q2 2016.
(2) Quarterly values are not annualised
* Measured in basis points.

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

Table C.2: **Labour market and social indicators (A)**

	2011	2012	2013	2014	2015	2016 [4]
Employment rate (% of population aged 20-64)	66.9	68.5	69.9	71.8	73.3	75.1
Employment growth (% change from previous year)	0.5	1.8	1.3	2.0	1.3	2.2
Employment rate of women (% of female population aged 20-64)	66.6	67.9	68.6	70.6	72.2	74.1
Employment rate of men (% of male population aged 20-64)	67.2	69.1	71.2	73.1	74.6	76.2
Employment rate of older workers (% of population aged 55-64)	50.2	51.7	53.4	56.2	60.4	64.3
Part-time employment (% of total employment, aged 15-64)	8.3	8.9	8.4	8.6	7.6	7.6
Fixed term employment (% of employees with a fixed term contract, aged 15-64)	2.4	2.3	2.4	2.4	1.8	1.9
Transitions from temporary to permanent employment	53.3	16.1	54.9	43.5	:	:
Unemployment rate[1] (% active population, age group 15-74)	15.4	13.4	11.8	10.7	9.1	8.1
Long-term unemployment rate[2] (% of labour force)	8.0	6.6	5.1	4.8	3.9	3.3
Youth unemployment rate (% active population aged 15-24)	32.6	26.7	21.9	19.3	16.3	14.4
Youth NEET[3] rate (% of population aged 15-24)	11.8	11.2	11.1	9.9	9.2	:
Early leavers from education and training (% of pop. aged 18-24 with at most lower sec. educ. and not in further education or training)	7.4	6.5	6.3	5.9	5.5	:
Tertiary educational attainment (% of population aged 30-34 having successfully completed tertiary education)	45.7	48.6	51.3	53.3	57.6	:
Formal childcare (30 hours or over; % of population aged less than 3 years)	8.0	5.0	10.0	17.0	:	:

(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 people 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 (B)**

Expenditure on social protection benefits (% of GDP)	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Sickness/healthcare	4,7	4,5	4,2	4,1	4,1	:
Disability	1,8	1,6	1,5	1,4	1,4	:
Old age and survivors	7,9	7,1	7,2	6,9	6,7	:
Family/children	2,2	1,7	1,4	1,1	1,1	:
Unemployment	0,8	0,6	0,4	0,4	0,3	:
Housing	0,0	0,0	0,0	0,0	0,0	:
Social exclusion n.e.c.	0,7	0,8	0,7	0,6	0,4	:
Total	18,1	16,2	15,5	14,4	14,0	:
of which: means-tested benefits	1,0	1,0	0,9	0,7	0,5	:
Social inclusion indicators	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
People at risk of poverty or social exclusion[1] (% of total population)	34,0	33,1	32,5	30,8	27,3	29,3
Children at risk of poverty or social exclusion (% of people aged 0-17)	35,8	34,6	31,9	35,4	28,9	32,7
At-risk-of-poverty rate[2] (% of total population)	20,5	19,2	18,6	20,6	19,1	22,2
Severe material deprivation rate[3] (% of total population)	19,9	19,0	19,8	16,0	13,6	13,9
Proportion of people living in low work intensity households[4] (% of people aged 0-59)	9,5	12,7	11,4	11,0	8,8	9,2
In-work at-risk-of-poverty rate (% of persons employed)	12,6	9,5	7,6	9,1	8,3	9,9
Impact of social transfers (excluding pensions) on reducing poverty	34,5	36,4	34,5	32,0	30,5	22,4
Poverty thresholds, expressed in national currency at constant prices[5]	6817	6448	6964	7313	7420	2303
Gross disposable income (households; growth %)	0,9	5,3	3,4	5,5	1,7	1,9
Inequality of income distribution (S80/S20 income quintile share ratio)	7,3	5,8	5,3	6,1	6,1	7,5
GINI coefficient before taxes and transfers	54,6	54,3	51,8	53,5	51,9	:
GINI coefficient after taxes and transfers	37,0	33,0	32,0	34,6	35,0	:

(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 (AROP): 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 (HICP) = 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	13.04	6.24	-1.11	3.90	6.35	0.50
Labour productivity in Construction	17.19	16.76	-10.15	-0.75	14.34	-7.34
Labour productivity in Market Services	3.02	6.78	3.93	3.76	-0.74	1.51
Unit labour costs (ULC) (whole economy, year-on-year % change)						
ULC in Industry	-7.32	-1.94	2.50	0.54	3.66	6.90
ULC in Construction	-0.66	-0.11	11.98	-0.96	-4.92	4.70
ULC in Market Services	-5.11	1.27	2.43	3.59	3.61	4.74
Business Environment	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Time needed to enforce contracts[1] (days)	300.0	300.0	370.0	370.0	370.0	370.0
Time needed to start a business[1] (days)	22.0	22.0	19.5	8.5	5.5	5.5
Outcome of applications by SMEs for bank loans[2]	na	0.92	na	1.16	1.27	1.14
Research and innovation	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
R&D intensity	0.78	0.90	0.89	0.95	1.03	1.04
Total public expenditure on education as % of GDP, for all levels of education combined	5.36	5.17	4.83	4.66	na	na
Number of science & technology people employed as % of total employment	47	47	47	48	49	50
Population having completed tertiary education[3]	27	28	29	30	31	33
Young people with upper secondary level education[4]	87	88	89	90	91	91
Trade balance of high technology products as % of GDP	0.23	0.11	0.23	0.06	-0.08	-0.45
Product and service markets and competition				**2003**	**2008**	**2013**
OECD product market regulation (PMR)[5], overall				na	na	1.52
OECD PMR[5], retail				na	na	1.11
OECD PMR[5], professional services				na	na	1.85
OECD PMR[5], network industries[6]				na	na	2.02

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

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

Table C.5: **Green growth**

Green growth performance		2010	2011	2012	2013	2014	2015
Macroeconomic							
Energy intensity	kgoe / €	0.24	0.24	0.23	0.21	0.20	0.21
Carbon intensity	kg / €	0.91	0.87	0.84	0.76	0.73	-
Resource intensity (reciprocal of resource productivity)	kg / €	1.73	1.77	1.56	1.83	1.66	1.57
Waste intensity	kg / €	0.25	-	0.23	-	0.24	-
Energy balance of trade	% GDP	-7.1	-7.6	-7.5	-6.1	-5.8	-
Weighting of energy in HICP	%	13.63	15.35	16.39	16.84	14.25	13.60
Difference between energy price change and inflation	%	6.4	6.9	3.8	-1.8	-4.8	-9.2
Real unit of energy cost	% of value added	28.2	28.7	28.1	28.1	28.7	-
Ratio of environmental taxes to labour taxes	ratio	7.1	7.4	7.6	7.7	7.6	-
Ratio of environmental taxes to GDP	ratio	1.8	1.7	1.6	1.6	1.7	-
Sectoral							
Industry energy intensity	kgoe / €	0.19	0.19	0.19	0.18	0.17	0.16
Real unit energy cost for manufacturing industry excl. refining	% of value added	14.0	14.0	13.3	13.1	13.3	-
Share of energy-intensive industries in the economy	% GDP	-	-	-	-	-	-
Electricity prices for medium-sized industrial users	€ / kWh	0.10	0.10	0.11	0.12	0.12	0.10
Gas prices for medium-sized industrial users	€ / kWh	0.03	0.04	0.05	0.04	0.04	0.02
Public R&D for energy	% GDP	0.02	0.02	0.01	0.02	0.01	0.02
Public R&D for environmental protection	% GDP	0.00	0.00	0.00	0.00	0.01	0.01
Municipal waste recycling rate	%	4.9	19.9	23.5	27.8	30.5	33.1
Share of GHG emissions covered by ETS*	%	30.3	25.9	26.4	37.4	35.9	36.1
Transport energy intensity	kgoe / €	0.65	0.61	0.59	0.56	0.60	0.64
Transport carbon intensity	kg / €	1.94	1.82	1.71	1.63	1.74	-
Security of energy supply							
Energy import dependency	%	81.8	81.7	80.3	78.3	78.0	78.4
Aggregated supplier concentration index	HHI	98.9	97.8	99.7	97.5	87.5	-
Diversification of energy mix	HHI	0.30	0.29	0.29	0.27	0.27	-

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

Source: European Commission (Eurostat) unless indicated otherwise

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