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Country Report Lithuania 2020

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2020 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

{COM(2020) 150}

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EXECUTIVE SUMMARY

Robust growth in Lithuania provides favourable conditions for social and economic reforms to ensure that growth benefits all of society. Growth is driven by sustained private consumption and high exports despite the slowdown in Lithuania's main trading partners. Employment has risen, while the labour force has contracted, mostly due to emigration. The shortage of workers has been growing in recent years while labour costs have increased considerably. Nevertheless, risks to competitiveness remain limited so far: there are signs that the shortage of workers is now declining with unemployment slightly rising and the job vacancy rate slightly decreasing. In the longer term, the main challenges for Lithuania remain a declining population and persistent weaknesses in its education and health systems. This comes against a backdrop of high income inequality and poverty, weak support for innovation, and low resource efficiency, notably in transport, the residential sector, and industry([1]).

In 2019, Lithuania's fiscal policy was expansionary. The reductions in labour taxation enacted in 2018 resulted in substantial revenue losses that were not fully compensated for by other tax measures, including improvements in tax administration, whose yields did not meet expectations. Spending on social benefits and wages in 2019 exceeded planned levels. Consequently, after 3 years in surplus, public finances are close to being balanced in the short term. At the same time, labour taxation and pension reforms have helped to improve soundness of the finances of the State Social Insurance Fund. General government debt is set to remain below 40% of GDP.

The banking sector remains well capitalised but small and medium-sized enterprises face challenges accessing finance. Banks operating in Lithuania remain profitable. The concentration of the banking sector, already high, increased further in 2019. This has increased the systemic importance of individual banks, reduced competition, and made it more difficult for smaller firms to access finance. The financial sector is dominated by banks from Nordic countries; potential imbalances in those countries pose a risk to the stability of Lithuania's financial system.

Employment has recovered steadily since the crisis and unemployment is forecast to remain low. Lithuania's labour market faces a work force that is shrinking, mainly due to emigration, ageing, and poor health outcomes. Although net migration turned positive in 2019, the outflow of skilled labour continued, limiting the potential for growth. Immigration from non-EU countries increased in 2019, with migrant workers, mainly from Ukraine and Belarus, filling low- and medium-skilled vacancies in construction, industry, transport, and services. However, the challenges Lithuania's labour market is facing are exacerbated by the country's poor performance in education and, low participation in adult learning and in upskilling. At the same time, education reform is proceeding slowly.

Lithuania is taking positive steps to reduce poverty and inequality but the effectiveness of the tax and benefit system is limited. Pensions have increased more than initially envisaged and measures to improve assistance to the most vulnerable are under way. However, benefits are still not sufficient to reduce poverty, particularly among the elderly, or on inequality. Significant funding cuts for policies to get people into employment will result in fewer vulnerable people being in work. The overall scale and design of the tax and benefit system is not managing to align resources with objectives in social protection.

Productivity is increasing but more slowly than in the pre-crisis period, and the level is still well below the EU average. Investment and productivity have recovered steadily since the financial crisis (apart from 2014-2016 when Russian sanctions generated uncertainty). Hence, productivity is continuing to catch up with the EU average, but this is mostly because of capital accumulation rather than upgrades in technology. In the short term, there has been some pressure on labour costs but with no obvious impact on cost-competitiveness: Lithuania's exports have performed well, (again with the exception of 2014-2016), despite the weaker environment in its main

([1]) This report assesses Lithuania's economy in light of the European Commission's Annual Sustainable Growth Strategy, published on 17 December 2019. In this document, Commission sets out a new strategy on how to address not only the short-term economic challenges but also the economy's longer-term challenges. This new economic agenda of competitive sustainability rests on four dimensions: environmental sustainability, productivity gains, fairness and macroeconomic stability.

trading partners. This international context is also reflected in low foreign direct investment. In fact, investment is still below historical levels, despite the partial recovery. This is reflected in the fact that Lithuanian exports are not gaining in sophistication. In the longer term, Lithuania could boost its competitiveness by improving the planning and delivery of public investment, notably in innovation and skills.

Removing barriers to innovation and to doing business will speed up the technological upgrading of the economy. Institutional constraints are limiting the growth of companies and inhibiting innovation. The predominant type of businesses in Lithuania are microenterprises, which in general are less innovative and productive than other firms. At the same time R&D intensity is relatively low and spending remains inefficient and overly reliant on European funds. Likewise, public research and innovation are held back by a cumbersome institutional network, and a shortage of talent. Businesses face difficulties accessing finance and international markets. In some sectors, notably energy, regulatory barriers hamper firm entry and competition. Another persistent obstacle to doing business is the insolvency framework, although the new insolvency law may improve the situation.

Public administration in Lithuania is good overall but progress fighting the shadow economy and corruption has been slow. The public administration is mostly efficient and stable, but municipalities have limited policymaking capacity despite their significant responsibilities. The shadow economy is large (and growing) and weighs on businesses and public finances. Lithuania has stepped up its fight against corruption but many of the planned anticorruption measures are delayed and some key legislation is still pending. In public procurement, it is all too common for tenders to have a single bidder. Corruption in healthcare also remains a problem, even though the authorities have taken action to try to remedy this.

Lithuania's overall convergence with the EU average masks significant social and economic disparities across its regions. Disparities in income are driven mainly by labour productivity differences between the Vilnius capital region and western-central Lithuania. The key challenge, emigration, also has a marked regional component: rapid depopulation, ageing, and social exclusion predominantly affect territories outside the major cities.

Lithuania is on track to meet its climate change objectives for 2020 but is at risk of missing its 2030 targets. In its national energy and climate plan Lithuania has pledged not to increase emissions by more than 15% by 2020 and to reduce them by 9% by 2030 compared to 2005 emission levels from sectors not covered by the EU's emission trading system (ETS)([2]). By 2018, non-ETS greenhouse gas emissions had increased by 7% compared to 2005. This means that, while the target for 2020 will be achieved, the 2030 climate change targets risks being missed. As the share of renewable energy has increased significantly, the country has already surpassed its 2020 target level. To reach the 2030 target of 45%, Lithuania will need to do more efforts, including making use of a recently introduced renewable energy prosumer scheme, covering users who both produce and consume energy.

Manufacturing's prominent role in the economy poses a threat to environmental sustainability. Environmental sustainability in Lithuania is low overall, the main contributing factors being low resource efficiency, high pollution levels from fossil fuel consumption in transport, and little progress on the circular economy. This situation is exacerbated by a low landfill tax, weak controls on waste management companies and polluting producers, and little progress on green procurement and green taxation. Increasing environmental sustainability requires a clearer commitment and targeted and smart public investment in green technologies. In addition to manufacturing, Lithuania could benefit from better incorporating environmental considerations into other sectors, notably transport and agriculture. Even though the transport sector contributes 40% of all of Lithuania's greenhouse gas (GHG) emissions, taxes on transport do not sufficiently reflect vehicles' environmental performance. Clear incentives to improve energy efficiency and increase the share of renewable energy sources are

([2]) Non-ETS sectors are those not covered by the EU Emissions Trading System (ETS). Emissions from non-ETS sectors fall under the responsibility of Member States.

vital if Lithuania is to achieve climate neutrality by 2050. To deliver on the climate and energy objectives and shape a new growth model, identify investment needs in green technologies and sustainable solutions, and secure adequate funding is crucial: Lithuania's National Energy and Climate Plan is an important step in this context. Mobilising investment in the private sector will be crucial if Lithuania is to achieve climate neutrality and circular economy models and to carry out its energy transition.

Lithuania has made limited progress in addressing the 2019 country-specific recommendations.

There has been some progress in the following areas:

- Legislation and technical measures to improve tax compliance were introduced in 2019. However, the VAT gap remains one of the highest in the EU. The introduction of a passenger vehicle registration tax based on CO_2 emissions and other changes to the real estate tax and excise duties are small steps towards broadening the tax base to sources less detrimental to growth.

- To reduce poverty and social exclusion, action taken by Lithuania includes an increase in universal child benefit, the indexation of pensions and an additional increase in pensions. No effective measures were adopted to address income inequality. In addition, the changes to the design of the tax and benefit system will not have a tangible effect on Lithuania's tax revenue relative to its GDP, which is one of the lowest ratios in the EU, and therefore will not increase the system's power to reduce income inequalities.

- Lithuania improved the affordability of healthcare by taking action to reduce out-of-pocket payments and exempting the most vulnerable groups from co-payments on medicines. Lithuania also slightly increased the budget for public health, continued to improve its e-health system, and took action to enhance primary care and make its healthcare system more efficient.

- As part of the Baltic region that enjoys 23% interconnection capacity, Lithuania has already reached interconnection targets for electricity and is now developing a new electricity interconnector with Poland. Natural gas interconnector pipeline capacity development is also advancing, but there have been some delays. Overall implementation of energy infrastructure projects is proceeding according to the schedule outlined in the 2021-2030 National Energy and Climate Plan as well as the priorities agreed in the context of the Baltic Energy Market Interconnection Plan (BEMIP) High-level Group including the Projects of Common Interest.

There has been limited progress in the following areas:

- Lithuania made slow progress on implementing educational reforms to improve the quality of educational outcomes and to better allocate of resources across education levels and between urban and rural areas.

- Participation in adult learning remains well below the EU average and policies for getting people into work are little used in order to improve the level of skills.

- Progress on increasing the quality of the health care system remains limited.

- More action is required to stimulate productivity growth by improving the efficiency of public investment. Further action is also needed to improve the coherence of the policies in place to support science-business cooperation, and to consolidate research and innovation implementing agencies. Public investment is still needed to boost the energy transition, increase resource efficiency and make transport more sustainable.

Lithuania has achieved its national targets under the Europe 2020 strategy concerning the employment rate of the working-age population, the share of early school leavers and the share of the population that has attained tertiary education. However, while the number of people at risk of poverty or social

exclusion is decreasing, the national target has been achieved only partially.

Lithuania's performance remains mixed on the indicators of the Social Scoreboard, which supports the European Pillar of Social Rights. Lithuania's relatively good labour market is reflected in the indicators of the Social Scoreboard: the employment rate is high for both men and women, unemployment is relatively low and there are few young people not in employment, education or training. However, income inequality and poverty remain high, while the impact of social benefits on reducing poverty is critically low. These indicators are also reflected in Lithuania's performance on the United Nations' Sustainable Development Goals (SDG) indicators. The analysis in this report indicates that Lithuania has advanced in SDG 5 'Gender equality' while significant challenges remain in SDG 1 'No poverty', SDG 3 'Good health and well-being', and SDG 10 'Reduced inequalities' ([3]).

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

- **Deficiencies in how the government plans spending are contributing to the weakening of public finances.** Lithuania's budgetary process lacks impartial spending reviews. In the context of increasing needs for funding, this forces the authorities to reduce some expenditure items proportionally while preparing the budget. Such an approach tends to backfire during the budget execution as actual spending exceeds planned limits. Consequently, this practice jeopardises the country's fiscal targets. There are delays in the implementation of the budget framework reform, which is set to enhance expenditure planning.

- **The number of pupils and students is decreasing, the teaching workforce is ageing, and education outcomes are poor, particularly in rural areas.** Low participation in adult learning limits the workforce's ability to adapt to changes in the labour market. Structural reforms in education are being held back by the lack of a comprehensive long-term strategy to improve quality and efficiency, difficulties in managing several changes at the same time, weak central steering and insufficient involvement of relevant stakeholders.

- **Recent pension reforms have made the system more sustainable but pension adequacy remains a concern.** The introduction of pension indexation in 2018 linked pension increases to the total wage bill, making the system more financially sustainable. However, linking pensions to the total wage bill when the labour force is shrinking risks making pensions less able to cover living costs, in a context where pensions in Lithuania are already among the lowest in the EU.

- **Lithuania has the one of the highest treatable and preventable mortality rate in the EU**. Low funding and inefficient allocation of resources in the healthcare system are long-standing issues. As a consequence, primary healthcare, public health measures and, to a lesser extent, long-term care remain underfunded and services are of insufficient quality. Regional disparities in access to healthcare and in health outcomes are exacerbated by the shortage of nurses, the uneven distribution of healthcare professionals, the ageing of doctors, and the uneven use of telecommunication technology to diagnose, treat patients at a distance, and provide more integrated care.

- Despite overall progress, more efforts are needed to achieve the 2030 targets. Lithuania has surpassed its 2020 target on renewables, although primary and final energy consumption increased. To provide a significant contribution to the EU's 2030 energy and climate targets, Lithuania will need to implement new policies and take further measures.

([3]) Within the scope of its legal basis, the European Semester can help drive national economic and employment policies towards the achievement of the United Nations Sustainable Development Goals (SDGs) by monitoring progress and ensuring closer coordination of national efforts. The present report contains reinforced analysis and monitoring on the SDGs. A new annex (Annex E) presents a statistical assessment of trends in relation to SDGs in Lithuania during the past five years, based on Eurostat's EU SDG indicator set.

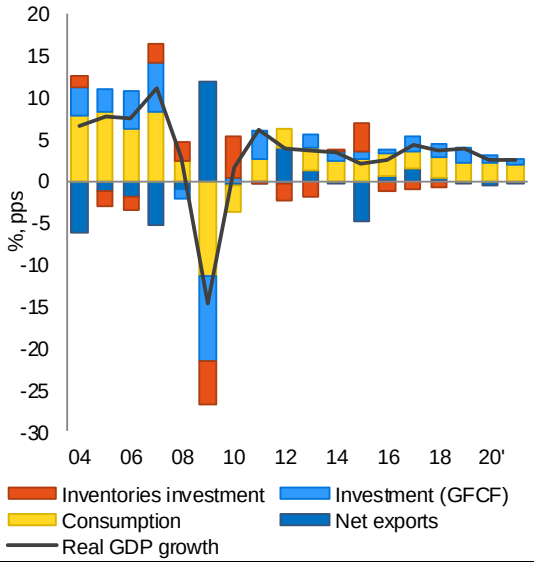
- **Identifying investment needs in green technologies and mobilising funding will be crucial for Lithuania's climate neutrality and energy transition, and for shaping a new growth model and improving the circular economy.** Meeting 2030 climate change and recycling targets may require additional measures (such as environmental taxation). The Commission's proposal for a Just Transition Mechanism under the next multi-annual financial framework for the period 2021-2027 includes a Just Transition Fund, a dedicated just transition scheme under InvestEU, and a new public sector loan facility with the EIB. It is designed to ensure that the transition towards EU climate neutrality is fair by helping the most affected regions in Lithuania to address the social and economic consequences. Key priorities for support by the Just Transition Fund, set up as part of the Just Transition Mechanism, are identified in Annex D building on the analysis of the transition challenges outlined in this report.

1. ECONOMIC SITUATION AND OUTLOOK

GDP growth

The Lithuanian economy keeps growing fast amid weakening growth in the EU as a whole. Real GDP increased by 3.8% in 2019 despite a slowdown in the EU. Domestic demand was largely due to private consumption and, to a lesser extent, public expenditure: both public investment and public sector wages increased. Exports remained resilient despite the weak performance of major trading partners. Double-digit growth for trade in services kept net exports positive despite a deceleration in the exports of goods in the second quarter of 2019. The weak environment — particularly the near stalling of international trade forecast by next year — is expected to dent growth in the years to come, with real GDP expected to slow down to 2.4% per year.

Graph 1.1: **Breakdown of GDP growth**



* Forecast, GFCF: Gross fixed capital formation
Source: European Commission

Consumption

In the short term private consumption will remain the backbone of domestic demand. Real private consumption growth increased by 3.2% in 2019 and is expected to remain the most resilient component of domestic demand in the near future. Consumption has been supported by a high employment rate and rising wages, an increase in the tax free allowance, the new indexation of pensions, and rising minimum wages. Private consumption was complemented by a 1.3% real increase in public consumption.

Investment

Investment is growing steadily but its level remains below historical rates. Real investment has been growing at around 8% for 3 consecutive years, more than double the EU average. Capital formation is recovering steadily after the 2014-2016 slowdown caused by international instability and trade sanctions from Russia. About one third of the increase in total investment in 2019 can be attributed to public investment and accelerated use of EU funds. The propensity to invest, however, currently stands around the EU average since the financial crisis and investment in general is expected to slow down in the near future. For a catching-up economy this is too low: if the level of income and capital is well below the EU, investment should be higher than that of the EU.

Inflation

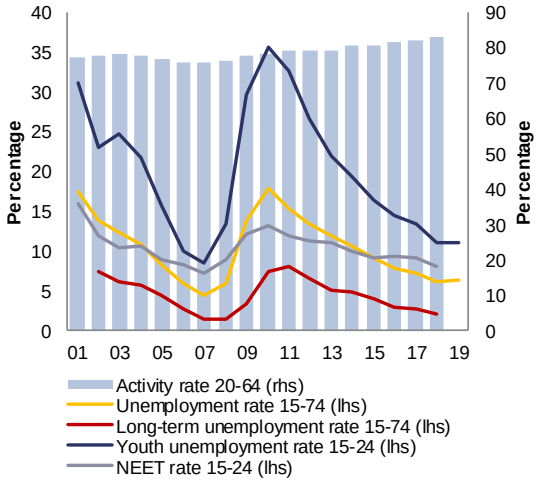
Inflation is moderating towards the euro area objective. Harmonised index of consumer prices (HICP) inflation is continuing to moderate and stood at 2.4% in 2019. The effect of lower fuel prices were balanced by higher prices in some food products, coupled with increases in service prices. In the coming years wage growth, though slowing, is expected to sustain inflation in services. Further increases will stem from scheduled increases in excise duties on alcohol and tobacco products. However, these effects will be counteracted by a projected fall in oil prices so overall HICP inflation is expected to decrease to slightly above 2% in 2020 and 2021.

Labour market

The labour market has recovered steadily from the 2009 contraction. Since 2010, employment and unemployment rates have improved continuously (Graph 1.2): in 2019 unemployment was 6.4% while the activity rate was 82.9% in the third quarter. Long-term unemployment remained below 2% in the third quarter of 2019 (2.4% in the EU). Also below the EU average in this quarter were youth unemployment (at 11.7%) and the rate of young people not in employment, education or training (at 7.8%). Going forward, there are signs

that the labour market is loosening. The cooling down of the labour market can already be seen in the stabilisation of unemployment in 2019 and a drop in the vacancy rate. Both hint at a moderation of activity and a slowdown in real wage growth.

Graph 1.2: **Key labour market indicators**



Source: European Commission

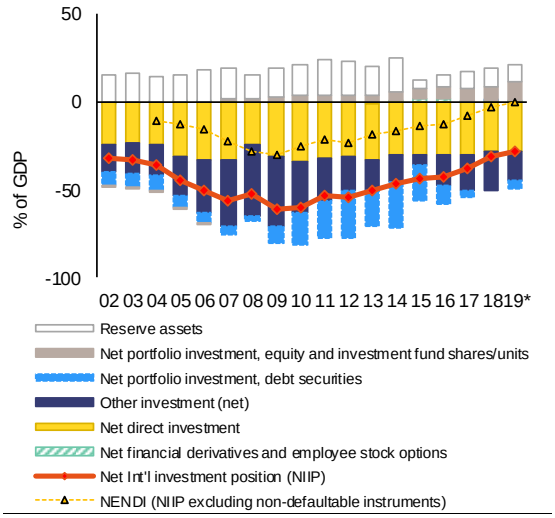
Demographic developments

Net migration turned positive in 2019 but demographic challenges remain. Positive net migration resulted from three trends: reduced emigration of Lithuanian nationals, a rise in immigration from non-EU countries, and nationals increasingly returning home. However, the labour force continues to shrink and the working-age population has contracted by 350 000 people (16%) since 2010. Should these migration trends persist, it will impose a further strain on a social security system already burdened by population ageing. This can be mitigated by upskilling and reskilling the low and medium skilled, as well as by improving the overall health of the labour force (Krasnopjorovs, 2019). Furthermore, the ageing of the working-age population calls for adapting the adult learning system.

Cost-competitiveness

Wages have grown fast in Lithuania but are expected to stabilise in the near term. Wage growth slowed down from 7.7% to a still high rate of 7% in 2019. This rate was higher than what domestic developments in labour productivity, prices, and unemployment would have warranted, and higher than the rate that would have kept the real effective exchange rate unchanged. However, the Commission forecasts a further deceleration over the next 2 years down to 4%. Real wage growth (adjusted for inflation) stood at 4.9% in 2019 down from 5.8% in 2017. The deceleration of wages and the productivity growth reduced unit labour costs inflation in 2019. Together with the signs of labour market loosening, these developments indicate a significant moderation of labour costs over the coming years.

Graph 1.3: **Net international investment position**

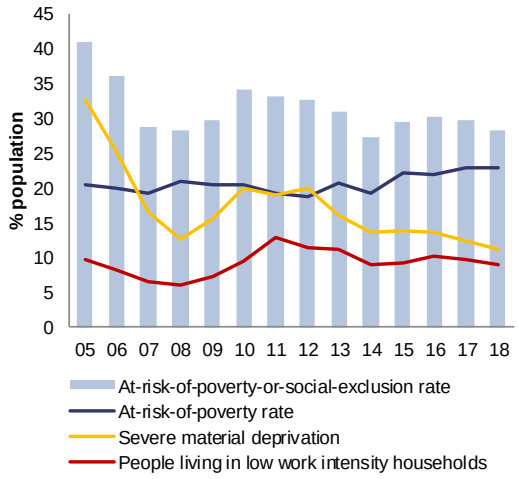


Source: European Commission

External position

The current account has been in balance in recent years. The saving rate is relatively low, amounting to 18% of GDP, five percentage points below the EU average. However, the propensity to invest has also been subdued since the financial crisis. As a consequence, the current account balance (excess savings) has been close to zero since 2016. Including EU funds, the economy as a whole registered a modest positive net lending rate of around 1.4% of GDP in 2019. These surpluses have reduced the negative international investment position (NIIP) from -60% of GDP in 2010 to -28% in 2019. At the same time, the share of the NIIP corresponding to foreign direct investment (FDI) has remained constant; indicating that the reduction is due to other types of liabilities (see Graph 1.3).

Graph 1.4: **At-risk-of-poverty or social exclusion rate and components**



Source: European Commission

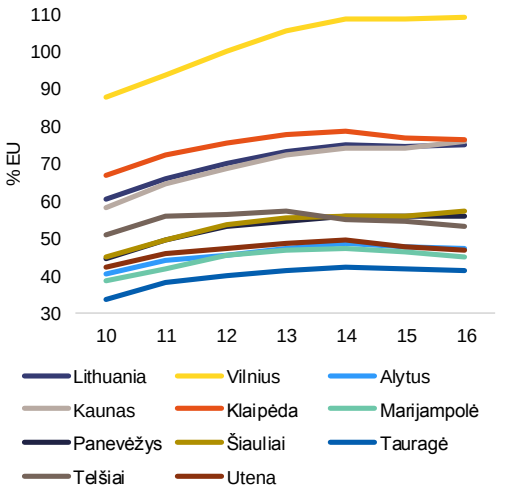
Poverty and inequality

Poverty and inequality are a concern even though steps are being taken to improve the situation. Expenditure on social protection in Lithuania remains among the lowest in the EU and the at-risk-of-poverty or social exclusion rate at 28.3% remains among the highest in the EU (21.7% in the EU). Income inequality even after pensions and social transfers is one of the highest in the EU, with the impact of social transfers on poverty reduction marked as critical on the Social Scoreboard. In 2019, the income of the richest 20% of households was around 7 times greater than that of the poorest 20%, one of the highest ratios in the EU. The rapid ageing of the population risks putting additional stress on the system.

Gender

In general gender inequalities are relatively low in Lithuania. In most indicators under the SDG 5 "Gender equality" Lithuania compares favourably to the EU average. There is very low or low incidence of physical and sexual violence to women and a relatively small gender employment gap. There are very low or low gender differences in the levels of early school leaving, the employment rates of recent graduates, and the numbers of people inactive due to caring responsibilities. Many more women than men have tertiary education. In business and politics, the picture is more nuanced. Gender balance is increasing in the government and is at present around the EU average of 30%. However, the share of female members of parliament has stagnated around 22% while in the EU displays an increasing trend and has a current figure of 31%. In business, there are few female board members (half the EU average) but many executives (double the EU average).

Graph 1.5: **Regional income per head**



Regional GDP per head in purchasing power standards and in percentage of the EU.
Source: Eurostat

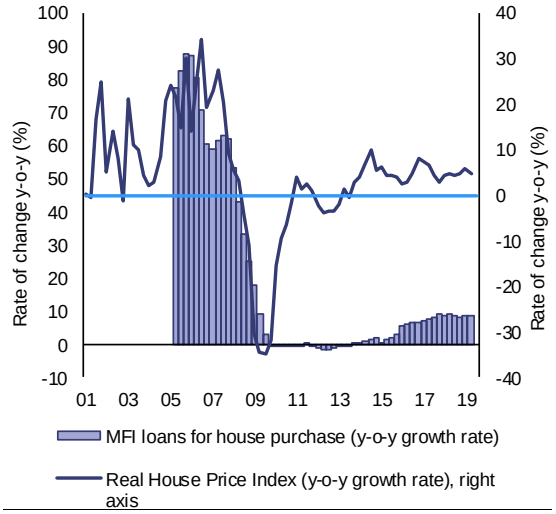
Regional disparities

Regional disparities in Lithuania are persistently high despite convergence of the country as a whole with the EU. Regional disparities increased during the economic boom of 2004-2007, shrank during the crisis because of the downturn in Vilnius, and have been stable since 2013. The country has three distinct regions in terms of income per capita. First, the Vilnius region, which generates 40% of Lithuania's GDP, has the highest level of income and has registered the biggest increases since 2010. Second come the regions of Kaunas and Klaipėda, which are both important business and industrial centres, with the latter having the country's largest seaport. Kaunas generates 19% of the country GDP and in recent years has grown faster than Klaipėda; in 2017 both regions had the same GDP per capita. Third and last come the remaining regions of Lithuania; these

all have GDP per capita below 60% of the EU average.

Demographic challenges are particularly severe in regions outside the capital region. While the population of Vilnius remained constant over the period 2014-2017, the population in Klaipėda and Kaunas declined by -2.7% and -3.1% respectively. For the other regions the reduction was even larger: from -5.4% in Šiauliai to -7% in Utena.

Graph 1.6: **Real house price and mortgage growth**



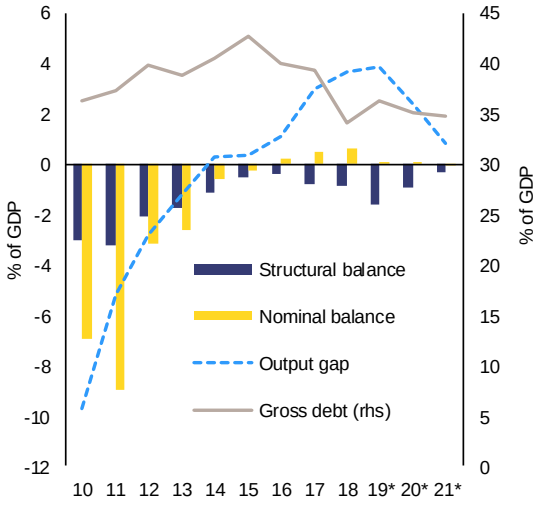
Source: Eurostat, ECB, Commission services.

Financial sector

Banks operating in Lithuania have been profitable and remain resilient to external shocks. High market concentration in the banking sector increases the systemic importance of individual banks. Lending to households for house purchase is at peak levels. By contrast, the overall growth in the corporate loan portfolio has dropped significantly as banks took a more prudent approach to business financing and companies turned to non-bank funding (see section 3.2 for details).

The housing market has recovered from the 2009 downturn but no signs of overheating. After the boom and bust around the financial crisis, the housing market is back to normal, with investment in dwellings relative to income even below the EU average. House prices are growing moderately as reflected in the stability of the house price-to-income ratio, but are still well below historical levels. Loans for house purchases have recovered but the volume is still growing less than 10% per year (Graph 1.6) and residential building permits remain stable.

Graph 1.7: **General government balance and gross debt**



* Forecast
Source: European Commission

Public finance

Lithuania plans lower budget surplus targets for the general government. After a record-high surplus in public finances of 0.6% of GDP in 2018 (see Graph 1.7), the budgetary outcome for 2019 is set to be in balance. The labour taxation reform, implemented in 2019, had a negative impact on government revenues. At the same time, according to the preliminary data, expenditure on wages and social benefits exceeded planned levels. In 2020, the government aims to achieve a surplus of 0.2% of GDP by adjusting the tax system, improving tax administration, and by keeping expenditure growth below the pace of revenue increases (Ministry of Finance, 2019).

Low interest rates and good macroeconomic and fiscal indicators are facilitating state debt management. From 2020 to 2022, Lithuania is scheduled to redeem large amounts of dollar-denominated bonds issued a decade ago. For this reason, the country started accumulating pre-financing under very favourable conditions in advance, which considerably influences the debt-to-GDP ratio. Overall, the general government debt is expected to have grown from 34% of GDP

in 2018 to 36% in 2019, before declining to approximately 35% of GDP in 2020. Interest expenditure is expected to drop from 0.9% of GDP in 2018 to 0.5% in 2020.

UN Sustainable Development Goals

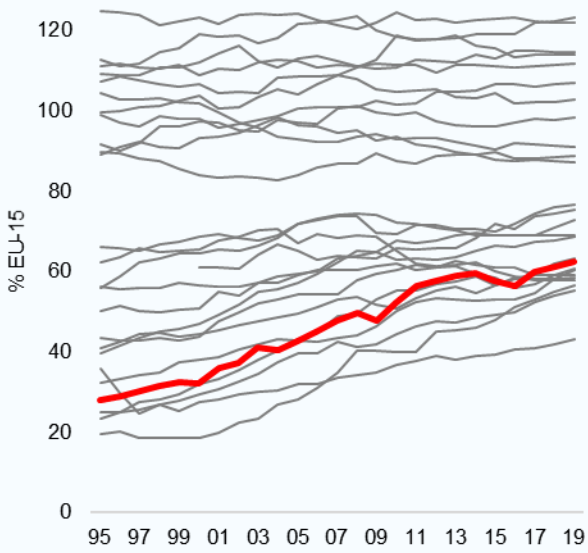
Within the broad framework of the United Nations' Sustainable Development Goals (SDGs) Lithuania performs well on gender equality but less well on poverty and health. In gender equality (SDG5), and relative to other EU countries, Lithuania has one of the highest rates of tertiary education for women and one of the lowest gender employment gaps. But it has one of the highest incidences of poverty (SDG1), one of the highest levels of inequalities (SDG10), the lowest share of people with good or very good perceived health and among the lowest life expectancies at birth (SDG3). In other chapters the picture is mixed. For example, in sustainable cities (SDG11) indicators on crime and vandalism and municipal waste recycling are positive, but on access to public transportation and air pollution the performance is rather poor.

Box 1.1: **Avoiding the risk of a middle-income trap**

The Lithuanian economy has grown steadily since the mid-90s. National income per head was barely 30% of the western European average in 1995. With low income but a relatively good education system and institutions, the transition to a market economy and later to EU membership, led to a remarkable take-off. Today national income per head is 72% of that of the EU-15. Over this period productivity increased to three times the level of the 1990s as a result of massive investments. However, there is still a long way to go: while Lithuania performs well among the new Member States, it remains behind the leading group of countries.

Lithuania is at a turning point in seeking to move beyond manufacturing to become a more diversified economy. Turning to an open market-based economy brought early and brought rapid gains. The challenge now is to sustain this process and develop from a middle- to a high-income country. Importing more sophisticated machines and intermediate goods contributes to the technological upgrading of the economy but will not be enough on its own to achieve this. Meanwhile, wages have grown too high for Lithuania to remain a low-cost economy. Without the right reforms, the economy is at risk of falling into a middle-income trap 'squeezed between the low-wage competitors that dominate in mature industries and the rich-country innovators that dominate in industries undergoing rapid technological change ([1])'. The protracted recovery and low productivity growth that followed the financial crisis demonstrated the credibility of this risk. The current stagnation of the economic complexity of exports suggests that the economy may be getting stuck in the low-value added segment of the international value chain: estimates of relative functional specialisation point towards Lithuania specialising in production (e.g. manufacturing) rather than in pre- or post-production (e.g. the development of new products or marketing) ([2]).

Productivity in Lithuania and EU Member States



Note: GDP in current PPS per hour worked and in percentage of the EU-15. The red line is Lithuania; grey lines are the other Member States.
Source: AMECO, Commission services

Escaping the middle-income trap and making a successful transition to a knowledge-based economy requires deeper structural reforms. The Lithuanian innovation eco-system remains fragmented, while funds are poorly targeted and not available at all development stages of a company. Public funding still relies excessively on EU funds, although the planned Innovation Support Fund may ensure more stability in the future. Private funding for competitive firms is hampered by the increasing concentration in the banking sector. This sector is currently dominated by three banks, although current efforts to introduce new financial institutions and alternative ways of funding have the potential to increase competitive pressures on traditional banks. The attainment of tertiary education is among the highest in the EU but the system is oversized and university graduates tend to emigrate. This contributes to the brain drain which has been identified as an obstacle to research and innovation in the country. Retaining talent will require product market reforms to create demand for skilled labour and improved socioeconomic conditions: poor social security (the absence of an effective safety net) is cited as a one of the main reasons for emigrating, second only to low pay. Institutional constraints limit the growth of companies and inhibit innovation: preferential tax treatment of microenterprises prevents them from growing and encourages the shadow economy. For

example, there is evidence that microenterprises try to avoid the revenue threshold under which they enjoy a preferential tax treatment. There is also some evidence of a similar effect being caused by the threshold for preferential VAT treatment for the self-employed, although the evidence there is less conclusive (see Section 3.4.1). The accumulation of such of distortions may discourage firms from achieving their optimal size and discourage the self-employed from becoming an incorporated business and growing to become more productive. Tax systems with too many exceptions can hamper the efficient allocation of resources.

([1]) Indermit S. Gill and Homi Kharas, 'The Middle-Income Trap Turns Ten,' World Bank, Policy Research Working Paper No. 7403 (2015).
([2]) Roman Stöllinger, 'Testing the smile curve: Functional specialisation in GVCs and value creation,' wiiw, Working Paper No. 163 (2019).

Table : 1.1 Key economic and financial indicators

Key economic and financial indicators - Lithuania

	2004-07	2008-12	2013-16	2017	2018	forecast 2019	2020	2021
Real GDP (y-o-y)	8,2	-0,5	2,9	4,2	3,6	3,9	2,6	2,4
Potential growth (y-o-y)	6,1	1,7	1,9	2,3	3,0	3,6	3,9	3,9
Private consumption (y-o-y)	11,0	-2,3	4,1	3,5	3,7	.	.	.
Public consumption (y-o-y)	2,9	-0,7	0,3	-0,3	0,5	.	.	.
Gross fixed capital formation (y-o-y)	17,2	-6,8	5,5	8,2	8,4	.	.	.
Exports of goods and services (y-o-y)	9,9	7,8	3,1	13,6	6,3	.	.	.
Imports of goods and services (y-o-y)	15,2	2,5	4,3	11,5	6,0	.	.	.
Contribution to GDP growth:								
Domestic demand (y-o-y)	11,8	-3,6	3,6	3,8	4,1	.	.	.
Inventories (y-o-y)	0,1	0,0	0,1	-1,0	-0,8	.	.	.
Net exports (y-o-y)	-3,7	2,8	-0,8	1,5	0,4	.	.	.
Contribution to potential GDP growth:								
Total Labour (hours) (y-o-y)	-0,2	-0,6	0,3	0,3	0,5	0,6	0,7	0,6
Capital accumulation (y-o-y)	2,7	1,1	1,1	1,4	1,7	1,8	1,8	1,7
Total factor productivity (y-o-y)	3,6	1,1	0,5	0,7	0,8	1,2	1,5	1,6
Output gap	4,2	-4,7	0,1	3,0	3,6	3,9	2,3	0,8
Unemployment rate	7,3	13,2	9,9	7,1	6,2	6,2	6,2	6,2
GDP deflator (y-o-y)	6,2	3,3	1,0	4,3	3,3	3,6	3,3	2,4
Harmonised index of consumer prices (HICP, y-o-y)	3,3	4,7	0,3	3,7	2,5	2,2	2,3	2,1
Nominal compensation per employee (y-o-y)	15,1	2,7	5,5	9,5	7,7	7,0	4,4	4,0
Labour productivity (real, person employed, y-o-y)	7,8	2,0	1,1	5,0	2,2	.	.	.
Unit labour costs (ULC, whole economy, y-o-y)	6,8	0,7	4,4	4,3	5,3	3,3	2,1	1,6
Real unit labour costs (y-o-y)	0,5	-2,5	3,3	0,1	1,9	-0,3	-1,2	-0,8
Real effective exchange rate (ULC, y-o-y)	4,6	-1,6	3,3	3,8	4,2	0,1	-0,6	-0,6
Real effective exchange rate (HICP, y-o-y)	0,1	1,1	1,5	0,4	4,0	-0,6	-0,8	-0,2
Net savings rate of households (net saving as percentage of net disposable income)	-1,0	0,3	-2,3	-3,6	-5,1	.	.	.
Private credit flow, consolidated (% of GDP)	16,6	-1,3	1,7	4,5	4,3	.	.	.
Private sector debt, consolidated (% of GDP)	56,8	73,0	55,7	56,1	56,4	.	.	.
of which household debt, consolidated (% of GDP)	17,4	28,0	22,2	22,4	22,8	.	.	.
of which non-financial corporate debt, consolidated (% of GDP)	39,4	44,9	33,4	33,7	33,6	.	.	.
Gross non-performing debt (% of total debt instruments and total loans and advances) (2)	0,7	11,9	6,0	3,1	2,4	.	.	.
Corporations, net lending (+) or net borrowing (-) (% of GDP)	-7,5	5,9	6,4	4,8	5,7	6,9	8,0	8,3
Corporations, gross operating surplus (% of GDP)	33,3	35,5	36,0	33,5	33,4	34,2	34,8	34,9
Households, net lending (+) or net borrowing (-) (% of GDP)	-0,4	0,3	-2,6	-3,6	-4,6	-4,1	-4,9	-4,7
Deflated house price index (y-o-y)	18,1	-9,8	5,1	5,2	4,6	.	.	.
Residential investment (% of GDP)	2,5	2,5	2,6	2,7	2,7	.	.	.
Current account balance (% of GDP), balance of payments	-10,3	-3,2	0,4	0,5	0,3	1,2	1,5	1,8
Trade balance (% of GDP), balance of payments	-9,4	-3,5	0,8	2,4	1,9	.	.	.
Terms of trade of goods and services (y-o-y)	1,8	-0,3	1,2	0,3	-1,0	1,1	1,2	0,8
Capital account balance (% of GDP)	1,3	3,2	2,6	1,2	1,5	.	.	.
Net international investment position (% of GDP)	-46,9	-56,3	-46,0	-37,9	-31,0	.	.	.
NENDI - NIIP excluding non-defaultable instruments (% of GDP) (1)	-15,4	-25,6	-15,4	-7,7	-2,7	.	.	.
IIP liabilities excluding non-defaultable instruments (% of GDP) (1)	51,1	71,6	67,5	76,0	71,6	.	.	.
Export performance vs. advanced countries (% change over 5 years)	54,3	40,6	12,9	0,9	1,4	.	.	.
Export market share, goods and services (y-o-y)	4,5	4,9	-1,4	9,8	5,4	5,5	0,5	-0,6
Net FDI flows (% of GDP)	-3,9	-1,1	-0,7	-2,0	-0,8	.	.	.
General government balance (% of GDP)	-0,7	-6,2	-0,8	0,5	0,6	0,0	0,0	0,0
Structural budget balance (% of GDP)	.	.	-0,9	-0,8	-0,8	-1,6	-0,9	-0,3
General government gross debt (% of GDP)	17,4	31,2	40,5	39,3	34,1	36,3	35,1	34,8
Tax-to-GDP ratio (%) (3)	29,9	29,0	28,6	29,8	30,5	30,2	30,8	31,1
Tax rate for a single person earning the average wage (%) (4)	27,1	22,5	22,8	22,7	22,2	.	.	.
Tax rate for a single person earning 50% of the average wage (%) (4)	20,4	18,0	17,6	13,9	12,8	.	.	.

(1) NIIP excluding direct investment and portfolio equity shares

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

(3) The tax-to-GDP indicator includes imputed social contributions and hence differs from the tax-to-GDP indicator used in the section on taxation

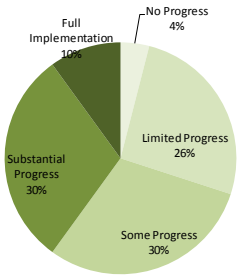
(4) Defined as the income tax on gross wage earnings plus the employee's social security contributions less universal cash benefits, expressed as a percentage of gross wage earnings

Source:

2. PROGRESS WITH COUNTRY-SPECIFIC RECOMMENDATIONS

Since the start of the European Semester in 2011, 70% of all country-specific recommendations addressed to Lithuania have recorded at least "some progress" ([4]). 30% of these CSRs recorded "limited" or "no progress" (see Graph 2.1).

Graph 2.1: **Overall multiannual implementation of 2011-2019 CSRs to date**



The multiannual CSR assessment looks at the implementation until the 2020 country report, starting from when the CSRs were first adopted.
Source: European Commission

Lithuania has made a small step towards broadening the tax base towards sources less detrimental to growth. From July 2020, a new vehicle registration tax, linked to CO2 emissions, will be introduced. In addition, a few adjustments to real estate taxation and excise duties on alcohol and tobacco came into force from 1 January 2020. The overall budgetary effect of those changes is small (0.15% of GDP). Lithuania also introduced a few legal and technical measures to improve tax compliance. However, tax compliance remains an issue.

Lithuania has made some progress in addressing poverty and social exclusion. This includes measures to address poverty and social exclusion. The increase in universal child benefit is expected to have a positive impact on reducing the risk of poverty and social exclusion for households with children. The indexation and additional increase of pensions is also a step forward in addressing the risk of poverty among older people. Other measures, such as an increase in the minimum monthly wage, and amendments in the area of cash social assistance, and social housing are also steps in the right direction, but their effect on poverty and social exclusion is yet to be seen. More remains to be done in reducing income inequality and improving the design of the tax and benefit system.

Progress with improving quality and efficiency at all levels of education and training, including adult learning, is limited. More remains to be done to increase the low efficiency of the education and training system and to improve the allocation of resources across education levels and between urban and rural areas. Implementation of reforms in the education system is slow. Participation in adult learning remains well below the EU average. There has been some progress in health reforms, especially in reducing co-payments and improving primary care. More remains to be done to improve the overall quality of healthcare services and the efficiency of allocation of resources given underinvestment in public health measures and long- term care and overcapacity in the hospital sector.

More targeted investment from sources other than EU funds is needed to focus investment-related economic policy on key areas. In particular, more investment is needed to boost the energy transition, increase resource efficiency, and sustainable transport, including for increasing system adequacy after the synchronisation with the European continental grid. Overall implementation of energy infrastructure projects is proceeding according to the schedule outlined in the National Energy and Climate Plan (NECP) as well as the priorities agreed in the Baltic Energy Market Interconnection Plan (BEMIP) High – level Group including the Projects of Common Interest. A final NECP ([5]) for 2021 to 2030 has been presented including investment needs estimates for the energy transition going forward.

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

([5]) The Commission will assess, in the course of 2020, the final National Energy and Climate Plan submitted by Lithuania on 31.12.2019.

Table 2.1: **Assessment of 2019 CSR implementation**

Lithuania	Overall assessment of progress with 2019 CSRs: Limited progress
CSR 1: *Improve tax compliance and broaden the tax base to sources less detrimental to growth. Address income inequality, poverty and social exclusion, including by improving the design of the tax and benefit system.*	**Some Progress** • **Some Progress** in improving tax compliance • **Some Progress with** broadening the tax base to sources less detrimental to growth and • **Some Progress** with addressing income inequality, poverty and social exclusion, including by improving the design of the tax and benefit system.
CSR 2: *Improve quality and efficiency at all education and training levels, including adult learning. Increase the quality, affordability and efficiency of the healthcare system*	**Limited Progress** • **Limited Progress** with improving quality and efficiency at all education and training levels, including adult learning and • **Limited Progress** with increasing the quality • **Some Progress w**ith increasing the affordability and • **Some Progress w**ith increasing the efficiency of the healthcare system.
CSR 3: *Focus investment-related economic policy on innovation, energy and resource efficiency, sustainable transport and energy interconnections, taking into account regional disparities. Stimulate productivity growth by improving the efficiency of public investment. Develop a coherent policy framework to support science-business cooperation and consolidate research and innovation implementing agencies.*	**Limited Progress** • **Limited Progress** with focussing investment-related economic policy on innovation, • **Limited Progress** in the area of energy, • **Limited Progress** in the area of resource efficiency, • **Limited Progress** in the area of sustainable transport, • **Some Progress** in the area of energy interconnections, taking into account regional disparities, • **Limited Progress** with stimulating productivity growth by improving the efficiency of public investment, • **Limited Progress** with developing a coherent policy framework to support science-business cooperation and • **Limited Progress** with the consolidation of research and innovation implementing agencies.

Source: European Commission

The assessment of the investment CSR 3 does not take into account the contribution of the EU 2021-2027 cohesion policy funds[6].

Overall, Lithuania has made limited progress in addressing the 2019 CSRs ([7]). Some progress was achieved in addressing the CSRs on tax compliance and broadening the tax base. Overall progress remains limited in addressing education and training related issues and with regards to its health system. Lithuania has made limited progress on stimulating investment and productivity growth. Incremental growth of business investment in research and innovation has been slow, and progress on consolidating research and innovation implementing agencies remains limited.

Upon request from a Member State, the Commission can provide tailor-made expertise via the Structural Reform Support Programme to help design and implement growth-enhancing reforms. Since 2017, such support has been provided to Lithuania for over 30 projects. In 2019 for example, the Commission: (i) provided the authorities with an in-depth assessment of the state pension schemes; (ii) supported the authorities in the reorganisation of the institutional network for teacher training; and (iii) provided assistance to government interventions in the field of science, technology and innovation. This included providing advice on the simplification of the institutional structure and supporting the design

[6] The Regulatory framework underpinning the programming of the 2021-2027 EU cohesion policy funds, has not yet been adopted by the co-legislator, pending inter alia an agreement on the MFF.

([7]) 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 A.

of a more effective and harmonised approach to evaluating research projects for public financing.

In 2019, work started under the Structural Reform Support Programme to enhance the governance and capacity building of local government, to help the national authorities improve school leadership, and to develop a sustainable finance strategy and action plan.

Box 2.2: **EU funds and programmes to address structural challenges and to foster growth and competitiveness in Lithuania**

Lithuania is one of the countries which benefits most from EU support. The financial allocation from the EU Cohesion policy funds ([1]) for Lithuania amounts to €7.89 billion in the current Multiannual Financial Framework, around 2.6% of the GDP every year. By the end of 2019 some €7.14 billion (91% of the total amount planned) was allocated to specific projects while €3.58 billion was reported as having been spent by the selected projects ([2]) showing a level of implementation above the EU average.

While promoting more harmonious development by reducing economic, social and territorial disparities, EU Cohesion policy funding also contributes significantly to addressing structural challenges in Lithuania. The Cohesion Policy programmes for Lithuania have allocated EU funding of €1.4 billion for smart growth, €3 billion for sustainable growth and sustainable transport, and €2.1 billion for inclusive growth.

EU Cohesion policy funding contributes to a major transformation of the economy, promoting growth and employment by investing in, for example, research, technological development and innovation, the competitiveness of enterprises, sustainable transport, employment, and labour mobility. By 2019, investments driven by EU Funds have already led to building or modernisation of 493 km of roads, both regionally and in connection with the Trans-European Transport Network (TEN-T); over 111 supported research projects have been commercialised; support was already provided to 4,891 enterprises including 1,017 start-ups, generating 1,640 new jobs. ESI Funds contributed to a reduction of 447,559 tonnes of greenhouse gases.

The European Social Fund (ESF) is being used to upskill and reskill the labour force, and to promote employment and social inclusion. The ESF supported 461 311 participants, including 35,604 long-term unemployed; 30,328 participants with disabilities took part in activities to promote employment or inclusion; 44,878 people gained a qualification; and the Youth Employment Initiative supported 61,321 young people. The ESF also supports the shift towards community-based services, having helped to reduce the number of children in institutional care from 4,086 in 2014 to 2,667 in 2018.

Agricultural and fisheries funds and other EU programmes help address investment needs. The European Agricultural Fund for Rural Development (EARDF) makes €2.03 billion available, and the European Maritime and Fisheries Fund (EMFF) €82.2 million (including national co-financing). Lithuania also benefits from other EU programmes such as the Connecting Europe Facility, which allocates EU funding of €389.1 million to projects on strategic transport networks or Horizon 2020 providing EU funding of €64.5 million, including around €20.2 million to 56 SMEs.

EU funding contributes to the mobilisation of significant private investment. By the end of 2018 programmes supported by the European Structural and Investment funds ([3]) mobilised additional capital by committing around €642.9 million in the form of loans, guarantees and equity ([4]), which is 8.4% of all the confirmed allocations of the European Structural and Investment funds (ESIF).

EU funds already invest in line with the Sustainable Development Goals (SDG). In Lithuania, up to 94% of the expenditure of the European Structural and Investment Funds supports work towards achieving 13 out of the 17 SDGs.

([1]) European Regional Development Fund, Cohesion Fund, European Social Fund, Youth Employment Initiative, including national co-financing.
([2]) See cohesiondata.ec.europa.eu/countries
([3]) European Regional Development Fund, Cohesion Fund, European Social Fund, European Agricultural Fund for Rural Development Fund and European Maritime and Fisheries Fund.
([4]) Member States' reporting on financial instruments based on Article 46 Regulation 1303/2013, cut-off date 31/12/2018.

3. REFORM PRIORITIES

3.1. PUBLIC FINANCES AND TAXATION

3.1.1. FISCAL POLICY

In 2019, the Lithuanian fiscal policy stance was expansionary. According to preliminary data for 2019, general government finances were close to balance after posting a record surplus of 0.6% of GDP in 2018. The labour taxation reform entailed overall revenue losses of 1% of GDP, linked to adjustments in personal income tax and social insurance contributions in 2019. The measures to compensate the resulting losses were limited, and Lithuania did not use this opportunity to broaden the tax base to sources less detrimental to growth. On the other hand, the tax reform, together with the pension reform enacted at the same time, reduced budget pressures on the State Social Insurance Fund. The Draft Budgetary Plan for 2020 expects general government expenses to have increased by 8.4% in 2019, with wage and social benefits accounting for large relative changes. Overall, without any major revenue or expenditure related reforms in 2020, the general government balance is expected to remain close to zero. As before, the government relies on additional revenues stemming from improvements in tax administration. The effectiveness of these measures is difficult to assess and has been criticised by the National Audit Office, which also serves as the Independent Fiscal Institution (Lietuvos Respublikos valstybės kontrolė, 2019 and 2019a).

3.1.2. MEDIUM AND LONG TERM FISCAL CHALLENGES

Analysis points to low sustainability risks for Lithuania. The S0 indicator that evaluates short-term fiscal stress related to an economy's fiscal and macro-financial situation and its competitiveness suggests low risks (see Annex B). Fiscal sustainability risks appear low over the medium term, according to both the S1 sustainability gap indicator and the debt sustainability analysis, given Lithuania's relatively low debt-to-GDP ratio. In the long term, Lithuania is expected to face a low fiscal sustainability risk as well. The S2 sustainability gap indicator shows that only a small fiscal adjustment would be required to stabilise debt in the long run.

The sustainability of Lithuania's public finances improved after multiple adjustments to the pension system. The pension reform that took effect from 1 January 2019 eliminated transfers from the State Social Insurance Fund (the first pillar of the pension system) to private pension funds (the second pillar). The second pillar is now funded directly by participants, and there is also a supplementary payment from the state budget to encourage private pension accumulation. However, the absence of rules and procedures on annuity payments mean that pension reform has not yet been completed. This policy gap and the frequent adjustments of the pension system create uncertainty and reduce trust in the second pillar. The build-up of complementary personal pension savings is essential considering the low pension adequacy in Lithuania (see Section 3.3.2).

3.1.3. FISCAL FRAMEWORK

Lithuania's fiscal framework is established and functioning, but still faces some issues. In 2019, the International Monetary Fund conducted a fiscal transparency evaluation, which contained a few recommendations, notably on fiscal risk analysis and management (IMF, 2019). Lithuania's Independent Fiscal Institution, established within the National Audit Office, also identified a methodological gap related to financial reporting at municipal level (Lietuvos Respublikos valstybės kontrolė, 2019b). Furthermore, during the annual review of the state's financial statements for 2018, the National Audit Office identified inefficiencies in a number of programmes whose funding is fixed as a share of certain public revenues. In some cases, there was no proper target setting or monitoring of the programme results.

Expenditure planning is a pressing issue. In Lithuania, general government expenditure forecasts rely to a large extent on incremental planning. Though ministries are encouraged to review their expenses during the budgetary procedure, this does not ensure impartiality, and there are no incentives to reduce spending. In

addition, at the final stages of budget preparations, there are cases where certain expenditure items are proportionally reduced without proper examination in order to meet desired budgetary targets. This might result in higher than planned actual spending during budget execution and jeopardise the achievement of fiscal targets. This is exactly what happened in 2019, when actual spending on the universal child benefit exceeded the planned limit, which had been mechanically reduced during the budget preparation.

The ongoing budget framework reform is expected to partly address the expenditure planning issue. Three pilot expenditure reviews were conducted in very narrow areas linked to healthcare, social security and education. These pilots yielded positive results and fed into a draft methodology on expenditure reviews, which should already be broader when the 2021-2023 budgets are prepared. Overall, the government aims to: (i) adopt a revised law on the budget structure, which contains provisions on the medium-term budget; and (ii) establish a relevant management methodology so that the new budgeting approach can already be used in 2020. For this reason, the timely implementation of the reform is of the utmost importance. However, endorsement of the aforementioned documents is already delayed. In addition, in its latest report, the National Audit Office (Lietuvos Respublikos valstybės kontrolė, 2019c) indicated that due to some delays there is a risk that the 2021-2023 budget will not be prepared according to the new principles as planned.

The Independent Fiscal Institution faces difficulties in recruiting staff. From 2019, recruitment of the civil servants was centralised for all government bodies and entrusted to an agency under the Ministry of the Interior. This affects the National Audit Office and its Budget Policy Monitoring Department, which is Lithuania's Independent Fiscal Institution. The National Audit Office considers that this reform puts its independence at risk. This issue was also raised by the OECD in a recent review of Lithuania's Independent Fiscal Institution. In its review, the OECD recommended that the institution should have the autonomy to make its own hiring decisions (OECD, 2019b).

Lithuania's budgetary system and public finances contain environment- and climate-oriented elements. One of the approaches used in state budget planning is the allocation of funds to specific programmes, including those dedicated to environmental and climate issues. Information on central government spending in these areas (2.2% of total expenditure in 2020) is provided to the public in a clear way (Lietuvos Respublikos Finansų ministerija, 2019). The national authorities also prepare a three-year plan containing the measures and funding needed to implement the Strategy for National Climate Change Management Policy for 2013-2050. In 2018, Lithuania started issuing green bonds in order to raise funding for the renovation of multi-apartment buildings with low energy efficiency. Moody's assessed this at the highest possible rating (GB1 Excellent). In 2019, Lithuania started a project 'The Lithuanian Strategy and Action Plan for Sustainable/Green Finance (Green Capital Markets)'. This project is funded by the European Union under the umbrella of Structural Reform Support Programme.

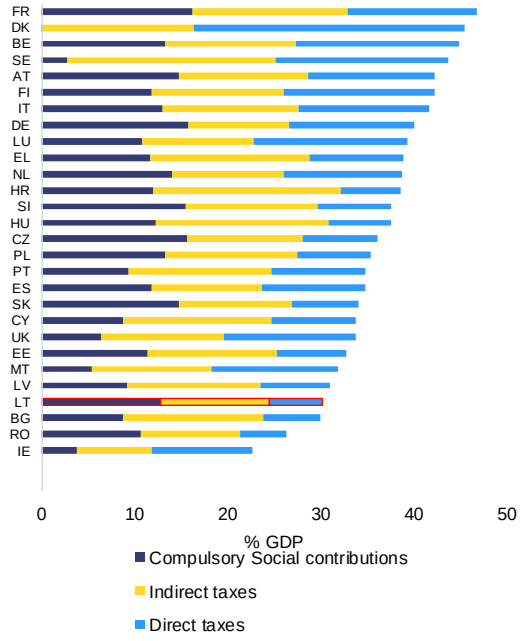
3.1.4. TAX SYSTEM AND COMPLIANCE

Tax policy and compliance challenges keep Lithuania's tax-to-GDP ratio one of the lowest in the EU. In 2018, the total tax revenues amounted to 30.2% of GDP, while the EU average stood at 39.2%. As regards revenue structure, Lithuania relies mostly on indirect taxes (11.8% of GDP) and social security contributions (12.7% of GDP). Direct taxes account for only 5.7% of GDP, one of the lowest proportions in the EU (data for 2018). Low taxation of corporate income, capital gains and property contributes to rather modest tax revenues and limits the country's possibility to finance public goods and services and to increase the corrective power of the tax-benefit system (see also Section 3.3.2).

The latest labour taxation reform reduced the tax wedge. This was achieved by increasing the tax-free allowance, adjusting rates of personal income tax and social insurance contributions, and by introducing a second income bracket for which a higher personal income tax rate is applied and social insurance contributions are capped. The overall effect of the reform has been a tax cut for the entire working population (ESTEP, 2018).

Therefore, for 2019, the tax wedge for a single person earning the average wage is expected to have gone below the 2018 level of 40.6%.

Graph 3.1.1: **Breakdown of tax revenues, 2018**

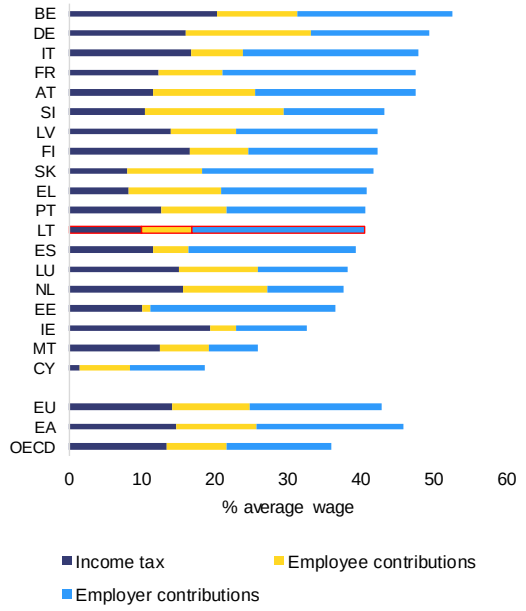


Source: European Commission

The progressivity of the personal income tax system is low. For 2020, the upper personal income tax rate is set to increase from 27% to 32%. This will affect only a very small amount of taxpayers as the threshold is set at yearly income exceeding 84 times the average monthly wage. In addition, this tax rate does not apply to other types of income, such as capital gains and dividends, which are taxed at 15%, i.e. below the current tax rate on labour income (20%). Furthermore, the self-employed have different personal income tax regimes, which in some cases are more generous. For example, the fixed personal income tax amount paid for an individual activity certificate can be as low as €1 per year. This implies that the effective labour taxation rate on the same job is not neutral depending on the legal form of employment chosen (i.e. an individual activity certificate, self-employed status or a regular employment contract) and may encourage arbitrage to minimise tax liabilities.

Lithuania is failing to tap the taxation potential of sources less detrimental to growth. Revenues from environmental taxes, accounting for 2.0% of GDP, are mostly collected from taxes on energy (1.8% of GDP). This is significantly below the EU average of 2.4% of GDP (data for 2018). The nominal excise duties on petrol, diesel and other motor fuels are relatively low and there is an absence of tax on private passenger vehicles based on their CO_2 emissions. The Law on Motor Vehicle Registration Tax, adopted at the end of 2019, comes into force in the middle of 2020 and sets the rates linked to CO_2 emissions at low levels. Revenues from recurrent property taxes stand at only 0.3% of GDP (2018 data), significantly below the EU average of 1.5%. Increases in real estate taxes in 2020 are set to have a negligible effect on the tax-to-GDP ratio.

Graph 3.1.2: **Tax burden on labour, 2018**



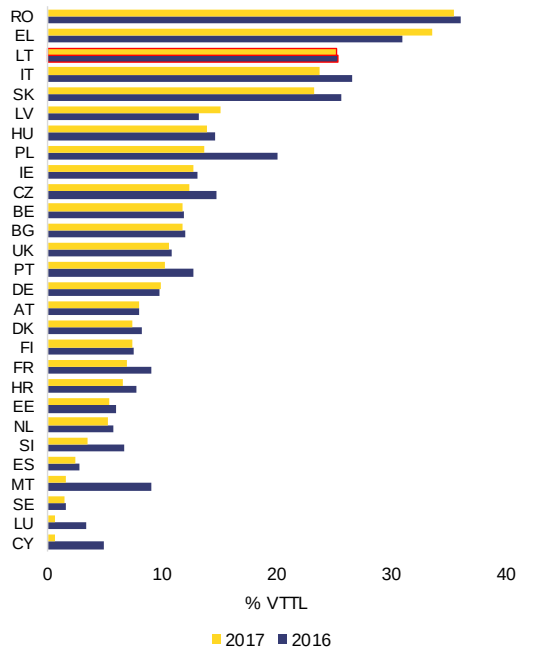
The tax burden is total average taxes and social contributions as a percentage of the average wage.
Source: OECD and European Commission

The generous corporate income tax system and reduced compliance costs for taxpayers have contributed to making Lithuania's business environment more attractive. The time for medium-sized business to meet tax-related obligations decreased from 171 hours per year in 2015 to 95 hours in 2018 (World Bank, 2019). At the same time, the tax rates for small companies and agricultural companies are set at 5% and 10% respectively, while the standard rate of 15% is already one of the lowest in the EU. Although

Lithuania's R&D-related tax incentives are generous, private-sector R&D investment remains low. In 2017, R&D expenditure in the business enterprise sector amounted to 0.3% of GDP, compared to an EU average of 1.4%. This calls for an efficiency analysis of these tax incentives.

Challenges with tax compliance remain. The VAT gap in Lithuania amounts to 25% and is still one of the largest in the EU (Centre for Social and Economic Research, 2019). This estimate has remained stable for the last 3 years. In order to tackle the shadow economy, reduce the compliance burden and encourage the voluntary payment of taxes, Lithuania continues to introduce new legal and technical measures and to improve existing ones. For example, in 2019 taxpayers were offered a one-time tax amnesty. However, the effectiveness of this measure is not entirely clear, given that the additional amount collected is relatively low and no target was set at the beginning of the exercise. Moreover, the State Tax Inspectorate still needs to catch up with tax audits after the amnesty period. The tax administration has developed a smart accounting system for small businesses as a part of the 'Smart Tax Administration System' (i.MAS), which is expected to reduce administrative burden and ensure effective control. However, according to the latest report by the National Audit office of Lithuania, the maturity of the electronic services is still low and their effect on tax compliance is limited (Lietuvos Respublikos valstybės kontrolė, 2019). Other i.MAS components (i.KON and i.EKA) are being developed and should also support tax compliance. The i.KON system will partially automate monitoring, analysis and assessment of tax payers' risks. i.EKA is a virtual cash register project which could significantly reduce the shadow economy. However, its implementation has been delayed until 2021. Overall, as i.MAS is still not fully operational, electronic services cannot yet have a substantial positive impact on tax compliance and do not compensate for the reduction in traditional tax control measures.

Graph 3.1.3: **VAT gap as % of the VAT total tax liability, 2016-2017**



The VAT gap is the difference between the actual revenues and the VAT total tax liability (VTTL). The VTTL is an estimate of the theoretical revenue based on the VAT legislation.
Source: European Commission

3.2. FINANCIAL SECTOR

3.2.1. FINANCIAL STABILITY

Banks operating in Lithuania remain profitable due to the strong financial position of the Lithuanian banking sector. The main contributors to high bank profitability are a rapid decline in funding costs and the high level of efficiency (with a cost-to-income ratio of about 45%). The return on equity stands at 16.3%. The non-performing loan ratio decreased from 3.1% in 2018 to 2.2% in 2019, reflecting both the decreasing volume of such loans and an expanding loan portfolio. The capital adequacy ratio of banks stood at 19.6% at the end of 2019, well above the minimum capital adequacy requirements and the capital buffers currently put in place. The capital consists almost entirely of common equity tier 1, which is the highest quality capital (CET 1 ratio of 19.4%). Meanwhile, the financial leverage ratio (equity-to-asset ratio) increased to 14.5% by at the end of the second quarter of 2019 (which equals the euro area average), thus contributing to the good capacity of banks to resist negative shocks. The average liquidity coverage ratio was 254% by the end of 2018. Funding of credit institutions largely rests on domestic deposits, contributing to a loan-to-deposit ratio of 90% in September 2019, down from more than 150% before the crisis. The latter indicates sustainable bank funding despite low interest rates and amid active lending.

Table 3.2.1: **Financial soundness indicators**

	14	15	16	17	18	19q2
Non-performing loans	6.8	5.6	4.0	3.2	2.6	2.2
o/w foreign entities	6.4	-	-	-	-	1.9
o/w NFC & HH	9.6	7.5	5.5	4.4	3.5	3.0
o/w NFC	10.3	8.4	6.2	5.0	4.1	3.3
o/w HH	8.9	6.6	4.8	3.7	3.0	2.7
Coverage ratio	31.5	32.3	32.2	30.8	26.1	28.8
Return on equity[1]	7.7	7.5	11.9	9.1	12.3	16.3
Return on assets[1]	0.9	0.9	1.0	0.9	1.2	1.3
Total capital ratio	21.3	24.8	19.4	19.1	18.6	19.6
CET 1 ratio	20.9	24.3	19.1	18.8	18.4	19.4
Tier 1 ratio	20.9	24.3	19.1	18.8	18.4	19.4
Loan to deposit ratio	80.1	83.8	82.3	78.8	79.5	83.1

* ECB aggregated balance sheet: loans excluding to government and MFI monetary financial institution)/ deposits excluding from government and MFIs
** For comparability only annualized values are presented
Source: European Central Bank CBD2

The concentration of the banking sector remains high, increasing systemic risks from individual banks. At the beginning of 2019, SEB, Swedbank, and Luminor, all subsidiaries of foreign-owned parent banks in Sweden and Estonia, accounted for a combined 83% of assets. In 2019, market concentration increased because Luminor reduced its market share. Consequently, there are fewer suppliers in the loan market and each has high relative market shares. To increase competition the Bank of Lithuania has attempted to attract Fintech companies to Lithuania and, as of 1 January 2017, facilitates "specialised" bank licences. The local interbank market is not active. The level of interconnectedness between domestic banks remains low.

A risk to the financial stability system stems from potential imbalances in Nordic countries. Although Lithuanian banks' direct links with international financial markets are marginal, financial institutions remain dependent on their parent banks from other Nordic countries. The latter attract a significant portion of their own funding primarily through financial markets and are therefore more vulnerable to market turbulences. Possible imbalances also stem from a deteriorating external environment, an increase in risk premiums in global financial markets and concerns over alleged money-laundering transactions through Nordic banks in Estonia and Latvia. Nonetheless, positive stress tests of banks operating in Lithuania and proactive macro-prudential policies mitigate potential risks to the Lithuanian banking. Financial market supervisory authorities from the Nordic and Baltic countries are aware of the potential spillovers and continue to cooperate closely to: (i) maximising the effectiveness of national macro-prudential policy; (ii) ensuring a level playing field for all credit institutions; and (iii) reducing the risk of regulatory arbitrage, i.e. financial firms shopping around for the most favourable regulatory system.

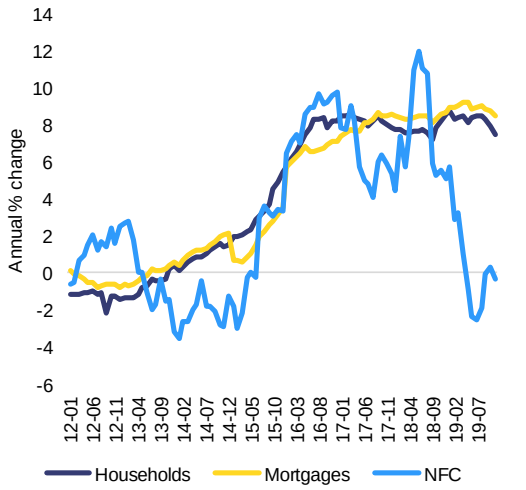
3.2.2. CREDIT GROWTH AND ACCESS TO FINANCE

The overall growth in the corporate loan portfolio dropped in 2019 as companies turned to non-bank funding. The annual growth rate of loans to non-financial corporations decreased by 3.2%. At the same time, banks took a more prudent approach to business financing, especially to real estate developers/construction companies and to small businesses, by reducing the volume of micro-loans. Surveys of enterprises reveal constraints in credit availability and an increasing

number of rejected loan applications, rising from 22% in 2018 to 27% in 2019, indicating that banks have become more selective choosing their customers (see also Graph 3.2.1). This further increases overall market dependency on the limited number of loan suppliers in the concentrated market. As a result, the average cost of borrowing rose with market concentration to 2.7% compared to 1.6% in the euro area (ECB, September 2019).

Mortgage loan uptake increased in 2019 but activity in the housing market is moderate. The housing market has recovered from the 2009 collapse after some years of depression. Activity as measured by mortgage loans, price-to-income ratios and construction permits is within normal ranges. The housing market is therefore not seen as posing a risk for the banking sector.

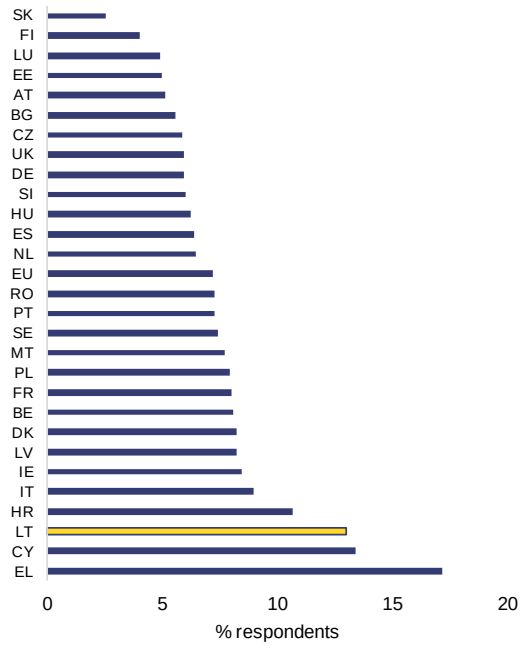
Graph 3.2.1: **Loans to households and non-financial corporations, percentage change**



Source: ECB

Difficulties in accessing finance continue to affect SMEs' ability to innovate and grow. In 2018, Lithuania had one of the highest percentages of SMEs in the EU for which access to finance represents the most significant concern (13%, compared to 7% at EU level) ([8]). This high percentage is mostly due to high rejection rates of loan applications by commercial banks rather than the cost of the loan or other factors. The loan application rejection rate stood at 61% for small enterprises during the second half or 2018, up from 40% in the same period in 2017 ([9]), in a setting where loans, together with leasing and credit lines, are one of the main funding sources for SMEs. Firms in Lithuania are also dissatisfied with the collateral requirements, and the cost and amount of funding (EIBIS, 2019).

Graph 3.2.2: **Access to finance reported as the most important issue for SMEs, 2018**



Source: ECB

Authorities are taking measures to improve access to finance. The government increasingly focuses on measures to support alternative ways of financing SMEs, such as business angel and venture capital investment and crowdfunding. It has introduced clearer and more flexible legislation in this context and injected public funds into venture capital funds, thus facilitating equity funding. In August 2019, the continuation of the Baltic Innovation Fund initiative has been ensured through the signature of the Baltic Innovation Fund 2 Agreement, agreed by the European Investment Fund (EIF) and the three Baltic States. Lithuania is also one of the first countries to launch, together with the EBRD and the European

([8]) 2018 results of the Survey on the Access to Finance of Enterprises in the euro area.

([9]) European Commission Profile Report (annex to 2019 SBA fact sheet)

Commission, an EU-funded project in the field of sustainable finance which will create attractive conditions for new international investors and offer Lithuanian companies more opportunities to attract funding for sustainable projects.

3.3. LABOUR MARKET, EDUCATION AND SOCIAL POLICIES

3.3.1. LABOUR MARKET

Employment has recovered steadily since the crisis and unemployment is low. Total employment in absolute terms has continued its upward trend but has not reached its pre-crisis level. The employment rate declined in the third quarter of 2019 for the first time in a decade. Unemployment has been declining steadily (see Graph 1.2 in Chapter 1). From 2010 to 2018, the number of unemployed falls to a third. However, unemployment of older people (50-59), although on a downward trend, is higher than in the EU (6.7% vs. 5.2% in 2018). The steady decline in unemployment was also reflected in the decreasing number of long-term unemployed people and the improved labour market situation of young people not in education, employment or training (NEET).

Net migration trends have turned slightly positive in 2019, but the outflow of skilled labour continues. While emigration of Lithuanian nationals continues, immigration from non EU-countries has increased. Migrant workers mainly from Ukraine and Belarus tend to fill low- and medium-skilled vacancies in the construction, industry, transport and service sectors. Unfavourable demographic trends due to a shrinking labour force, the emigration of skilled Lithuanian nationals, ageing and poor health outcomes continue to pose challenges (see Box 1.1, Chapter 1, on avoiding the risk of a middle-income trap).

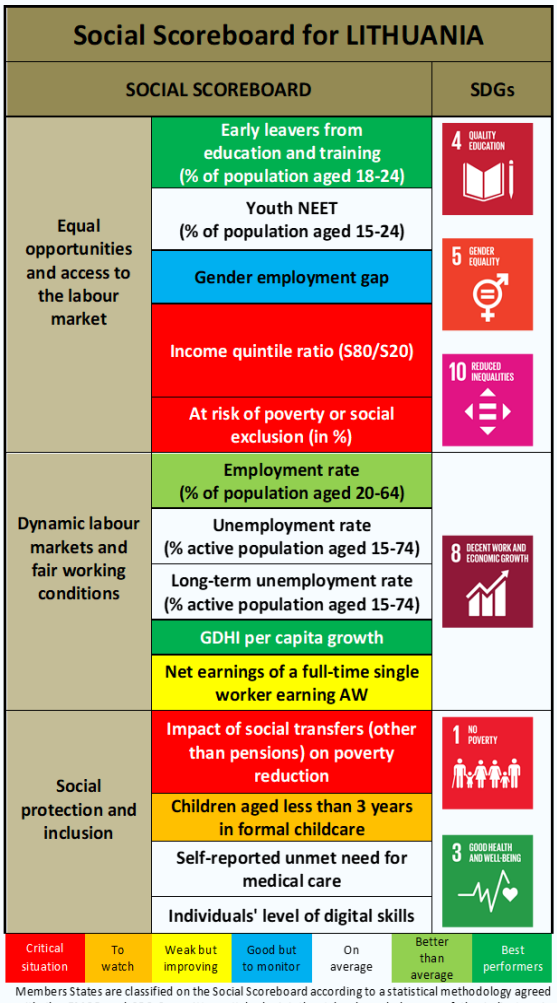
Access to the labour market remains limited for low- and medium-skilled workers. In 2018, the employment rate for the low-skilled improved but still remains well below the EU average (48% vs 57% in the EU). The unemployment rate of the low- and medium-skilled decreased but remains above the EU average and has not yet bounced back to its pre-crisis level.

Spending and coverage of active labour market policies decreased in 2019. This puts further pressure on the labour market integration of the long term unemployed and of vulnerable groups. The coverage of labour market policy measures dropped from 17% in 2018 to less than 10% in 2019, while the cost per participant increased significantly in 2019 compared to 2018, and the total budget for the measures decreased. Lithuania increased the amount of training in the total share of activation measure, but the number of apprenticeships remains low. The effectiveness of the measures is impaired by the number of trilateral training and employment agreements and bottlenecks in the provision of training relevant to the job market, which lead to results with low levels of sustainability. More positively, Lithuania's public employment service is providing more tailored services to improve to help get the long-term unemployed back into work, whilst a pilot project of an integrated service model targeting the most vulnerable long-term unemployed is continuing, with some positive results in participating municipalities.

Social dialogue is improving but weaknesses remain. In 2019, new collective agreements at national, sectoral and company levels were signed. The coverage of employees by collective agreements increased to 15% in 2019. Most collective agreements are signed in the public sector. However, a lack of capacity and resources is a barrier to social partners engaging in effective social dialogue at sectoral or company level (Müller et al., 2019). The role of social partners is still insufficiently recognised by some relevant public institutions and at regional level. There is also scope to involve social partners more constructively in the European Semester process.

Box 3.3.3: **Monitoring performance in light of the European Pillar of Social Rights**

The European Pillar of Social Rights is a compass for a renewed process of upward convergence towards better working and living conditions in the European Union. It sets out 20 essential principles and rights in the areas of equal opportunities and access to the labour market, fair working conditions; and social protection and inclusion.



Members States are classified on the Social Scoreboard according to a statistical methodology agreed with the EMCO and SPC Committees. It looks jointly at levels and changes of the indicators in comparison with the respective EU averages and classifies Member States in seven categories. For methodological details, please consult the proposal for a Joint Employment Report 2020, COM(2019) 653 final; NEET: neither in employment nor in education and training; GDHI: gross disposable household income. Update of January 2020.

The Social Scoreboard supporting the European Pillar of Social Rights points to a number of employment and social challenges in Lithuania. The economic and labour market performance has been solid in recent years. The strong economic growth contributed to a drop in the overall and long-term unemployment rates, while the share of the economically active population and employment levels have reached historic heights. Nevertheless, disparities persist in employment across regions and in skill levels. Despite an increase in 2018, the gender employment gap remains one of the lowest in the EU.

Despite strong economic growth, inequality and poverty remain high. The ratio between the incomes of the richest 20% and those poorest 20% is one of the highest in the EU, and the share of income earned by the bottom 40% of the population remains low. Despite some progress, the limited redistributive capacity of the tax and benefit system leads to high levels of income inequality and a high at-risk-of-poverty or social exclusion, especially for vulnerable groups. In addition, the impact of social transfers in reducing poverty is among the lowest in the EU.

Early school-leaving remains among the lowest in the EU but other challenges in education remain. The very good performance on early school-leaving helps to keep the share of young people neither in employment, nor in education or training (NEET) close to the EU average. However, the latest results of the 2018 OECD Programme for International Student Assessment (PISA) nonetheless show that, in all tested subjects, Lithuania's mean performance is below the EU average. The proportion of underachieving pupils in science, reading, and mathematics remains practically unchanged since 2015.

Unmet medical needs are low but some services, like dental care, are less covered. Nearly the entire population (98%) has health insurance. The only uninsured people are those with irregular employment status, who failed to make statutory contributions or are registered as resident, but are living abroad. The share of the population with unmet medical needs is low, but the level of unmet needs is higher for services with lower coverage, e.g. dental care.

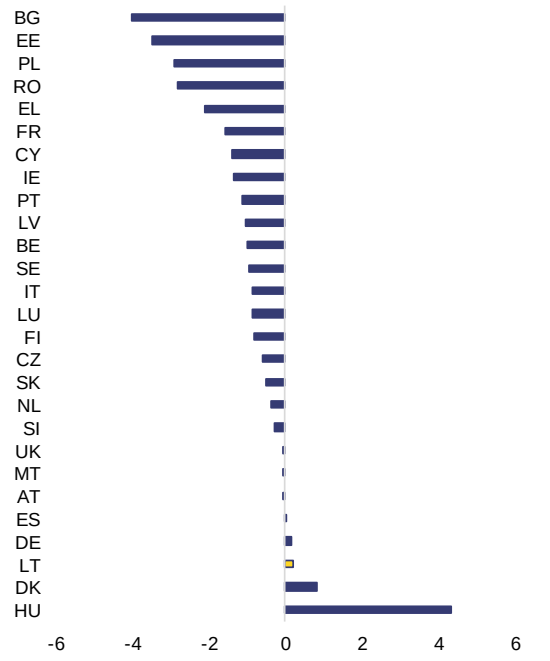
3.3.2. SOCIAL POLICIES

Income inequality and the poverty rate in Lithuania remain among the highest in the EU. While slightly lower than in 2017, 28.3% of the population was at risk of poverty or social exclusion in 2018, well above the EU average of 21.9%. More than one in five were at risk of income poverty (22.9%, vs. 17.1% in the EU). Severe material deprivation is on a declining trend, but remains twice as high as the EU average (11.1% vs. 5.9% in the EU in 2018). Income inequality remains among the highest in the EU (European Commission, 2019b). The income of the richest 20% was 7.1 times higher than the income of the poorest 20% in 2018, compared to 5.2 times for the EU as a whole. The income share of the poorest 40% of the population was 17.5%, one of the lowest in the EU (EU average: 21%). Lithuania has recently undertaken some steps to reduce poverty and income inequality through changes in its tax and benefit system. Some of the changes are expected to improve the situation (see the Euromod simulations in Box 3.3.2).

The ability of the tax-benefit system to tackle poverty and income inequality remains limited. Social transfers reduced the at-risk-of-poverty rate by less than a quarter in 2018 (22.9% in Lithuania vs. 33.2% in the EU). Overall, in the past thirteen years, Lithuania has moved away from reaching Sustainable Development Goal 10 (reducing inequalities). There is no comprehensive strategy on how to reduce poverty and income inequality through benefits and taxation. At the same time, Lithuania's spending on social protection and the tax-to-GDP ratio remain among the lowest in the EU. While in most EU Member States the tax-benefit system achieves a greater reduction in income inequality than in 2008 (Graph 3.3.1), in Lithuania the change is negligible. Improving the ability of social benefits to reduce inequality would facilitate progress on SDG 1 "No Poverty".

Lithuania's universal child benefit system is helping to reduce poverty in households with children. Child poverty in Lithuania is above the EU average but on a declining trend. The universal child benefit system put in place in 2018 has already had a significant positive effect on households with children (see Box 3.3.2).

Graph 3.3.1: **Changes in the effectiveness of tax and benefit policies reducing inequality, 2008-2018**



(1) The chart depicts the difference between the Gini coefficients of the actual income distribution in 2018 and the (counterfactual) distribution in 2018 if the tax-benefit scheme had not changed since 2008. The counterfactual is built in the EUROMOD model. Negative (resp. positive) values reflect progressive (resp. regressive) changes.
Source: European Commission (2019)

Pensions remain too low to protect the elderly against poverty and social exclusion, despite automatic pension indexation since 2018. In 2018, 38% of the people aged 65 or older were at risk of poverty, much higher than the EU average (16 %). The difference across genders remain significant with 44% of women at risk of poverty compared to 26% of men, reflecting a gender pay gap of 15% (although this is still below the EU average). Part of the reason is the low adequacy of pensions. The automatic indexation of pensions was introduced in 2019 along with other changes to the pension system (see European Commission, 2019a). Pensions were raised by 6.9% in 2018 and 7.6% in 2019. A further increase by almost 10% is likely in 2020, while an additional top-up is available for those receiving the lowest pensions.

The social protection system provides limited protection to the most vulnerable groups. The at-risk-of-poverty rate among the unemployed stands at 62% amongst the highest in the EU (49%) and is increasing. The average

unemployment benefit in 2019 was €337 while the minimum was €129, equivalent to only 51% of the 'amount of minimum consumption needs'. Almost half of single parents (mostly mothers) are at risk of poverty. This is one of the highest rate in the EU. Among people with disabilities, about 43% were at risk of poverty or social exclusion in 2018, compared to 29% in the EU. In September 2019, Lithuania updated its Law on social enterprises but it is too soon to assess its effect on the integration of people with disabilities into the labour market or on the development of the social economy in the country.

The risk of social exclusion is amplified by limited access to public services. Access to long-term care is a challenge and the availability of social housing remains scarce (European Commission, 2019a) There are around 10,000 people waiting for social housing with the waiting time ranging from 3 to 12 years depending on the municipality. Relatively high out-of-pocket payments prevent access to quality healthcare for vulnerable groups (see next subsection). The lack of public transport further from the major urban centres is a significant barrier for access to the labour market (see regional disparities in section 3.4.4 below).

3.3.3. HEALTH, HEALTH CARE AND LONG-TERM CARE

The overall health of the population in Lithuania remains among the worst in the EU. Within SDG 3 "Good health and well-being" Lithuania fares poorly in most indicators. For instance, it has the lowest percentage of people in the EU who judge their health as "good" or "very good", barely 44% of the population (70% in the EU). Life expectancy at birth was 76 years in 2017, compared to an EU average of 81 years. The gender gap in life expectancy is almost double the EU average. The treatable mortality rate, deaths that could have been avoided through optimal quality healthcare, was more than twice as high as the EU average in 2016. Lifestyle related risk factors account for more than half of all deaths, one the highest rates in the EU. According to the State of Health in the EU 2019 report, one third of all deaths in 2017 were related to dietary risks, nearly twice the EU average. Tobacco consumption accounts for an estimated 15% of all deaths; about 10% of deaths are linked to alcohol consumption; 5% are related to insufficient physical activity. The setting of 2019 and 2020 objectives and actions for public health offices and the inclusion of lifestyle medicine specialists and social workers in primary care teams is a good step forward to deal with these challenges.

Measures to tackle excessive alcohol consumption and reduce smoking rates have been introduced in the past few years. These measures, such as higher taxes, have shown some effectiveness. Although some efforts have been made to prevent suicide and detect depression earlier, suicide remains a serious public health concern in Lithuania, with one of the highest rates in Europe. The quality of healthcare for people with mental health issues is limited with insufficient coordination across different healthcare providers.

Public spending on healthcare in Lithuania remains among the lowest in the EU. In 2017, public health expenditures amounted to €843 per capita (5.7% of GDP), substantially lower than the EU average of €2,110 (7% of GDP). Considering in addition compulsory insurance, voluntary schemes, and an estimate of out-of-pocket payments (OECD, 2019c), total expenditures in health amount to €1,605 per capita, still well below the EU average of €2,884 per capita. Only two thirds of health expenditure is publicly financed. Ongoing efforts to reduce co-payments on pharmaceuticals resulted in the decrease of the average co-payment for prescription from €5.7 in 2017 to €2.3 in 2019 and the share of out-of-pocket expenditure on reimbursable medicines fell from 21.2% to 6.6%. The amendment of the Law on health insurance adopted in October 2019 provides for the exemption of the lowest income groups and people aged 75 or more from co-payments on pharmaceuticals. A growing share of co-payments on services, food supplements, and medical devices is an emerging challenge.

Box 3.3.4: **EUROMOD simulations of announced tax and benefit changes**

This box presents the results of a simulation conducted by the European Commission's Joint Research Centre using EUROMOD ([1]) based on the reforms announced by the government in mid-2019.

The simulation looked at the announced reforms in two separate blocks to identify the impact of increasing a) the minimum monthly wage to €607 and the tax allowance to €350; b) the universal and additional child benefit amounts (the simulation was done taking figures of €60 for the universal child benefit and €40 for the additional child benefit), and also taking into account the increases in the state supported income, the basic social allowance and other benefits, the changes in the threshold for personal income tax, and hypothetical changes to personal income tariff for the self-employed.

The simulation estimates that, due to the increase in the minimum monthly wage and the tax allowance, the equivalised disposable income would increase for all deciles, except the first. The biggest shares of winners would be in the 5th to 9th deciles. As a result, the S80/S20 income quintile share ratio would be slightly reduced (by 0.013 point) while the effect on the Gini coefficient would be negligible. The increase of the minimum monthly wage and the tax allowance would have no impact on the poverty level, nor on the poverty gap. The changes would require €75.3 million from the budget.

In line with the simulation findings, the increase in the universal child benefit and additional child benefit (including the revision of the eligibility requirements), the increases in state supported income and basic social allowance and related increases in other benefits, have a positive effect for households with children and reduce income inequality and poverty. The Gini coefficient decreases slightly (by 0.5 points) and S80/S20 decreases more significantly (by 0.22 points). The at-risk-of-poverty rate decreases by almost 0.9 pps overall and by 2 pps for households with children. For families with 3 or more children, the at-risk-of-poverty rate is reduced by 4.6 pps It also lowers the poverty gap by 1.1 pps for households with children. Equivalised disposable income increases for all deciles, more so for the 1st to 3rd deciles, and least for the top deciles. The increase in child benefits, basic social allowance, state supported income and other benefits, are estimated to have a total cost of €140 million.

([1]) EUROMOD is the tax-benefit microsimulation model for the EU. It simulates benefit entitlements and tax liabilities (including social security contributions) of individuals and households according to the tax-benefit rules in place in each Member State. Simulations are based on representative survey data from the European Statistics on Income and Living Conditions (EU-SILC, 2017) and covers the main elements of direct taxation, social contributions and non-contributory benefits.

The quality of healthcare is one of the lowest in the EU. Lithuania lacks system-wide support for continuous care quality improvement. The development of the healthcare system performance assessment tools with strong policy feedback mechanisms has not yet been adopted. Recent improvement of health technology assessment may facilitate decisions on effective health interventions.

Substantial efficiency gains could be expected from reorganising and downsizing the hospital sector. In this context, primary care, prevention measures and long-term care need to be expanded and improved. Lithuania has one of the highest ratios of hospital beds per population in the EU. High hospital discharge rates show the overuse of hospital care and a low acute bed occupancy rate with sizeable regional disparities (6.6 beds per 1, 000 population, i.e. 30% more than the EU average). A planned reform to consolidate the hospital system lacks political agreement. According to the 2018 audit report of the State Control Office, reforms in ambulatory and primary care could help to reduce hospitalisations by 20%. The quality of hospital care in Lithuania remains low. The 30-day mortality rates after hospital admission for acute myocardial infraction and stroke are the second highest in the EU and disparities across districts are huge. The quality of cancer care still lags behind most EU countries with five-year survival rates after diagnosis among

the lowest in the EU. Many hospitals carry out too few surgical procedures in some clinical areas to ensure an acceptable level of quality of care and patient safety. Standards of quality of hospital care remain underdeveloped and not incentivised through proper monitoring tools and payment methods.

Measures to strengthen primary care are under way to increase provision of healthcare services. This includes putting in place remote consultations, improving the system of registration of patients, expanding teams in primary care, and strengthening access to mental and dental care. The clinical competences of family doctors, general practice nurses, and nurse assistants have also been expanded. Progress with the quality accreditation programme remains slow, but the performance-based payment has begun to play a bigger role. In addition, the rating of primary care centres will made available publicly.

The healthcare system faces challenges due to lack of qualified staff, especially nurses. In 2017 there were 3.6 nurses per 1000 inhabitants, compared to 4.6 in the EU, and 2 nurses per doctor (OECD average: 3) with no improvement in sight. Nurses are discouraged from taking up jobs and new roles in outpatient facilities due to outdated work places, high workload and resistance to recognising their expanding roles. The Ministry of Health estimates that one third of all registered nurses have emigrated. There is a lack of continuous training offers for nurses to improve their communication and managerial skills. Doctors are not given sufficient opportunities in university curricula to acquire management and quality management skills. Other challenges for healthcare professionals include: (i) an uneven distribution of healthcare professionals in cities, the countryside and among administrative regions; (ii) the ageing of currently practising clinical doctors (39% of physicians were aged over 55 in 2017); (iii) too many specialisations; (iv) an inflexible licence system, and (v) weak financial incentives to keep professionals in Lithuania.

E-health solutions are not yet fully exploited. Only 19% of Lithuanians use health and care services provided online, 85% of general practitioners use e-prescriptions, and 25% of them exchange medical data digitally (Digital Agenda Scoreboard 2019). Stronger commitment from healthcare institutions, improved e-skills and resources as well as user-friendly systems are preconditions for increasing the take-up of e-health.

The growing needs for long-term care exceed the system's current capacities. Expenditure on long-term care in Lithuania stands at 1% of GDP, below the EU average of 1.6% but equal to the median expenditure. The working age population in Lithuania is shrinking quicker than in most EU countries. Health system reform aims to develop the system of long-term nursing care services in order to enable 25,000 informal carers to stay in the labour market. Resources in this sector remain insufficient, and any further investment needs to support community and home based care, avoiding the development of institutionalised care. Furthermore, co-operation between healthcare and social services remains weak.

3.3.4. EDUCATION AND SKILLS

School education outcomes are below the EU average, with little improvement since 2015. The latest results of the OECD Programme for International Student Assessment (PISA) 2018 show that, Lithuania's mean performance is below the EU average in all three subjects tested. The proportion of underachieving pupils in science, reading and mathematics remain practically unchanged since 2015 (OECD, 2019a). PISA 2018 also shows that socio-economic background strongly influences student outcomes. About 40% of pupils in the bottom socio-economic quartile fail to achieve a minimum level of skills in reading (compared to 35% at EU level). Successful implementation of the competence-based curriculum and student assessment reforms is crucial in addressing these challenges.

The replacement of an aging teaching workforce is difficult due to low pay and unattractive work conditions. The teaching workforce is ageing. The proportion of pre-primary and school teachers aged 50 or more was 40% in 2017 (EU: 24%). Future shortages in teaching staff will be aggravated as fewer than 15% of teaching graduates actually enter the profession. Recent measures, such as offering opportunities to teachers to acquire the qualifications needed to teach a second subject,

may help to address these shortages. However, despite the introduction of the new salary system in 2019 which resulted in an increase in the average teacher's salary, the average starting statutory salary of a full-time teacher at the lower general secondary level is almost 60% below the EU average even when corrected for purchasing power. By career-end, the teacher's salary increases by only 7.2%, compared to 60% in the EU. This is the lowest salary progression in the EU (European Commission / EACEA / Eurydice, 2019).

Outdated teaching practices and low quality of teaching instruction are probable causes of low student outcomes. Reform of the initial teacher education system is progressing at a slow pace. The 2018, the OECD Teaching and Learning International Survey (TALIS) shows that Lithuanian teachers report the lowest professional development in ICT skills for teaching (23.6% vs 16.1% in the EU). Teacher professional development remains fragmented and not associated with school development needs: 43% of teachers (39% in the EU) consider that the professional development offered is not relevant. The decreasing number of students in rural areas and the difference in reading performance between children studying in rural and urban areas (78 score points in PISA 2018, OECD, 2019) calls for measures to increase efficiency and address inequalities in education. Some steps have been taken in this regard: in 2019 the number of joint classes decreased by 19% due to the new school funding system. Ensuring equal access to quality education has been hindered by the lack of a detailed plan to create efficient and effective school clusters with broad territorial coverage, while addressing the lack of quality, the social costs of reorganisation and poor central coordination.

Participation in early childhood education is increasing, but access for all is not ensured. Participation by children over four years of age was 92% in 2017, up by 0.5 pps since 2016, but below the EU average of 95%. Participation in formal childcare by children under the age of three remained stable at 21% in 2018 (20% in 2017), still well below the EU average of 35%. Children over the age of three from households at risk of poverty or social exclusion are less likely to be enrolled in pre-school than those from a more advantaged background (66.7% vs. 82.4% compared to EU levels of 77.8% vs. 89.1% in 2016). This has negative consequences when it comes to breaking patterns of poverty or social exclusion patterns in the long run (European Commission, 2019b).

Access to tertiary education remains unequal across social classes. The tertiary attainment rate was the highest in the EU in 2018 and stood at 57.6% for those aged 30-34, well above the EU average of 40.7%. Recent tertiary graduates have a high employment rate (90.4% v 85.5% at EU level in 2018), but at the beginning of their career they tend to work in jobs requiring lower qualifications because they lack job relevant skills. However, there are considerable disparities across socioeconomic backgrounds: only 16% from households in the lowest income quintile completed tertiary education, compared to 80% in the highest income quintile (OECD, 2017).

Adult participation in learning remains low. At 6.6% in 2018, adult participation in learning remains well below the EU average of 11.1%. The coordination role of the Ministry of Education, Science and Sports in adult learning has been strengthened, but funding of different measures remains dispersed among several ministries. The adult education system does not have the potential to respond to the challenges of the ageing population and skill shifts related to innovation, the robotisation of work and the potential demand for green jobs.

Lithuania is continuing to modernise its vocational education and training (VET) system. The consolidation of the providers of VET continues. The number of public VET providers is planned to decrease further from 61 in 2019 to 56 in 2020. The introduction of the modular VET curriculum is advancing well, with around 70% of VET students studying in modular programmes in 2019. However, enrolment in upper-secondary VET is among the lowest in the EU, with just 27.4% of all upper-secondary students in 2017 undertaking VET programmes vs. an EU average of 47.8%. This highlights a substantial under-utilisation of the potential of VET to contribute to addressing national and regional skills challenges and mismatches in Lithuania.

Digital skills are not widespread among the general population although growing numbers of Lithuanians are going online. Basic and advanced digital skills levels remain below the EU average, with 44% of Lithuanians aged 16 to 74 not keeping up with the digital environment and lacking basic digital skills. There is a significant digital divide between those Lithuanian internet users who are very active online (using new services via their mobile phones, banking services, mobile e-signature, car parking) and 15% of the population that has never used the internet.

The low proportion of ICT specialists hampers the country's capability to fully exploit its innovation potential. It also limits the potential for productivity growth linked to digitisation. Despite growing demand on the labour market and policy measures taken to fill this gap, the availability of ICT specialists in Lithuania is below the EU average (2.7% vs. 3.9%). Among businesses that have recruited or tried to recruit ICT specialists, 47% reported difficulties in filling their vacancies. Lithuania performs less well than most EU countries in training new ICT graduates.

Lithuanian enterprises are underinvesting in the enhancement of digital skills. The country's digital agenda strategy seeks to tackle the shortage of ICT specialists by encouraging more young people to choose ICT as a career, by attracting more women and by improving vocational training for ICT specialists. 'Women Go Tech' is a nationwide professional mentorship programme designed to attract more female talents into ICT and engineering careers. The Akademija.IT project encourages vocational training, trains trainers, and retrains people with educational backgrounds for which there is less demand, in close partnership with businesses. Despite these initiatives, challenges remain, as only 11% of companies provide training for staff, compared to 24% in the EU (Digital Scoreboard 2020).

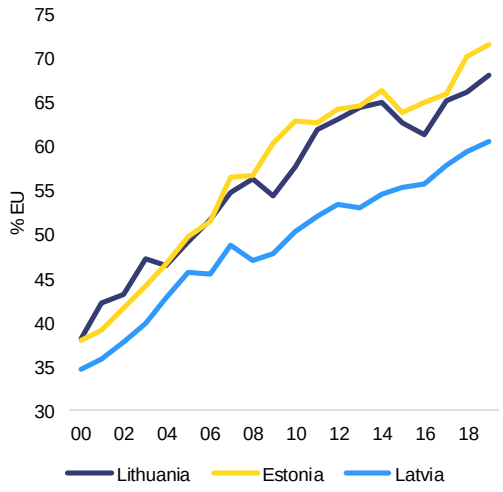
3.4. COMPETITIVENESS, REFORMS AND INVESTMENT

3.4.1. INVESTMENT AND PRODUCTIVITY TRENDS

Productivity

Productivity is growing but at lower rates than in pre-crisis years and mostly due to capital accumulation. From 2014 to 2016, economic activity and productivity stalled because of international political instability and its impact on trade with Russia, a major trading partner of Lithuania. Despite this uncertainty, firms perceived the situation as temporary and kept their employees. The drop in GDP therefore mechanically reduced measured productivity, limiting the potential for productivity growth. Most of the growth in labour productivity after the financial crisis can be attributed to capital accumulation rather than technical change in general.

Graph 3.4.1: **Hourly productivity relative to the EU**



Purchasing power standards per hour worked and in percentage of the EU.
Source: European Commission

There are substantial differences in productivity across sectors and types of firms. Productivity growth in manufacturing has been faster than in services since 2000. In 2018 productivity growth stalled in manufacturing and was driven mostly by services but growth resumed in 2019. Firm-level-based indicators show that productivity growth since 2000 has been greatest in large firms, has occurred to a lesser extent in small firms, and has been almost negligible in microenterprises. Improvements are also concentrated in exporting firms while productivity growth in non-exporting firms was flat. These diverging trends point to a weak diffusion of technological advances across the economy (see Box 1.1).

Institutional constraints limit the growth of companies and inhibit innovation. The share of microenterprises ([10]) has grown since 2004 from 9% to 16% while the share of large companies has decreased by a similar magnitude. The trend accelerated in 2010 linked to the preferential tax treatment of small companies. There is evidence that companies choose not to grow and remain just below the preferential taxation threshold. There is also evidence of an unusually large number of self-employed people declaring income just under the VAT threshold of €45,000 ([11]). Taken separately, many of these tax exceptions make sense but the accumulation of such distortions discourages firms from achieving their optimal size and from eventually growing to become more productive (see Box 1.1).

The slow technological transition weighs on productivity growth. According to the National Productivity Board, an additional reason for the slowdown in labour productivity is insufficient investment in developing or adopting new technologies. This is reflected in the stagnant level of sophistication of the economy since 2011 as measured by the Economic Complexity Index ([12]). Increasing the share of knowledge-based activities requires long-term investments, particularly in education.

The composition of the labour force and R&D capital have not contributed to productivity growth in recent years. Recent research (Adarov and Stehrer, 2019) shows that the positive effect of higher employment is offset by a deterioration in the skill composition of the labour force. The contributions of ICT assets (tangible information and communication capital and intangible software and databases) have significantly declined, reducing productivity growth in 2016. This is linked to inefficient R&I policy coordination and measures supporting science-industry cooperation

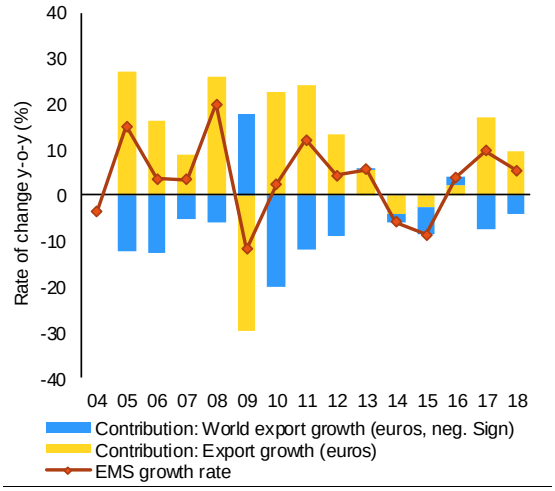
([10]) Microenterprises are firms from one to nine employees and with less than €300 000 in annual revenue.
([11]) For details, see Kalanta and Pesliakaitė (2019) and Enterprise Lithuania (2018) respectively.
([12]) See the country fiche in oec.world/en/profile/country/ltu

(see section below on R&I). The main growth driver was investment in tangible assets and to a less extent technical change.

Competitiveness

Export growth continues but is expected to slow down. At present, risks associated with cost-competitiveness seem mitigated because nominal wage growth is moderating while productivity is picking up. Growth in unit labour costs is expected to slow down while the labour share in national income remains below the euro area average and below peak levels witnessed before the crisis, particularly in those sectors more exposed to international competition. The Commission is forecasting a decline in exports because of the uncertain international environment.

Graph 3.4.2: **Export market shares (EMS)**



Source: European Commission

Internationalisation is pivotal to boosting competitiveness. With the exception of the 2009 contraction and the 2014-2016 period, Lithuania has continuously gained export market shares despite the overall increase in world trade volume (Graph 3.4.2). Between 1999 and 2015, exporting companies experienced higher labour productivity growth and lower growth in unit labour costs. This further increased the productivity gap between exporting and non-exporting firms. The more productive firms were able to increase their mark-ups, whilst the mark-ups of less productive firms stagnated.

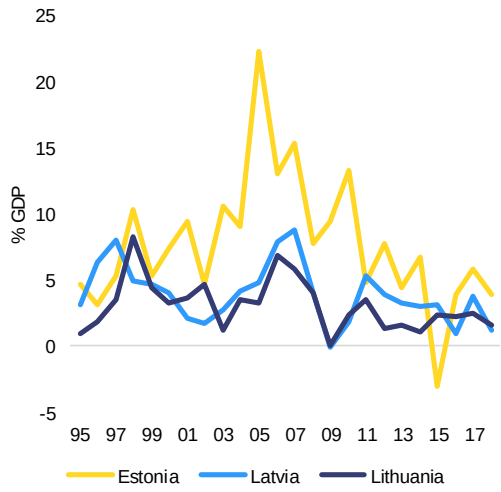
Supporting the digitalisation of the economy will enhance competitiveness further. As argued in section 3.3.4, digital skills are scarce: only 14% of Lithuanian SMEs employ ICT specialists. To address these weaknesses and prepare for digitalisation, Lithuania has launched the Pramonė (Industry) 4.0 scheme. The authorities are also working on a new Industry Digitisation Roadmap for 2019-2030 and on an inter-institutional plan laying out a digitalised industry vision by 2030.

Investment

Investment is growing steadily, but overall investment levels remain below historical rates. Real investment has been growing at around 8% annually for the last 3 consecutive years, more than double the EU average. Capital formation recovered steadily following the 2014-2016 slowdown caused by international instability and trade sanctions on Russia. Since the financial crisis, the propensity to invest currently stands around the EU average. However, investment levels remain low for a catching-up economy. Nevertheless, growth in investment is expected to weaken. About one third of the increase in investment in 2019 can be attributed to public investment and an acceleration in the use of EU funds. EU funds rose from a low 1.1% of GDP in 2017 to 1.6% in 2019, an increase of roughly €300 million. The propensity to invest is above the EU average in non-residential construction and transport equipment, but below the EU average in dwellings and intangibles (R&D, software, etc.).

Foreign direct investment is still well below pre-crisis levels. The uncertain global business environment continues to weigh on international investment flows in the region. Since 2011, with few exceptions, foreign direct investment inflows were lower than in peer countries. Some of the investment that took place prior to the crisis can be attributed to privatisations and in general to the transition to a market economy. Hence, those levels of inflows were exceptional. At present, Lithuania is still far from the technological frontier. As a result, attracting foreign direct investment, with the transfer of capital and knowledge that it implies, remains an important policy goal. The business environment has improved in recent years, in particular for investment, even if some challenges remain (see details in Section 3.4.2).

Graph 3.4.3: **Net foreign direct investment inflows**



Source: World Bank

Research, development and innovation

R&D intensity remains low and relies heavily on funding from European Structural and Investment (ESI) Funds. Investment in R&D is 0.88% of GDP, well below the EU average, and has not yet recovered from the sharp drop in 2016. This is mostly because of the fall in public R&D intensity due to diminishing rates of investment from ESI Funds. Public R&D intensity went from 0.76% to 0.53% in 2018. By contrast, business R&D expenditure has been steadily growing since the crisis, reaching 0.33% of GDP in 2018. Public investment focuses on research and innovation strategies for smart specialisation (RIS3) priorities, which represent industry sectors creating 23.5% of Lithuanian GDP (Smart Specialisation interim evaluation, Strata, 2018). To increase investment efficiency and reduce administrative burden, the RIS3 strategy was revised in 2019 when the priorities were broadened to make it more flexible. The government's goal of a 1.9% R&D intensity by 2020 will not be reached.

Inefficient public funding limits public research and innovation capacities and lowers the quality of output. This is amplified by a cumbersome institutional network and a shortage of talent. The number of publications within the top 10% most cited (as a percentage of the total scientific publications of the country) was 4.6% (10.3% in the EU). The higher education reform modernised the remuneration model for scientific research by increasing salaries and introducing incentives for internationalisation, participation in Horizon 2020, and cooperation with businesses. The envisaged consolidation of the universities network has stalled and only one merger took place in 2018. One merger has been revoked following a Constitutional Court decision casting doubts about other planned mergers. Nevertheless, three leading research centres ([13]) established the first Lithuanian research and technology organisation associating more than a thousand researchers, with the aim to consolidate the country's applied research potential.

The supply of researchers and engineers to public institutions and businesses remains insufficient due to brain drain and low pay. Doctoral students saw the size of their scholarships increased in 2019 but at the end of their studies they face low salaries discouraging them from following a career in research in Lithuania. According to the Global Competitiveness report 2018 (World Economic Forum) Lithuania ranks poorly when it comes to the ease of finding skilled employees, and is average regarding availability of scientists and engineers.

Lithuania's innovation performance has improved but remains weak. According to the European Innovation Scoreboard in 2019 R&I inputs into the innovation system (innovation-friendly environment, non-R&D innovation expenditures) were adequate but output remained weak (unattractive research systems, modest employment impact). Innovating companies are of moderate size, are weakly integrated in international value chains, and struggle to attract investments of sufficient critical mass. Science-business cooperation is limited to high-tech "pockets of excellence". There are signs of a shift from high- to medium-high-tech manufacturing: since 2010 R&D intensity of high-tech manufacturing decreased by 1.9 pps of GDP while intensify in medium-high-tech increased by 13.3 pps.

([13]) The Center for Physical Sciences and Technology (FTMC), the Lithuanian Energy Institute (LEI) and the Lithuanian Research Center for Agriculture and Forestry (LAMMC) reinforced by the Science and Technology Park of the Institute of Physics.

The start-up landscape is very active, notably in IT and Fintech, a quite innovative niche. Lithuania counts more than 900 start-ups in 2019, mostly in IT and fintech, supported by the Start-up Lithuania initiative, a one-stop-shop facilitating matchmaking between entrepreneurs and investors. To scale up the developing ecosystem, pre-seed/seed stage investment schemes, accelerator programmes, and mentorship services are a prerequisite. A key obstacle is the lack of a favourable environment in research institutions where commercialisation of successful R&D activities is not sufficiently encouraged (Paliokaite et al., 2020).

The government is making efforts to improve the design and funding of the innovation ecosystem. Innovation reform aims to (i) reduce the fragmentation of programmes, funding mechanisms and support services for research and innovation, (ii) improve innovation skills across businesses and public institutions, and (iii) increase innovative and pre-commercial procurement to 20% of total procurement expenditure by 2027. However, the consolidation of research and innovation agencies has stalled. The planned Innovation Support Fund will be funded domestically to limit the dependency on funding from ESIF funds. The future 2030 national development programme is expected to have innovation as a cross-cutting theme across all policy fields.

3.4.2. REGULATORY ENVIRONMENT AND INSTITUTIONAL QUALITY

Business environment

The business environment is improving. In their Ease of Doing Business 2019 publication, the World Bank ranks Lithuania among the highest in the EU. Business dynamics and entrepreneurial performance continued to improve throughout 2019. Lithuania performed above the EU average in terms of entrepreneurial performance. In addition, Lithuania was first among EU-28 countries in terms of its business birth rate in 2016, at almost 19% (Paliokaite et al, 2020).

New businesses struggle to survive and grow. The survival rate for companies that exceed the 5 year threshold remained one of the lowest in the EU-28, notwithstanding its increase during the last five years. Despite stable numbers of high-growth enterprises since 2012, growth mostly materialised in less innovative and more labour-intensive enterprises (Paliokaite et al., 2020). The number of innovative start-up companies increased, but few of them experienced high growth in terms of employment. In 2018, eight innovative Lithuanian companies were ranked among the Deloitte Technology Fast 50 in Central Europe (Deloitte, 2018). These companies are mostly active in computer programming, consultancy and related services as well as in information service activities. All of these companies remain relatively small in terms of their employee numbers.

Various hurdles constrain small businesses from growing. The main obstacles for small companies to grow are access to finance and to international markets (Visionary Analytics, 2019 and Gampfer et al., 2016). Other barriers include (i) lack of human resources, (ii) information asymmetry regarding market supply and demand, and (iii) a lack of seed stage investments, especially accelerator programmes, business angel investments, and mentorship.

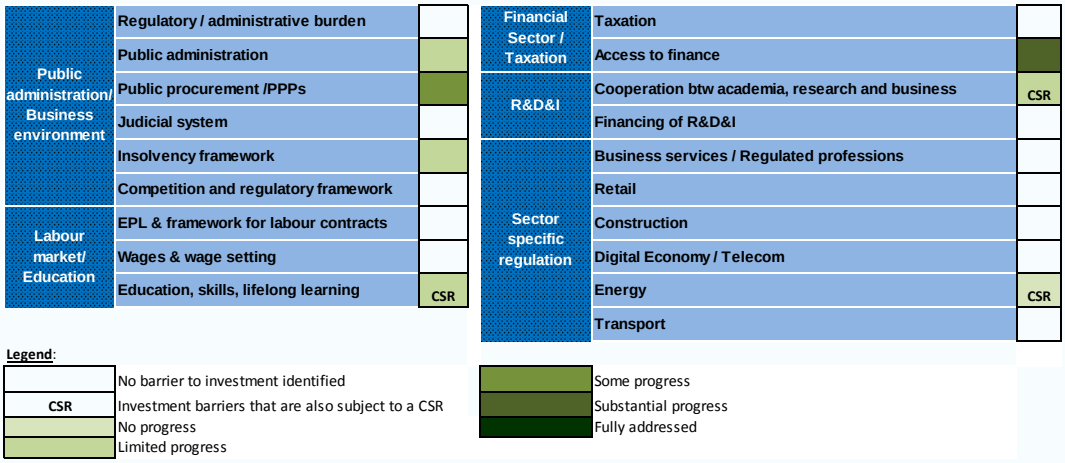
Regulatory barriers keep restricting firm entry conditions and competition. Such barriers stem from public ownership, in particular government involvement in network services, and scope and governance of state owned enterprises (SOE). The entry rate in services dropped to below the EU average over 2008-2016 in most services (Paliokaite et al., 2020). According to the OECD Product Market Regulation, regulatory barriers in the Lithuanian energy sector are among highest in the EU. They were among the highest for both electricity and natural gas. Regulatory barriers in the Lithuanian transport sector were significantly greater than average.

Box 3.4.5: **Investment challenges and reforms in Lithuania**

Macroeconomic perspective

Despite sustained growth investment in Lithuania remains rather low at 18% of GDP, below the EU average and the average for the other Baltic countries. Recently, however, investment in dwellings and other investment —including R&D and other intangibles— have started to recover. In the coming period, investment should remain one of the main drivers of growth, with EU funds already playing an important role in the recovery of public investment which today accounts for one third of increases in real investment.

Assessment of barriers to investment and ongoing reforms



The business environment is favourable to investment. The World Bank's 2019 Ease of Doing Business indicator ranks Lithuania among the easiest countries in the world to do business. In addition, a number of measures have been introduced recently to improve protection of minority investors, ease of paying taxes, or trading across borders. The EU supports investment in Lithuania via the European Fund for Strategic Investments (EFSI). By October 2019 the EFSI had financed projects up to €386 million, intended to trigger €1,800 million in additional investment. In 2021, the EFSI and other EU financial instruments will come under the new InvestEU framework focusing on: (i) sustainable infrastructure; (ii) research, innovation and digitisation; (iii) SMEs; and (iv) social investment and skills. InvestEU will continue to work with VIPA, Lithuania's Public Investment Development Agency, on the renovation and development of residential and public infrastructure, and on energy efficiency. INVEGA, the Investment and Business Guarantees Agency, and the Agricultural Credit Guarantee Fund may become implementing partners as well.

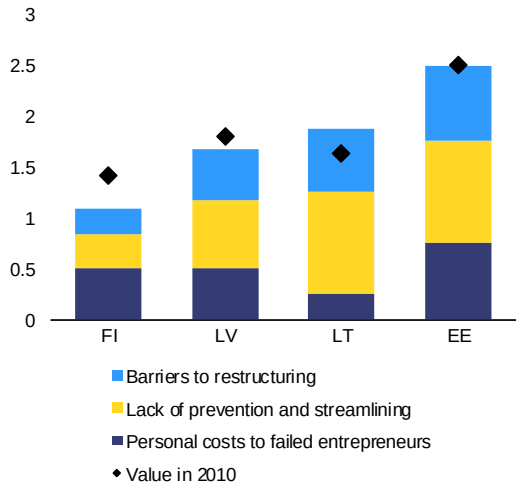
Main barriers to investment and priority actions underway:

1. Investment in R&D is well below the EU average (see Section 3.4.1). In addition, public funding is relatively inefficient with a fragmented network of research and innovation agencies, insufficiently funded basic research, and a poor connection between academics and businesses. Addressing this issue requires a full implementation of the innovation reform programme and the creation of the planned Innovation Support Fund.

2. Lithuania is still far from the technological frontier so attracting foreign direct investment is a key policy goal: this will involve bringing know-how to the country, producing more sophisticated goods and services, and climbing the global value chain ladder. The business environment has improved in recent years, but challenges remain over insolvency legislation and due to regulatory barriers limiting entry and competition, notably in network services dominated by state-owned enterprises.

A new insolvency law provides a basis for improving the insolvency framework. The insolvency regime in Lithuania deteriorated over 2010-2016, mainly due to the lack of prevention and the absence of any fast-track procedures, along with high barriers to restructuring (Adalet-McGowan and Andrews, 2018). Lithuania is the second worst performing EU Member State in this area. The insolvency framework suffers from long delays, high resolution costs, and a low recovery rate when, relative to regional peers (Latvia, Estonia and Finland) in 2019. Nevertheless, the new law on insolvency of legal persons regulating restructuring, and bankruptcy processes, and the activity of insolvency administrators was adopted in June 2019 and will come into force in 2020. The new law will lead to more effective restructuring processes, promoting out-of-court settlements and lowering process costs. It will also shorten the resolution time and lead to a higher proportion of satisfied creditor claims. The law's real impact however, depends on its effective implementation and its actual use.

Graph 3.4.4: **Insolvency regimes in the Baltic, 2016**



Composite index from 0 (least stringent) to 1 (most stringent).
Source: OECD SME and Entrepreneurship Outlook 2019

The implementation of the Restructuring and Insolvency Directive is still ongoing. Many of the provisions of the Directive are already laid down in national laws, but some still need to be introduced, for example the creation of an early warning system. Visits to Ireland, Denmark, and Belgium are planned to share best practices in the field of insolvency, particularly regarding measures for companies in difficulty.

The shadow economy remains large and weighs on businesses and public finances. The perceived size of the shadow economy has been increasing in Lithuania over 2014-2018, faster than in Latvia and Estonia (Sauka and Putniņš, 2019). The shadow economy index worsened further by 0.5 pps in Lithuania to 18.7% in 2017, caused by increases in perceived levels of corruption, bribery, underreporting of business income, and envelope wages. Policies meant to address the shadow economy are not effective because they tend to address less relevant drivers of the shadow economy, such as economic participation costs instead of the administrative burden arising from taxation and regulation (Žukauskas, 2019). Looking ahead, the authorities have designed a comprehensive communication campaign strategy in cooperation with the Commission to develop awareness and identify its impact on taxpayer compliance.

Public administration

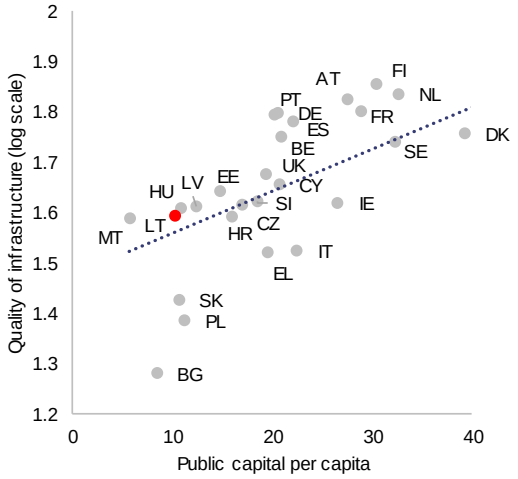
Lithuania has good quality institutions and a stable level of government efficiency. Lithuania is advancing with the regulatory enforcement initiative and the reduction of administrative burden. The application of common regulatory instruments continues to be monitored. However, regulatory quality has not improved sufficiently and frequent legal amendments do not create a stable legal environment. Evidence-based policymaking tools such as impact assessments, ex-post evaluations have been introduced, but are not used in a systematic and coordinated manner ([14]).

Municipal capacity for policymaking and implementation is lagging behind. The performance of local government remains weaker due to overregulation of its functions and its limited ability to ensure the necessary resources for implementation ([15]).

([14]) OECD (2019) Better Regulation practices across the European Union.
([15]) Congress of Local and Regional Authorities, 2018.

The new Civil Service Law came into force at the beginning of 2019. A centralised recruitment process has been launched and the development of shared services for human resources management is in progress. These measures are intended to enhance the efficiency of the public administration and ensure the attractiveness of the public sector as an employer. However, this centralization may affect the independence of the National Audit Office (see Section 3.1.3 above).

Graph 3.4.5: **Efficiency of public investment**



(1) The quality of infrastructure is the quality of overall infrastructure index in 2017 from the World Economic Forum. Public capital is taken from the IMF public capital stock per capita in 2015 (see IMF, 2015).
Source: IMF, World Economic Forum, and own calculations

Efficiency of public investment

Despite some positive developments in public investment planning, improved governance could allow better targeting of policy priorities. The government's own activity reports indicate delayed actions, reporting shortcomings, and limited access to information necessary for efficient implementation of public investment programmes. Improvements needed include better alignment of public and private investment priorities to reduce the administrative burden for the public sector and to avoid potential duplications. In its 2016 report, the National Audit Office detected a number of areas in which planning and execution of public investment could improve. To date, however, the Office concludes that these shortcomings in the strategic planning have not yet been addressed fully (Lietuvos Respublikos valstybės kontrolė, 2019c). While the efficiency of public investment is average (Graph 3.4.5), perceptions of quality of infrastructure have worsened since the crisis despite a modest increase in the stock of public capital. The quality of infrastructure (roads, ports, electricity supply, etc.) and certain services (like health and education) could be improved significantly and enhance productivity in the private sector. Changes in governance could increase the quality per euro spent.

Public procurement

The public procurement system has improved but there is still scope to increase the efficiency of public spending. Improvements include increased use of cooperative procurement (central purchasing and joint procurement) at central and local levels and by small contracting authorities. Authorities adopted a plan on improvement of public procurement professionalization in March 2019. The plan entails measures such as a training system for public procurement specialists, guidance and support for such specialists, and the setting of key performance indicators. One of the challenges the plan faces is how to encourage contracting authorities to consistently use price-quality related award criteria. In addition, public procurement can be used as a tool to green the economy by increasing the currently low share of green public procurement (see section 3.5. for details).

Transparency in procurement is high but tenders often attract only single bidders. There is a high level of transparency with respect to publication of data and information related to public procurement procedures. In 2018, e-procurement amounted to 99.8% of all public procurement procedures. The ongoing development of a new e-procurement platform offers an opportunity for further progress in data-based public procurement, ideally supported by a long-term strategic vision for digital procurement. In general, the level of competitiveness and number of cross-border awards remain relatively low.

Challenges in public procurement remain particularly at municipal level and in state-owned enterprises. The Special Investigations Service (STT) has highlighted that public

procurement remains one of the biggest challenges municipally-owned enterprises face (STT, 2019b). The issues relate to procurement planning, conflict of interest, and unclear procedures for appointing CEOs and board members. Moreover, recent investigations carried out by the Public Procurement Office and the Special Investigation Service identified corruption risks and possible limitations to competition in state-owned enterprises. The perception of corruption in procurement managed by regional and local authorities has increased to 67% (EU average 54%), a sharp growth compared to 2017 results. To mitigate the high percentage of single bidder contracts, the Public Procurement Office has improved its risk evaluation procedure and published the names contracting authorities with the highest share of single bidder contracts on their website. PPO has also updated their guidelines on ethical conduct in procurement and have published guidelines on conducting market research and consultation.

Graph 3.4.6: **Worldwide Governance Indicators, 2018**

The scores are standardized so that 0 and 10 are respectively the worst and best scores for all Member States, indicators, and periods.
Source: World Bank and own elaboration

Fight against corruption

The evolution of corruption perceptions remains mixed. On the one hand, the Control of Corruption indicator in the 2019 Worldwide Governance Indicators has deteriorated for the second consecutive year. This is the only area among the six governance indicators in which Lithuania appears below the EU average (Graph 3.4.6). On the other hand, between 2014 and 2019 Lithuania has continuously improved in the Corruption Perceptions Index (Transparency International, 2020). In addition, the 2019 Eurobarometer on corruption perception by businesses records that 68% of businesses think that corruption is widespread in their country, a decrease of 12 pps compared to 2017 (EU average 63%). Only 15% of businesses consider corruption as a problem when doing business (EU average: 37%). The levels of bribery and petty corruption are also decreasing: in 2019, 10% of Lithuanian residents admitted having given a bribe in the past year, while in 2014 the proportion was more than double that amount at 24% according to the 2018 Lithuanian corruption map produced by the Special Investigations Service (STT, 2019a).

Many anti-corruption measures have been delayed in their implementation and some key legislation is still pending adoption. In November 2018, the interdepartmental Commission for the Coordination of the Fight against Corruption was elevated to ministerial level and is now headed by the Prime Minister, signalling that corruption prevention and detection efforts need more political attention. The Special Investigation Service has been very active, with 58 and 53 pre-trial investigations related to corruption offences started in 2018 and 2019, respectively. However, the monitoring of the implementation of the measures in the action plan for implementing Lithuania's national anti-corruption programme needs to be stepped up, as 10 out of 27 measures planned to be implemented by December 2018 were delayed, with six of these still not implemented by December 2019. Procedures concerning the remuneration and compensation of whistle-blowers and to introduce internal reporting channels were adopted at the end of 2018. A draft law on prevention of corruption, updating provisions from 2002, has been drafted by the Special Investigations Service and is being discussed with relevant stakeholders. The bill strengthens the coordination of anti-corruption actions and clarifies the rights and obligations of those involved in the fight against corruption. The amendments to the law on lobbying, which were expected to be approved by Parliament are still pending. The proposal to treat NGOs as lobbyists raised controversy in the latest discussions and so the future of the proposal is uncertain. Speeding up

procedures to regulate lobbying is needed to boost transparency and accountability in decision-making.

The verification of conflict of interest declarations is not yet rigorous enough. This is mainly because of a scarcity of resources and a lack of a single registry of interest. Declarations of private interest are filed to the Chief Official Ethics Commission (COEC) and made public. Conflicts of interest have come to light involving high level officials in government and local administration. Despite a 3-fold increase in the total number of investigations pursued in the last three years, the Ethic's Commission's capacity to check the 160 000 declarations in its system remains insufficient, and investigations are opened mostly on the basis of whistle-blowers or media reports. Insufficient controls and the absence of a risk-based approach to verification may allow conflicts of interest to go undetected, including those involving high-level officials. The tendering process for the establishment of the Register of Private Interests has been carried out and the system is expected to become operational in 2020. The register will provide persons with pre-filled declarations, on the basis of information contained in different state registries, and will facilitate the COEC in identifying people who are obliged to declare private interests, as well as potential risks of conflicts of interest. Internal capacity to carry out investigations has been strengthened, thanks to training of compliance officers organised by the Ethics Commission.

Corruption in healthcare remains a problem but measures taken by the authorities are having a positive impact. Measures to reduce and eliminate informal payments in municipal authorities and bodies have been adopted and implemented as part of the national anti-corruption programme. The Ministry of Health has established an Anti-Corruption and Compliance Unit and provides conditions for reporting violations in the area of healthcare. However, 32% of Lithuanian residents cite national hospitals and clinics as corrupt institutions, with 21% of those responding in this way reporting having given a bribe to medical personnel (STT, 2019a).

3.4.3. SINGLE MARKET INTEGRATION

Transport

The development of the Rail Baltica project remains a priority. Once completed, the Rail Baltica railway line will improve connectivity at national and regional level. The completion of the North Sea-Baltic Corridor is expected to generate 2 million jobs and contribute €715 billion to GDP in the region by 2030. The Rail Baltica infrastructure is the enabler of the North Sea – Baltic corridor, and will provide alternative transport routes and new supply chains which will reduce dependency on east-west transport. Moreover, it will contribute to regional security: Rail Baltica will ensure dual use of infrastructure and serve military needs as well. A single track connection with Kaunas Intermodal terminal is expected to be completed by the end of 2020. Land for the railway line towards the border with Latvia has been acquired, design activity is in progress and public procurement of construction will be announced in 2020 with the intention to start construction from Kaunas towards the border with Latvia in 2021. . As highlighted by the Supreme Audit Institutions of Estonia, Latvia and Lithuania in their joint report of January 2020, there are risks in the project implementation phase, including in relation to costs and schedule, if the existing project management system is not enhanced to be more effective. Going forward, the outcome of the decision-making process on the future model of infrastructure management will be decisive for realising the full market potential of Rail Baltica.

Competition in the rail transport market is low. There are various licensed railway undertakings but only JSC Lithuanian Railways is actually active on the market. The current restructuring of JSC Lithuanian Railways is an important step towards creating a level playing field on the rail market.

The implementation of the Via Baltica road transport project continued. Lithuania completed part of the north-south road connection upgrade in 2019. The 22 km-long bypass of the city of Panevėžys, was built with EU support and national co-funding. Preparations are now underway for the next stage of the reconstruction of the Via Baltica, from Marijampolė to the Polish border. The sections from Panevėžys to the

Latvian border and from Panevėžys to Kaunas are to follow. Together, these investments will enhance road safety in Lithuania, and increase the road transport capacity of the North Sea-Baltic Corridor.

The road fatality rate dropped in 2018 but remains high. The road fatality rate in Lithuania improved by 11% in 2018 compared to 2017, dropping to 61 deaths per million inhabitants but is still above the EU average (49). The European Commission selected Lithuania as one of the beneficiary countries of the "EU Road Safety Exchange" programme, which focuses on enforcement, infrastructure safety, and the collection of data on serious injuries in road crashes.

Energy infrastructure and market opening

To foster regional integration, Lithuania is continuing to implement the key electricity infrastructure projects in the Baltic energy market interconnection plan. The opening of a liquefied natural gas terminal has reduced Lithuania's energy dependence on Russia. The terminal, which has sufficient capacity to cover around 90% of all current demand in the Baltic States, has helped to reduce the region's dependency on gas imports, and significantly reduced the price of gas for consumers. The gas interconnector pipeline with Poland is progressing without major delays and the project is expected to be completed by the end of 2021. This pipeline, known as GIPL, will connect the Baltic countries with the continental European gas network.

Lithuania, together with Estonia and Latvia, is making progress on the synchronisation of their electricity grids and the rest of Europe. The ongoing Baltic Synchronisation Project, scheduled for completion by the end of 2025 is key for ensuring security of supply of the Baltic States. The June 2019 implementation roadmap requires reinforcing the internal grids of the three Baltic States and developing cross-border infrastructure. Synchronisation will take place through Poland, notably via the existing link between Poland and Lithuania together with a new high-voltage direct current line between Lithuania and Poland, Grid optimisation measures will also be carried out. All of these actions will involve significant investments in the coming years.

A common gas market in the region is expected to become operational in 2020. Gas transmission system operators from Latvia, Estonia and Finland signed a memorandum of understanding in October 2018 to pave the way towards integrating the natural gas markets of the three countries in 2020. Discussions are ongoing to enlarge the common gas market to include Lithuania.

Liberalisation of the electricity market is set to start in 2021 and will run until 2024. Liberalisation is supported by the roll out of smart metering, which was recently approved by the regulator. The objective is to install 1 million smart meters, from 2020 to 2023, covering 70% of those consumers, for whom smart meters are most cost-effective.

Digital single market

Fast broadband connectivity is limited preventing some citizens from joining the digital and technological transformation. Lithuania made some progress on mobile broadband take-up and on fast and ultrafast broadband coverage. Lithuania performs above average in 4G coverage, fast and ultrafast broadband take-up, and affordable broadband prices, ranking as the fifth cheapest Member State. Ultrafast coverage is close to the EU average (60%) while fibre-to-the-premises coverage (60%) is more than double the EU average (29%). Despite these positive developments, challenges remain. Digital performance is being undermined by the lowest fixed broadband coverage in the EU (85% vs. EU average of 97% households), a below average fixed broadband take-up (68%, against the EU average of 78%) and considerably below average next generation access coverage, with fast broadband network reaching only 63% of households (EU average of 83%).

The rollout of the next generation of mobile data-based services faces challenges. From the policy perspective, Lithuania made progress by developing a strategy on use of the 700 MHz band, setting up a working group to prepare 5G guidelines in cooperation with the market and tabling a draft law aligning EMF limits with the 1999 Council Recommendation. Nevertheless, due to restrictions stemming from cross-border coordination issues with non-EU countries, in particular Russia, implementing the strategy on

time remains a challenge. Achieving 5G objectives also depends on ensuring that spectrum assignment procedures are carried out in line with the principles and objectives of the European Electronic Communication Code, in particular on transparency, non-discrimination and proportionality.

The authorities are engaged in the implementing the Digital Single Market. The authorities are committed to making progress with new digital technologies and to investing strategically through EU-coordinated programmes. Lithuania is a member of the Euro Joint Undertaking for High-Performing Computing and has signed the declarations on a European Blockchain Partnership and on cooperation on artificial intelligence. Lithuania already has four digital innovation hubs specialising in advanced manufacturing, laser technology, robotics, photonics, e-business models and IT solutions. A growing ecosystem has developed around the blockchain centre in Vilnius and numerous blockchain-based solutions are being developed for both SMEs and start-ups in the field of sustainable financial and smart technologies, including by state-owned companies.

A strategy has been drawn up on artificial intelligence and cyber security. The national artificial intelligence strategy was launched to prepare the integration of artificial intelligence across all economic sectors. The strategy covers ethical and legal principles for the development and use of artificial intelligence, and an efficient and responsible approach to data, research and the development of skills needed for a future with artificial intelligence. Lithuania also has a new national cybersecurity strategy that will ensure cyber defence capabilities, the prevention and investigation of cybercrime, the promotion of a culture of cybersecurity and associated innovation. The cybersecurity strategy will also step up public-private and international collaboration and tackle the need to increase the number of cybersecurity experts.

Lithuania performs above average on digital public services. Lithuania has achieved remarkable results in terms of awareness raising and the use of e-government services. 81% of Lithuanian online users actively engage with e-government services (67% in the EU as a whole) and there is very good availability of e-government services for business. Most administrative and public services for which demand is highest are now available online, and Lithuania continues to digitise those that are less popular as well. Progress has also been driven by the availability of pre-filled forms and the possibility to complete numerous administrative steps entirely online. Lithuania has made significant efforts to reduce the considerable gap with the EU average and has promoted open data encouraging society and business to use public data to develop innovation and e-services. However, according to National Audit Office, only 3% of public institutions have opened data to the public and the potential of open data is not being sufficiently utilised; according to the European Commission's Digital Economy and Society Index Lithuania ranks as one of the lowest performing countries in the EU concerning open data.

Lithuania made progress in business digitisation but is not fully exploiting its potential. Lithuania continues to perform well above the EU average in the integration of digital technology by businesses. Progress in this field is driven by improvements in the use of big data and increased e-commerce turnover. Lithuanian enterprises continue to take advantage of cross-border online sales, and companies are widely sharing electronic information. Lithuania will need to make additional efforts to achieve the ambitious targets in its digital agenda, namely to increase the share of companies selling online from a current 24% to 45% by 2020 and to increase the share of SME e-commerce turnover to 20% from the current 13%.

Single market functioning

The limited notification of draft regulations is a missed opportunity to improve the functioning of the single market. In 2018, Lithuania notified 15 draft technical regulations concerning goods and information society services in the context of the Single Market Transparency Directive. As in previous years, this number is significantly lower than the number of notifications received from other Member States. In addition, in the same period, the Commission identified potential concerns and issued five formal reactions to the drafts notified by Lithuania. Under such conditions, the lack of notification may indicate

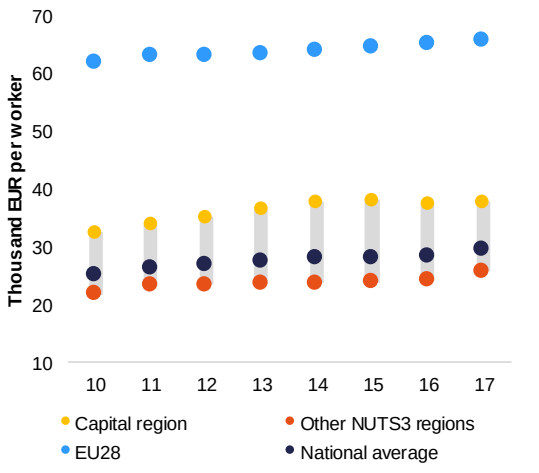
weaker prevention of barriers to trade, affecting economic growth and the functioning of the single market as a tool for competitiveness.

3.4.4. REGIONAL DISPARITIES

Significant social and economic disparities across regions persist even if the country as a whole continues to converge with the EU. In 2017, the GDP per capita in the capital region of Vilnius was above the EU average (at 112%), while the rest of the country remained at 65% with levels ranging between 77% and 41% of EU average among its 9 sub-regions. The capital region, home to around 29% of the Lithuanian population, produced 40% of national GDP and attracted above 70% of foreign direct investment in 2017.

Disparities in GDP across regions are driven by labour productivity gaps between the capital region of Vilnius and the Western-Middle Lithuania region. Labour productivity, while generally on the rise, is below the EU average (78% of the EU figure after correcting for purchasing power) in the western-middle region of Lithuania. Per capita income in Vilnius is significantly higher than the one for the rest of the country (€37 700 vs €25 600 in 2017, Graph 3.4.7). The gap has been slowly decreasing over the last few years, largely because of rapidly growing productivity in certain manufacturing sectors (e.g. wood processing) mainly located outside the capital region.

Graph 3.4.7: **Regional labour productivity**



Source: Eurostat

Rural regions are lagging behind. Despite persistently high levels of unemployment (9.3% in rural areas as compared to 4.3% in cities and 5.9% in towns and suburbs in 2018), rural regions suffer from limited availability of skilled labour. While the share of population with tertiary education attainment in Lithuanian cities is well above the EU average and where it reaches up to 49.2%, in towns and suburbs, it drops to 32.6%, and in rural areas to 22.2%.

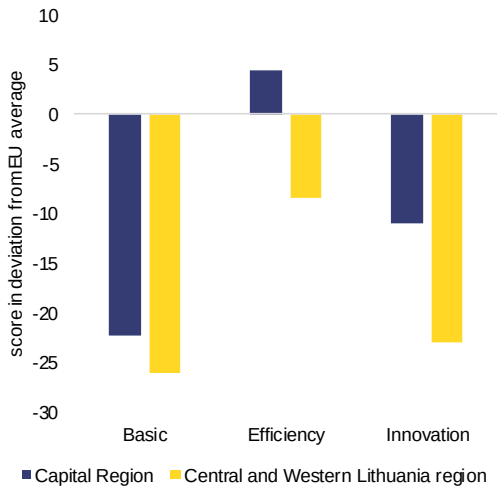
Rapid depopulation, ageing and social exclusion are affecting areas outside of the major cities. While population remained stable in the capital region from 2014 to 2017, other regions lost between 5% (Šiauliai region) and 7% (Utena region) of their population. Lithuanian cities perform better than the EU average with regard to the share of people at risk of poverty and social exclusion: 19.9% vs 22.6% in 2017. By contrast, the rates for towns and suburbs and for rural areas are 28% and 37% respectively. These factors pose a challenge not only to achieving more cohesive and sustainable growth in these regions, but also put significant pressure on the quality and efficiency of public services such as education, health and social services (see Section 3.3).

Less developed regions lack good transport infrastructure and services. Gaps in connectivity in peripheral and border regions are still substantial and the quality of infrastructure remains an issue. In the capital region, around

88.2% of population living in a radius of 120 km can be reached in less than 90 minutes. In other cities this ratio ranges from 79.4% (Kaunas) to 55.4% (Šiauliai). In addition to infrastructure gaps, bottlenecks remain in fragmented municipal public transport systems, a lack of convenient public transport routes and schedules and limited incentives for regular commuters. The piloting of regional public transport services in the Taurage region, is a positive step forward.

There are significant regional disparities in competitiveness. According to the European Regional Competitiveness Index (RCI), the Capital Region of Vilnius scores significantly better than mid-west Lithuania. Both regions have lower scores than the EU average along the basic dimensions like institutions, macroeconomic stability, infrastructure, or health and basic education (Graph 3.4.8). However, differences arise when it comes to the efficiency pillar (higher education and lifelong learning, labour market efficiency and market size) and the innovation pillar (technological readiness, business sophistication and innovation aspects), where the Vilnius scores better than mid-west Lithuania.

Graph 3.4.8: **European Regional Competitiveness Index**



Note: The sub-index "Basic" includes Institutions, Macroeconomic Stability, Infrastructure, Health, and Basic Education. "Efficiency" includes Higher Education, Labour Market Efficiency, and Market Size. "Innovation" includes Innovation, Technological Readiness, Business Sophistication, and Innovation Pillar.
Source: European Regional Competitiveness Index 2019

Guaranteeing a sufficient margin for investment is key to address structural needs at national and regional level. Of the 2014-2020 EU structural and investment funds, around 56% has been attracted by the region of Vilnius. Kaunas (12%) and Klaipeda (9%) regions follow second and third. Most productive and growth-generating investment takes place in the capital region while the less developed regions invest relatively more in the quality of life. For example, out of around 700 companies, that benefited from structural fund investment in research, development and innovation, 410 companies operated in the Vilnius region, followed by the Kaunas region with just over 200 companies.

A sound national strategy for territorial development is still missing. The lack of a coherent regional development vision and "space aware" planning documents is hindering the effectiveness of national and cohesion policy investments, as these are often driven by national sectoral priorities and not necessarily addressing regional and local development needs. A positive step forward is the strong emphasis on regional development in the 2021-2030 draft national development programme, which integrates regional and territorial aspects both as vertical and horizontal priorities across all policy sectors [

In addition to the need for a strategy to promote rural development, an effective institutional system for regional development is largely lacking. The capacities of local and regional bodies to develop and implement integrated territorial development strategies remain limited, in particular in smaller cities and municipalities. Regional development councils are the main bodies for coordinating actions of municipalities at regional level but they are not sufficiently empowered to carry out their work. Challenges faced by these regional development councils include a lack of formal decision-making powers and resources, and a lack of accountability for those decisions they do take.

3.5. ENVIRONMENTAL SUSTAINABILITY

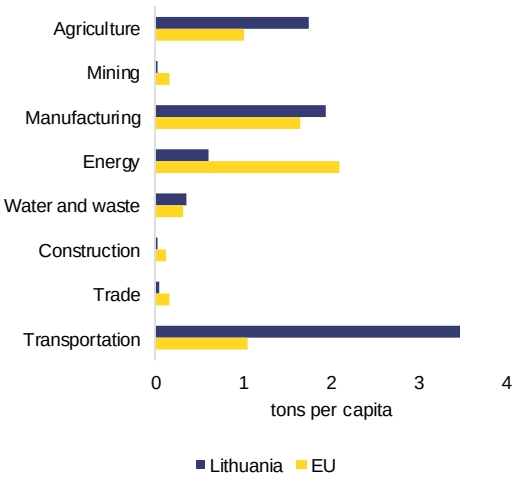
Improving environmental sustainability in Lithuania will require measures to ensure the 2030 climate and energy targets are met. Lithuania faces a number of key environmental challenges such as improving the energy performance of buildings, controlling and reducing environmental pollution, and managing municipal waste in line with the waste hierarchy. Lithuania can address these challenges by using dedicated policy levers and by increasing investment in green areas, the overall aims being to ensure that the 2030 climate change targets are met and to improve quality of life in Lithuania.

Challenges

Lithuania is on track to meet its climate change objectives for 2020 but is at risk of missing its 2030 climate change targets. In its final national energy and climate plan Lithuania pledged not to increase emissions more that 15% by 2020 and to reduce them by 9% by 2030 compared to the 2005 emission levels for sectors outside the EU emissions trading system. By 2018 non-ETS GHG emissions had increased by 7% compared to their 2005 level meaning the country will achieve its target for 2020, but is unlikely to achieve the reduction of 9% by 2030. Total greenhouse gas levels per capita are below the EU average but remain virtually unchanged since 2010. This is due to the share of fossil fuel consumption remaining constant in manufacturing and agriculture and increasing in the transport sector. Air pollution causes severe concerns with significant health impacts: around 9.1 years of life lost per 1000 inhabitants in 2016 were attributable to exposure to fine particulate matter (PM 2.5).

The transport sector represent almost 40% of all greenhouse gas emissions. This puts the transport sector at the centre of decarbonisation efforts, to ensure 2030 climate change targets are met. The transport sector remains the largest emitter GHG emissions (Graph 3.5.1). At present, transport represents 12% of gross value added in Lithuania, compared to 4% in the EU. Since 2008 emissions from this sector have almost doubled along with the size of the sector. The target for the use of renewable sources of energy in transport stood at 4.3% in 2018 (2020 target: 10%, 2030: 15%). In 2019 Lithuania changed the legal act regarding the biofuel blending obligations which should lead to increasing shares of blended biodiesel and bioethanol. The final national energy and climate plan foresees further dedicated measures for the transport sector shift, (including biogas use in transport fleets, rapid growth of electrification and increased production of advanced biofuels). Cars remain the main mode of transport. Public transport (rail and buses) accounts for only 8.9% of passenger travel and its use is decreasing. Alternative-fuel passenger cars represent less than 1% of total cars despite expanding networks of refuelling and electric charging points. Rail electrification increased to 8% of the total network in 2017 but is still one of the lowest in the EU. Increasing the share of renewables in transport will enhance the decarbonisation of the entire transport sector.

Graph 3.5.1: **Greenhouse gas emissions by sector**



Tons of CO_2-equivalent emissions per capita.
Source: Eurostat

The greenhouse gas intensity per value added produced is among the highest in the EU. The Lithuanian economy is nearly twice as energy-intensive as the EU average. It has a few highly GHG-intensive installations in the chemicals, cement and energy sectors, which are important economic operators in the less developed mid-west Lithuanian region. These are the main source of employment and income in their municipalities, directly employing up to 10% of the labour force, which indicates future challenges in mitigating the social and economic impacts of the transition.

Lithuania has already surpassed its 2020 renewable energy target, but the share of

renewables is not increasing. At 24.4% of gross final energy consumption, the share of renewables is at the same level as it was in 2014 and 2015, and has decreased by 1.6 pps between 2017 and 2018, mainly due to the statistical transfer of energy from renewable sources to another EU Member State under Article 8 of the Renewable Energy Directive. In May 2019, the European Commission has approved a €385 million renewable energy scheme to support renewable electricity generation in Lithuania mostly investing in solar and wind energy. The scheme will provide assistance for the installation of renewable power sources such as wind, solar and hydropower in the country, and will support Lithuania's goal to have 38% of all electricity generation sourced from renewables by 2025.

Improving the energy performance of buildings will boost overall efficiency and address energy poverty in support of 2030 climate and energy targets. This includes renovating more apartments each year. Around 35 000 energy inefficient multi-apartment buildings are currently waiting to be renovated (Lietuvos Respublikos valstybės kontrolė, 2020) but the pace is too slow to make a timely impact, despite plans made by the government to have around 5 000 multi-apartment buildings renovated by the end of 2030. This renovation alone equates to approximately 5.5 TWh of energy savings. Significant investment in district heating has resulted in greener and more efficient heating in many municipalities. However, energy efficiency could be further improved by modernizing outdated heat metering and heat management and adjustment systems. Old heating systems persist especially in rural areas, resulting in higher air pollution and energy bill. The renovation of buildings can contribute to mitigating energy poverty.

Low resource productivity remains a challenge for Lithuania's economy. Resource productivity was €0.80/kg remains in 2018, far below the EU average of €2.24/kg ([16]). Lithuania achieved one of the lowest scores in the EU, even after correcting by purchasing power. Lithuania is also below the EU average on eco-innovation, another area that could bring much needed improvement in resource productivity and enable the transition towards a resource-efficient circular economy.

Lithuania is on track to achieve its municipal waste recycling and preparation for reuse target of 50% by 2020, but waste recycling possibilities for specific municipal waste streams remain a challenge. Domestic material consumption was 20 tonnes per capita in 2018, almost double the EU average, and circular (secondary) material use was low in 2016 at 4.5%, below the EU average of 11.7% (Graph 3.5.2). There is room for improvement in waste prevention, as well as product reuse, separate waste collection at source and out-of-home separate collection, sorting and recycling. The increase of the landfill tax was postponed multiple times and currently remains at €5/tonne, which is not enough to divert waste from landfilling and reach post 2020 recycling and reuse and landfill reduction targets. Landfill fees are among the lowest in the EU discouraging recycling. Waste incineration overcapacity might hamper the development of separate collection and recycling. Despite measures to strengthen control, the supervision of waste treatment facilities and polluting producers remains weak, which creates risks of environmental damage.

Policy levers

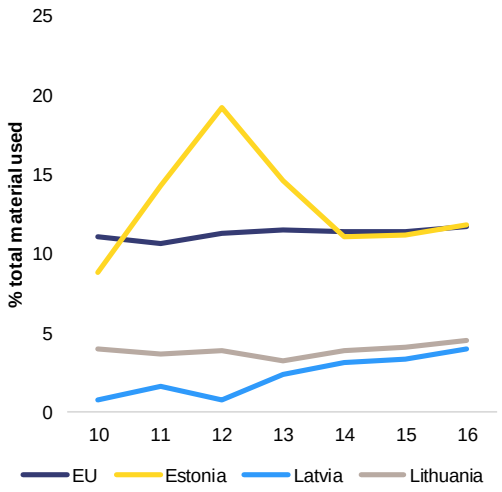
'Green' taxes, remain significantly below the EU average and environmentally harmful subsidies have not yet been abolished as planned. This leaves room for further tax increases to foster the decarbonisation of the transport sector and the use of renewable energy sources, in support of the 2030 climate change targets. In 2018, environmental taxes represented only 2% of GDP (EU average: 2.4% of GDP), and these are mostly taxes on energy. Taxes on transport are the second lowest in the EU (0.3% of total revenues from taxes and social contribution (EU average: 1.2%) and do not take into account the environmental performance of vehicles (see section 3.1). The proposed law on Motor Vehicle Registration Tax was adopted in December 2019 will come into force from July 2020. The law sets the rates linked to CO_2 emissions at low levels, and does not seem to be a sufficient incentive to buy less polluting cars, drive less or to use public transport. Excise duties for fuels have been

([16]) Resource productivity is GDP per materials used by an economy (domestic material consumption), excluding natural resources. This indicator measures the relationship between economic growth and the depletion of materials.

increased, however, the "diesel differential"-difference in the price of diesel versus petrol-remains high. Environmentally harmful subsidies have not been abolished as planned before.

More effective policies are needed to tackle nitrogen concentrations in surface water bodies which are above the norm and have more than doubled during 2007-2017. For the period 2014-20, investment of approximately €125 million was allocated for water management measures to improve wastewater collection and water treatment as well as the environmental status of at least 20 surface water bodies. Given that water pollution from agriculture remains of concern (OECD, forthcoming), the sources of diffuse pollution should be drastically reduced by the implementation of a full strategy for the improvement of nutrient management in agriculture based on nutrient management plans for all farmers and strict implementation of environmental legislation. Lithuania's national energy and climate plan 2021-2030 provides for reduced use of fertilisers and the protection of waters against nitrate pollution. Achieving a balanced use of mineral fertilisers is one of the planned policy measures in the agricultural sector, with specific mention given to decreasing the use of mineral nitrogen fertilisers. Economic instruments, based on the 'polluter pays' principle, which reflect the environmental externalities associated with water pollution may be an option to consider in this regard. According to OECD estimates, the projected needs for Lithuania's compliance with EU legislation on water supply and sanitation will require an investment of €1,283 million (OECD, forthcoming).

Graph 3.5.2: **Circular material use**



Source: Eurostat

Green procurement principles have been implemented, but overall numbers of procedures and their corresponding values remain low. This hinders Lithuania's ability to meet the 2030 climate change targets. Lithuania has partially implemented the green public procurement national action plan by putting legislation in place that requires authorities and contracting entities to include environmental criteria laid down for goods, services and works or for public works contracts in at least 50% of procurement contracts. In 2018, green public procurement amounted to €158,4m, equating to 9, 3% of the total value of public procurements, for which environmental criteria were established.

The transition to a low-carbon economy puts pressure on the most GHG-intensive industries in Lithuania. Achieving the European climate goals will require emissions from these industries to be reduced. The price of CO_2 emission in ETS sectors and national policies in non-ETS sectors will put pressure on the profitability of these activities. In turn, this will require tackling the negative social and economic impacts of this transition, at the national and local level. The Just Transition Fund, as proposed by the Commission, could contribute to mitigating the socio-economic impact of decarbonisation and transformation of GHG–intensive industrial installations, particularly in Kaunas, Telsiai and Siuliai counties (see Annex D).

Lithuania's transition towards a low-carbon economy requires adaptations in the education system and in labour market, including upskilling and reskilling of the workforce. This is to ensure that the Lithuanian work force comes equipped with the right skills to enable the energy transition, e.g. in the areas of installation of green technologies, the upgrading of building standards to ensure higher rates of energy savings as well as the installation of renewable energy infrastructure. This also includes targeted support for economic diversification as part of Lithuania's smart specialisation strategy (to focus on economic activities in which the country is best placed to succeed), and the creation of new job opportunities to limit the impact of the energy transition in communities where unemployment is higher and where fewer job opportunities exist.

Lithuania's eco-innovation performance falls short of the average performance in the EU. Since 2013, the share in GDP of government environmental investment has ranked among the lowest in the EU. Over the same period, the diffusion rate for environmental technologies dropped from a relatively high rate to one of the lowest in the EU. The development of new environmental technologies and the focus of government R&D on environmental technology have been among the lowest in the EU.

To contribute to the country's energy transition, investment needs to be scaled up. More investment is required for waste management, solar and wind energy generation, networks modernization to integrate renewables, green transport and construction sectors. Lithuania estimates the total investment needed to implement its energy and climate policies at €14.1 billion for 2021-2030, of which the public sector could finance €9.8 billion. For greenhouse gas reduction measures alone, investment needs amount to €10.8 billion, of which €6.5 billion would be financed by the public sector. Transport represents 29% of investments, of which energy efficiency and renewables represent 18% and 16% respectively. Lithuania anticipates using EU funds as the main source of public funding between 2021 and 2030, but notes that ensuring a sufficiently high contribution from the private sector to secure the funding is a potential challenge.

Further investment will lead to improvements in nature preservation. The Natura 2000 network in Lithuania is not yet complete, with 71% implementation for species-specific sites, 88% for habitat-specific sites and 42% for special areas of conservation. According to the 2021-2027 priority action programme, more than €963 million is required for the management of Natura 2000 sites. The focus of the spending will be on implementing the necessary conservation measures to maintain and upgrade species and habitats of community interest to a favourable conservation status

ANNEX A: OVERVIEW TABLE

Table A.1: **CSR assessment**

Commitments	**Summary assessment** ([1])
2019 country-specific recommendations (CSRs)	
CSR 1: Improve tax compliance and broaden the tax base to sources less detrimental to growth. Address income inequality, poverty and social exclusion, including by improving the design of the tax and benefit system.	Lithuania has made **Some Progress** in addressing CSR 1
Improve tax compliance and	• **Some Progress** Lithuania has adopted and implemented a few legislative and technical measures to tackle tax evasion and avoidance. However, the VAT gap still remains one of the highest in the EU. The effectiveness of the new IT tools that were to encourage tax compliance is limited.
broaden the tax base to sources less detrimental to growth.	• **Some Progress** On 17 December 2019, the Law on the vehicle registration tax was adopted. The law introduces passenger vehicle taxation based on CO2 emissions from July 2020. At the same time, a few minor adjustments were introduced to the real estate tax (lowering the threshold from â‚¬220,000 to â‚¬150,000 and increasing the minimum tax rate). Overall, these changes are expected to bring â‚¬15 million in tax revenues (or 0.03% of GDP). Higher excise duties on alcohol, tobacco and energy products came into force from 1 January 2020. Environmental taxes remain low compared to the EU average.
Address income inequality, poverty and social exclusion, including by improving the design of the tax and benefit system.	• **Some Progress** Lithuania has achieved some progress in addressing poverty and social exclusion. The country has taken some measures to address poverty and social exclusion. The increase in universal child benefit will have a positive impact on reducing the risk of poverty and social exclusion for households with children. The indexation and additional increase of pensions is also a step forward in addressing the risk of poverty among older people. Other measures such as an increase in the minimum monthly wage, and amendments on cash social assistance and social housing, are also steps in the right direction, but their effect on poverty and social exclusion is yet to be seen. Lithuania achieved limited progress in addressing income inequality and improving the design of the tax and benefit system. The progressivity of the personal income tax system remains low.

(Continued on the next page)

Table (continued)

	Lithuania's tax-to-GDP ratio is one of the lowest in the EU. The increases in real estate taxes in 2020 are expected to have a negligible effect on the tax-to-GDP ratio.
CSR 2: Improve quality and efficiency at all education and training levels, including adult learning. Increase the quality, affordability and efficiency of the healthcare system.	Lithuania has made **Limited Progress** in addressing CSR 2
Improve quality and efficiency at all education and training levels, including adult learning.	• **Limited Progress** Lithuania has achieved limited progress in improving the quality and efficiency of its education and training system and adult learning. Further progress is needed to make the system more efficient and to improve the allocation of resources across education levels and between urban and rural areas. The implementation of educational reforms is slow, while participation in adult learning remains well below the EU average.
Increase the quality,	• **Limited Progress** Measures taken to improve the quality of the healthcare system are insufficient: the healthcare system performance is not in place, the quality accreditation programme for primary care entities remains voluntary and the progress in the take-up is very slow; the parameters of the effective public health policies are not in place; standards of quality of hospital care remain underdeveloped.
affordability and	• **Some Progress** There is some progress in reducing out-of-pocket payments for pharmaceuticals and the legislation to protect the lowest income group and people aged 75+ from co-payments entered into force at the end of 2019.
efficiency of the healthcare system.	• **Some Progress** Progress in improving the allocative efficiency of the healthcare system is slow and the stalemate in the restructuring the hospital framework remains a barrier in improving the use of resources across the segments of care, keeping primary care and public health measures underinvested.
CSR 3: Focus investment-related economic policy on innovation, energy and resource efficiency, sustainable transport and energy interconnections, taking into account regional disparities. Stimulate productivity growth by improving the efficiency of public investment. Develop a coherent policy framework to support science-business cooperation and consolidate research and innovation	Lithuania has made **Limited Progress** in addressing CSR 3

(Continued on the next page)

Table (continued)

implementing agencies.	
Focus investment-related economic policy on innovation,	• **Limited Progress** Despite slow incremental growth of business investment in research and innovation, public investment has fluctuated over the decade. Public investment did not recover in 2018 (0,88 % of GDP)and is lower than the levels of investment in R&I in the 2011-2015 period (0,91-1,04 % of GDP).
energy and	• **Limited Progress** Investment figures put forward by Lithuania for 2021-2030 for energy and climate policies and measures doubled between the draft national energy and climate plan and the plan's final version. The figure now amounts to â‚¬14.1 billion for the period, with investments and energy efficiency and renewables representing 18% and 16% respectively. Lithuania is on track to meet its 2020 renewables target. Nevertheless, the use of renewable energy sources in transport is significantly below the target of 10%. Lithuania has adopted its 2021-2030 national energy and climate plan. The 45% share of RES in 2030 declared in the plan is considerably above the 2030 target.
resource efficiency,	• **Limited Progress** On energy efficiency, Lithuania increased the ambition of its contribution to the 2030 target between the draft national energy and climate plan and the plan's final version. Lithuania also provided more information on energy efficiency policies and measures in the transport, households, services and industry sectors. Very little progress was made on resource efficiency, while waste management (and in particular the excessive use of landfilling) needs action.
sustainable transport and	• **Limited Progress** Lithuania's 2021-2030 national energy and climate plan includes measures to enhance the sustainability of the transport sector. Lithuania plans efficiency gains in the vehicle fleet and in the transport system, increased use of alternative fuels, innovative transport technologies, as well as electrification of railways and taxation based on the polluter pays principle. Specific support is planned for electronic vehicles, including for charging infrastructure. However, more ambition to reduce transport emissions would be welcomed. Regional cooperation would be needed to achieve

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Table (continued)

	further investment in sustainable transport through digitalisation and decarbonisation. The transport measures set out in the national energy and climate plan will be further evaluated in the course of 2020.
energy interconnections, taking into account regional disparities.	• **Some Progress** As part of the Baltic region that enjoys 23% interconnection capacity, Lithuania has already reached interconnection targets for electricity and is now developing a new electricity interconnector with Poland. Natural gas interconnector pipeline capacity development is also advancing, but there have been some delays. Overall implementation of energy infrastructure projects is proceeding according to the schedule outlined in the 2021-2030 National Energy and Climate Plan as well as the priorities agreed in the context of the Baltic Energy Market Interconnection Plan (BEMIP) High-level Group including the Projects of Common Interest.
Stimulate productivity growth by improving the efficiency of public investment.	• **Limited Progress** Despite positive developments in public investment planning, improved governance could allow a better targeting of policy priorities. The government's own activity reports indicate delayed actions, reporting shortcomings, and a limited access to information necessary for the efficient implementation of public investment programmes.
Develop a coherent policy framework to support science-business cooperation and	• **Limited Progress** Initiatives to harmonise the policy framework remain a work in progress. The Innovation Fund and a coherent innovation strategy for Lithuania are still at proposal/development stage. The R&I policy landscape continues to be categorised by a plethora of support initiatives.
consolidate research and innovation implementing agencies.	• **Limited Progress** Lithuania has made preparatory work to consolidate agencies. It has carried out a study and internal discussion, but the process is now stalled due to a change in the Minister of Economics and Innovation and the upcoming elections.
Europe 2020 (national targets and progress)	

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Table (continued)

Employment rate target: 72.8 %	The employment rate reached 77.8% in 2018, above the national target and the EU average.
R&D target set in the NRP: 1,9 % of GDP with half coming from private sector	In 2018 Lithuania's R&D investment decreased to 0.88 % of GDP compared to 0.9 % the previous year. Private investment is at 0.33 % of GDP for a second consecutive year. R&D investment is unlikely to reach the target level by 2020.
National greenhouse gas (GHG) emissions target: +15 % in 2020 compared to 2005 (in sectors not included in the EU Emissions Trading System) Non-ETS interim target for 2018: +9 % compared to 2005	Lithuania's emissions are expected to increase by 6 % in 2020 compared to 2005. The country will meet its target with a margin of 9 percentage points. Preliminary data indicates that Lithuania has overachieved its interim target for 2018 by around 3 pp.
2020 renewable energy target: 23% Share of renewable energy in transport sector: 10%	With a 24% share of renewables in 2018, Lithuania has already overachieved its 2020 target and aims to reach an ambitious 45% target by 2030. The share of renewable energy is stagnating and has even decreased by 1.6 pps (from 26% in 2017 to 24.4% in 2018). The share of renewables in the transport sector is very low. It stands at 4.3 % in 2018, well below the 2020 target of 10 %.
Energy efficiency, 2020 energy consumption targets: Lithuania's 2020 energy efficiency target is: 17 % reduction in final energy use compared to 2009 level (reduction of 740 ktoe), which implies reaching a 2020 level of: 6.5 Mtoe expressed in primary energy consumption (4.3 Mtoe expressed in final energy consumption)	Primary energy consumption was 6.3 Mtoe in 2018, in line with achievement of the 2020 target. However, primary energy consumption has been increasing for four years in a row, putting at risk the achievement of the target. Lithuania's final energy consumption is also on an increasing trend, with a 3,8% increase between 2017 and 2018 to reach 5.55 Mtoe. In order to reach its 2020 final energy consumption target, Lithuania must radically increase its efforts to implement additional policies and measures.
Early school/training leaving target: < 9%.	Lithuania continues to perform well in preventing early leaving from education and training and is placed among the leading EU Member States. In 2018 the rate fell to 4.6% (EU average:10.6%) which is well below the Europe 2020 target of 10%.
Tertiary education target: 48.7% of population aged 30-34.	In 2018, tertiary attainment among people aged 30-34 was 57.6%, the highest in the EU. This exceeds the EU average of 40.7% and the national target.
Target for reducing the number of people at risk of	Lithuania has partially achieved its national target.

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Table (continued)

poverty or social exclusion, expressed as an absolute number of people: -170 000 persons at-risk-of-poverty or social exclusion (base year 2008), and limit to 814 000 in 2020	In absolute numbers, the number of people at risk of poverty or social exclusion was 794 000 (the target was to limit the number to 814 000). This achievement must be assessed in the context of decrease in total population. The cumulative difference from 2008 was -116 000 people (target: -170 000).

([1]) The following categories are used to assess progress in implementing the country-specific recommendations (CSRs):
No progress: The Member State has not credibly announced nor adopted any measures to address the CSR. This category covers a number of typical situations to be interpreted on a case by case basis taking into account country-specific conditions. They include the following:

- no legal, administrative, or budgetary measures have been announced
    - in the national reform programme,
    - in any other official communication to the national Parliament/relevant parliamentary committees or the European Commission,
    - publicly (e.g. in a press statement or on the government's website);
- no non-legislative acts have been presented by the governing or legislative body;
- the Member State has taken initial steps in addressing the CSR, such as commissioning a study or setting up a study group to analyse possible measures to be taken (unless the CSR explicitly asks for orientations or exploratory actions). However, it has not proposed any clearly-specified measure(s) to address the CSR.

Limited progress: The Member State has:

- announced certain measures but these address the CSR only to a limited extent; and/or
- presented legislative acts in the governing or legislative body but these have not been adopted yet and substantial further, non-legislative work is needed before the CSR is implemented;
- presented non-legislative acts, but has not followed these up with the implementation needed to address the CSR.

Some progress: The Member State has adopted measures

- that partly address the CSR; and/or
- that address the CSR, but a fair amount of work is still needed to fully address the CSR fully as only a few of the measures have been implemented. For instance, a measure or measures have been adopted by the national Parliament or by ministerial decision but no implementing decisions are in place.

Substantial progress: The Member State has adopted measures that go a long way towards addressing the CSR and most of them have been implemented.

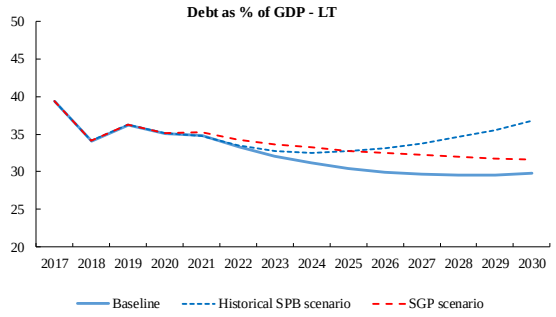
Full implementation: The Member State has implemented all measures needed to address the CSR appropriately.

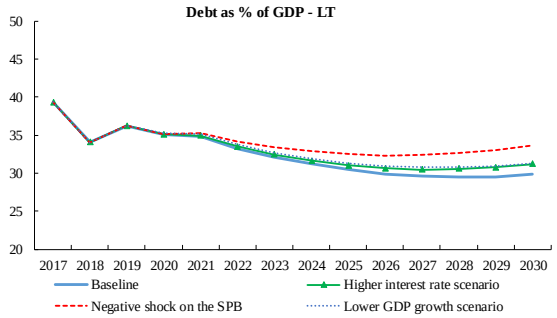
Source: European Commission

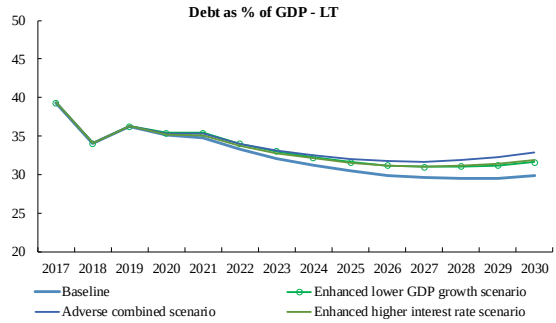
ANNEX B: COMMISSION DEBT SUSTAINABILITY ANALYSIS AND FISCAL RISKS

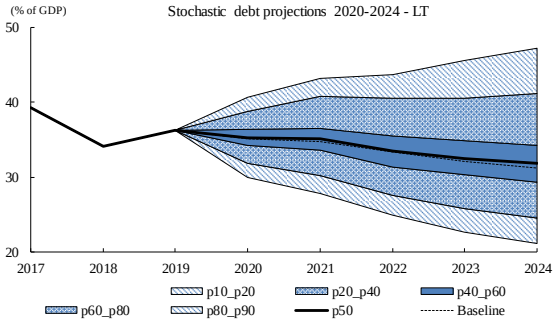
General government debt projections under baseline, alternative scenarios and sensitivity tests

LT - Debt projections baseline scenario	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Gross debt ratio	**34.1**	**36.3**	**35.1**	**34.8**	**33.3**	**32.1**	**31.2**	**30.5**	**29.9**	**29.6**	**29.5**	**29.5**	**29.8**
Changes in the ratio (-1+2+3)	*-5.3*	*2.2*	*-1.2*	*-0.3*	*-1.5*	*-1.2*	*-0.9*	*-0.7*	*-0.5*	*-0.3*	*-0.1*	*0.0*	*0.3*
of which													
(1) Primary balance (1.1+1.2+1.3)	**1.5**	**0.8**	**0.5**	**0.4**	**0.3**	**0.1**	**0.0**	**-0.2**	**-0.3**	**-0.5**	**-0.6**	**-0.7**	**-0.9**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***0.0***	***-0.8***	***-0.4***	***0.1***	***0.1***	***0.0***	***0.0***	***-0.2***	***-0.3***	***-0.5***	***-0.6***	***-0.7***	***-0.9***
(1.1.1) Structural primary balance (bef. CoA)	*0.0*	*-0.8*	*-0.4*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*
(1.1.2) Cost of ageing					*0.0*	*0.0*	*0.1*	*0.2*	*0.4*	*0.5*	*0.7*	*0.8*	*1.0*
(1.1.3) Others (taxes and property incomes)					*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(1.2) Cyclical component	***1.5***	***1.5***	***0.9***	***0.3***	***0.2***	***0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.0***	***0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3)	**-1.7**	**-1.6**	**-1.5**	**-1.2**	**-1.3**	**-1.0**	**-0.9**	**-0.9**	**-0.8**	**-0.8**	**-0.7**	**-0.7**	**-0.6**
(2.1) Interest expenditure	*0.9*	*0.8*	*0.5*	*0.4*	*0.4*	*0.4*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*
(2.2) Growth effect	*-1.3*	*-1.2*	*-0.8*	*-0.8*	*-0.9*	*-0.7*	*-0.6*	*-0.6*	*-0.6*	*-0.5*	*-0.4*	*-0.5*	*-0.4*
(2.3) Inflation effect	*-1.3*	*-1.2*	*-1.2*	*-0.8*	*-0.8*	*-0.7*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*
(3) Stock-flow adjustments	**-2.1**	**4.6**	**0.8**	**1.4**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**









Short term	Medium term	S1
LOW (S0 = 0.2)	LOW	LOW (S1 = -2.7)

Debt sustainability analysis (detail)

	Baseline	Historical SPB	Lower GDP growth	Higher interest rate	Negative shock on SPB	Stochastic projections
Risk category	LOW	LOW	LOW	LOW	LOW	LOW
Debt level (2030)	29.8	36.7	31.3	31.2	33.7	
Debt peak year	2019	2030	2019	2019	2019	
Percentile rank	57.0%	70.0%				
Probability debt higher						33.3%
Dif. between percentiles						26.1

DSA	S2	Long term
LOW	LOW (S2 = 0.5)	LOW

Note: For further information, see the European Commission Debt Sustainability Monitor (DSM) 2019.

[1] The first table presents the baseline no-fiscal policy change scenario projections. It shows the projected government debt dynamics and its decomposition between the primary balance, snowball effects and stock-flow adjustments. Snowball effects measure the net impact of the counteracting effects of interest rates, inflation, real GDP growth (and exchange rates in some countries). Stock-flow adjustments include differences in cash and accrual accounting, net accumulation of assets, as well as valuation and other residual effects.

[2] The charts present a series of sensitivity tests around the baseline scenario, as well as alternative policy scenarios, in particular: the historical structural primary balance (SPB) scenario (where the SPB is set at its historical average), the Stability and Growth Pact (SGP) scenario (where fiscal policy is assumed to evolve in line with the main provisions of the SGP), a higher interest rate scenario (+1 pp. compared to the baseline), a lower GDP growth scenario (-0.5 pp. compared to the baseline) and a negative shock on the SPB (calibrated on the basis of the forecasted change). An adverse combined scenario and enhanced sensitivity tests (on the interest rate and growth) are also included, as well as stochastic projections. Detailed information on the design of these projections can be found in the FSR 2018 and the DSM 2019.

[3] The second table presents the overall fiscal risk classification over the short, medium and long term.

a. For the short-term, the risk category (low/high) is based on the S0 indicator. S0 is an early-detection indicator of fiscal stress in the upcoming year, based on 25 fiscal and financial-competitiveness variables that have proven in the past to be leading indicators of fiscal stress. The critical threshold beyond which fiscal distress is signalled is 0.46.

b. For the medium term, the risk category (low/medium/high) is based on the joint use of the S1 indicator and of the DSA results. The S1 indicator measures the fiscal adjustment required (cumulated over the 5 years following the forecast horizon and sustained after that) to bring the debt-to-GDP ratio to 60 % by 2034. The critical values used are 0 and 2.5 pps of GDP. The DSA classification is based on the results of five deterministic scenarios (baseline, historical SPB, higher interest rate, lower GDP growth and negative shock on the SPB scenarios) and the stochastic projections. Different criteria are used such as the projected debt level, the debt path, the realism of fiscal assumptions, the probability of debt stabilisation, and the size of uncertainties.

c. For the long term, the risk category (low/medium/high) is based on the joint use of the S2 indicator and the DSA results. The S2 indicator measures the upfront and permanent fiscal adjustment required to stabilise the debt-to-GDP ratio over the infinite horizon, including the costs of ageing. The critical values used are 2 and 6 pps of GDP. The DSA results are used to further qualify the long term risk classification, in particular in cases when debt vulnerabilities are identified (a medium / high DSA risk category).

ANNEX C: STANDARD TABLES

Table C.1: **Financial Market Indicators**

	2014	2015	2016	2017	2018	2019
Total assets of the banking sector (% of GDP)(1)	69.7	66.4	69.6	67.6	66.4	61.6
Share of assets of the five largest banks (% of total assets)	85.7	86.8	87.1	90.1	90.9	-
Foreign ownership of banking system (% of total assets)(2)	92.0	91.8	91.9	91.6	91.1	90.2
Financial soundness indicators:(2)						
- non-performing loans (% of total loans)	6.8	5.6	4.0	3.2	2.6	2.2
- capital adequacy ratio (%)	21.3	24.8	19.4	19.1	18.6	19.6
- return on equity (%)(3)	7.7	7.5	11.9	9.1	12.3	16.3
Bank loans to the private sector (year-on-year % change)(1)	-0.3	5.3	11.2	4.4	7.5	2.9
Lending for house purchase (year-on-year % change)(1)	2.2	3.5	7.1	8.6	8.7	8.9
Loan-to-deposit ratio(2)	80.1	83.8	82.3	78.8	79.5	83.1
Central bank liquidity as % of liabilities(1)	0.0	1.7	1.3	1.2	0.7	0.3
Private debt (% of GDP)	54.2	55.3	56.5	56.1	56.4	-
Gross external debt (% of GDP)(2) - public	38.0	38.2	35.7	34.3	29.5	32.1
- private	18.2	18.3	18.4	19.8	20.0	19.1
Long-term interest rate spread versus Bund (basis points)*	162.9	88.5	80.8	-0.8	-8.7	55.8
Credit default swap spreads for sovereign securities (5-year)*	100.9	76.4	62.8	50.8	52.8	56.1

Notes:
(1) Latest data Q3 - 2019. Includes not only banks but all monetary financial institutions excluding central banks.
(2) Latest data Q2 - 2019.
(3) Quarterly values are annualised.
* Measured in basis points.
Source: European Commission (long-term interest rates); World Bank (gross external debt); Eurostat (private debt); ECB (all other indicators).

Table C.2: **Headline Social Scoreboard Indicators**

	2014	2015	2016	2017	2018	2019 [5]
Equal opportunities and access to the labour market						
Early leavers from education and training (% of population aged 18-24)	5.9	5.5	4.8	5.4	4.6	:
Gender employment gap (pps)	2.5	2.4	1.9	1.0	2.3	1.8
Income inequality, measured as quintile share ratio (S80/S20)	6.1	7.5	7.1	7.3	7.1	:
At-risk-of-poverty or social exclusion rate(1) (AROPE)	27.3	29.3	30.1	29.6	28.3	:
Young people neither in employment nor in education and training (% of population aged 15-24)	9.9	9.2	9.4	9.1	8.0	:
Dynamic labour markets and fair working conditions						
Employment rate (20-64 years)	71.8	73.3	75.2	76.0	77.8	78.2
Unemployment rate(2) (15-74 years)	10.7	9.1	7.9	7.1	6.2	6.2
Long-term unemployment rate (as % of active population)	4.8	3.9	3.0	2.7	2.0	1.8
Gross disposable income of households in real terms per capita(3) (Index 2008=100)	102.7	107.8	116.3	119.3	123.1	:
Annual net earnings of a full-time single worker without children earning an average wage (levels in PPS, three-year average)	9911	10517	11150	:	:	:
Annual net earnings of a full-time single worker without children earning an average wage (percentage change, real terms, three-year average)	3.62	5.44	6.54	:	:	:
Public support / Social protection and inclusion						
Impact of social transfers (excluding pensions) on poverty reduction(4)	30.5	22.4	21.5	23.2	22.9	:
Children aged less than 3 years in formal childcare	22.9	9.7	15.2	20.3	20.8	:
Self-reported unmet need for medical care	3.7	2.9	3.1	1.5	2.2	:
Individuals who have basic or above basic overall digital skills (% of population aged 16-74)	:	51.0	52.0	55.0	:	:

Notes:
(1) People at risk of poverty or social exclusion (AROPE): individuals who are at risk of poverty (AROP) and/or suffering from severe material deprivation and/or living in households with zero or very low work intensity.
(2) Unemployed persons are all those who were not employed but had actively sought work and were ready to begin working immediately or within two weeks.
(3) Gross disposable household income is defined in unadjusted terms, according to the draft 2019 joint employment report.
(4) Reduction in percentage of the risk-of-poverty rate, due to social transfers (calculated comparing at-risk-of-poverty rates before social transfers with those after transfers; pensions are not considered as social transfers in the calculation).
(5) Average of first three quarters of 2019 for the employment rate, unemployment rate and gender employment gap.

Source: Eurostat

Table C.3: **Labour Market and Education Indicators**

Labour market indicators	**2014**	**2015**	**2016**	**2017**	**2018**	**2019** [5]
Activity rate (15-64)	73.7	74.1	75.5	75.9	77.3	77.9
Employment in current job by duration						
From 0 to 11 months	14.7	15.5	18.9	17.8	19.3	:
From 12 to 23 months	12.3	11.7	11.0	12.5	11.1	:
From 24 to 59 months	20.8	20.3	19.9	19.2	19.6	:
60 months or over	52.3	52.5	50.2	50.5	49.9	:
Employment growth* (% change from previous year)	2.0	1.4	2.3	-0.7	1.4	0.6
Employment rate of women (% of female population aged 20-64)	70.6	72.2	74.3	75.5	76.7	77.3
Employment rate of men (% of male population aged 20-64)	73.1	74.6	76.2	76.5	79.0	79.0
Employment rate of older workers* (% of population aged 55-64)	56.2	60.4	64.6	66.1	68.5	68.3
Part-time employment* (% of total employment, aged 15-64)	8.6	7.6	7.1	7.6	7.1	6.6
Fixed-term employment* (% of employees with a fixed term contract, aged 15-64)	2.8	2.1	2.0	1.7	1.6	1.6
Transition rate from temporary to permanent employment (3-year average)	38.2	46.1	39.5	34.7	:	:
Youth unemployment rate (% active population aged 15-24)	19.3	16.3	14.5	13.3	11.1	10.6
Gender gap in part-time employment	4.3	4.3	3.4	3.7	3.5	3.5
Gender pay gap[(2)] (in undadjusted form)	13.3	14.2	14.4	15.2	:	:
Education and training indicators	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Adult participation in learning (% of people aged 25-64 participating in education and training)	5.1	5.8	6.0	5.9	6.6	:
Underachievement in education[(3)]	:	25.4	:	:	25.6	:
Tertiary educational attainment (% of population aged 30-34 having successfully completed tertiary education)	53.3	57.6	58.7	58.0	57.6	:
Variation in performance explained by students' socio-economic status[(4)]	:	:	:	:	13.2	:

Notes:
* Non-scoreboard indicator
(1) Long-term unemployed are people who have been unemployed for at least 12 months.
(2) Difference between the average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees. It is defined as "unadjusted", as it does not correct for the distribution of individual characteristics (and thus gives an overall picture of gender inequalities in terms of pay). All employees working in firms with 10 or more employees, without restrictions for age and hours worked, are included.
(3) PISA (OECD) results for underachievement in mathematics for 15 year-olds.
(4) Impact of socio-economic status on PISA (OECD) scores. Values for 2018 refers to reading.
(5) Average of first three quarters of 2019. Data for youth unemployment rate is seasonally adjusted.

Sources: Eurostat, OECD

Table C.4: **Social Inclusion and Health Indicators**

	2013	2014	2015	2016	2017	2018
Expenditure on social protection benefits* (% of GDP)						
Sickness/healthcare	4.1	4.1	4.4	4.6	4.5	:
Disability	1.4	1.4	1.4	1.3	1.3	:
Old age and survivors	6.9	7.1	7.0	6.7	6.5	:
Family/children	1.1	1.1	1.1	1.1	1.2	:
Unemployment	0.4	0.3	0.5	0.5	0.5	:
Housing	0.0	0.0	0.1	0.1	0.1	:
Social exclusion n.e.c.	0.6	0.4	0.3	0.3	0.2	:
Total	14.5	14.5	14.8	14.6	14.4	:
of which: means-tested benefits	0.8	0.6	0.5	0.4	0.4	:
General government expenditure by function (% of GDP)						
Social protection	11.4	11.4	11.1	11.2	11.2	:
Health	5.6	5.5	5.8	5.8	5.7	:
Education	5.6	5.4	5.4	5.1	4.9	:
Out-of-pocket expenditure on healthcare	32.8	31.5	31.8	32.3	32.3	:
Children at risk of poverty or social exclusion (% of people aged 0-17)*	35.4	28.9	32.7	32.4	31.6	28.0
At-risk-of-poverty rate[1] (% of total population)	20.6	19.1	22.2	21.9	22.9	22.9
In-work at-risk-of-poverty rate (% of persons employed)	9.1	8.3	9.9	8.5	8.5	8.1
Severe material deprivation rate[2] (% of total population)	16.0	13.6	13.9	13.5	12.4	11.1
Severe housing deprivation rate[3], by tenure status						
Owner, with mortgage or loan	1.2	8.9	5.3	4.2	4.9	3.3
Tenant, rent at market price	28.9	3.2	28.7	5.7	12.9	29.1
Proportion of people living in low work intensity households[4] (% of people aged 0-59)	11.0	8.8	9.2	10.2	9.7	9.0
Poverty thresholds, expressed in national currency at constant prices*	7313	7420	2303	2526	2727	2955
Healthy life years						
Females	6.3	6.1	5.5	5.6	5.6	:
Males	5.9	6.1	5.0	5.6	5.7	:
Aggregate replacement ratio for pensions[5]	0.5	0.5	0.5	0.5	0.4	0.4
Connectivity dimension of the Digital Economy and Society Index (DESI)[6]	:	53.0	58.4	68.6	70.4	:
GINI coefficient before taxes and transfers*	53.5	51.9	54.0	52.2	52.1	:
GINI coefficient after taxes and transfers*	34.6	35.0	37.9	37.0	37.6	:

Notes:
* Non-scoreboard indicator
(1) At-risk-of-poverty rate (AROP): proportion of people with an equivalised disposable income below 60 % of the national equivalised median income.
(2) Proportion of people who experience at least four of the following forms of deprivation: not being able to afford to i) pay their rent or utility bills, ii) keep their home adequately warm, iii) face unexpected expenses, iv) eat meat, fish or a protein equivalent every second day, v) enjoy a week of holiday away from home once a year, vi) have a car, vii) have a washing machine, viii) have a colour TV, or ix) have a telephone.
(3) Percentage of total population living in overcrowded dwellings and exhibiting housing deprivation.
(4) People living in households with very low work intensity: proportion of people aged 0-59 living in households where the adults (excluding dependent children) worked less than 20 % of their total work-time potential in the previous 12 months.
(5) Ratio of the median individual gross pensions of people aged 65-74 relative to the median individual gross earnings of people aged 50-59.
(6) Fixed broadband take up (33%), mobile broadband take up (22%), speed (33%) and affordability (11%), from the Digital Scoreboard.

Source: Eurostat, OECD

Table C.5: **Product Market Performance and Policy Indicators**

Performance indicators	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Labour productivity per person[1] growth (t/t-1) in %						
Labour productivity growth in industry	3.30	5.38	0.35	-0.24	3.84	-1.27
Labour productivity growth in construction	-1.54	13.25	-6.37	-5.62	9.84	6.23
Labour productivity growth in market services	2.10	0.18	2.75	0.54	5.85	3.44
Unit Labour Cost (ULC) index[2] growth (t/t-1) in %						
ULC growth in industry	0.80	3.73	6.31	4.87	2.91	5.94
ULC growth in construction	-0.69	-4.16	5.80	16.81	4.53	0.90
ULC growth in market services	3.80	3.65	5.61	5.16	5.39	4.08
Business environment	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Time needed to enforce contracts[3] (days)	370	370	370	370	370	370
Time needed to start a business[3] (days)	8.5	5.5	5.5	5.5	5.5	5.5
Outcome of applications by SMEs for bank loans[4]	1.16	1.27	1.14	1.17	1.06	1.22
Research and innovation	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
R&D intensity	0.95	1.03	1.04	0.84	0.90	0.88
General government expenditure on education as % of GDP	5.60	5.40	5.40	5.10	4.90	:
Employed people with tertiary education and/or people employed in S&T as % of total employment	48	49	50	50	50	50
Population having completed tertiary education[5]	30	31	33	34	35	36
Young people with upper secondary education[6]	90	91	91	92	91	92
Trade balance of high technology products as % of GDP	0.06	-0.08	-0.46	-0.40	-0.39	-0.07
Product and service markets and competition	**2003**	**2008**	**2013**			**2018***
OECD product market regulation (PMR)[7], overall	:	:	1.52			1.19
OECD PMR[7], retail	:	:	1.11			0.91
OECD PMR[7], professional services[8]	:	:	1.85			1.44
OECD PMR[7], network industries[9]	:	:	2.02			1.95

Notes:
*While the indicator values from 2003 to 2013 are comparable, the methodology has considerably changed in 2018. As a result, past vintages cannot be compared with the 2018 PMR indicators.
1 Value added in constant prices divided by the number of persons employed.
2 Compensation of employees in current prices divided by value added in constant prices.
3 The methodologies, including the assumptions, for this indicator are shown in detail here: http://www.doingbusiness.org/methodology.
4 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 75% and above, two if received below 75%, three if refused or rejected and treated as missing values if the application is still pending or don't know.
5 Percentage population aged 15-64 having completed tertiary education.
6 Percentage population aged 20-24 having attained at least upper secondary education.
7 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
8 Simple average of the indicators of regulation for lawyers, accountants, architects and engineers.
9 Aggregate OECD indicators of regulation in energy, transport and communications (ETCR).

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

Performance indicators	2013	2014	2015	2016	2017	2018
Labour productivity per person[1] growth (t/t-1) in %						
Labour productivity growth in industry	3.30	5.38	0.35	-0.24	3.84	-1.27
Labour productivity growth in construction	-1.54	13.25	-6.37	-5.62	9.84	6.23
Labour productivity growth in market services	2.10	0.18	2.75	0.54	5.85	3.44
Unit Labour Cost (ULC) index[2] growth (t/t-1) in %						
ULC growth in industry	0.80	3.73	6.31	4.87	2.91	5.94
ULC growth in construction	-0.69	-4.16	5.80	16.81	4.53	0.90
ULC growth in market services	3.80	3.65	5.61	5.16	5.39	4.08
Business environment	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Time needed to enforce contracts[3] (days)	370	370	370	370	370	370
Time needed to start a business[3] (days)	8.5	5.5	5.5	5.5	5.5	5.5
Outcome of applications by SMEs for bank loans[4]	1.16	1.27	1.14	1.17	1.06	1.22
Research and innovation	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
R&D intensity	0.95	1.03	1.04	0.84	0.90	0.88
General government expenditure on education as % of GDP	5.60	5.40	5.40	5.10	4.90	:
Employed people with tertiary education and/or people employed in S&T as % of total employment	48	49	50	50	50	50
Population having completed tertiary education[5]	30	31	33	34	35	36
Young people with upper secondary education[6]	90	91	91	92	91	92
Trade balance of high technology products as % of GDP	0.06	-0.08	-0.46	-0.40	-0.39	-0.07
Product and service markets and competition	**2003**	**2008**	**2013**			**2018***
OECD product market regulation (PMR)[7], overall	:	:	1.52			1.19
OECD PMR[7], retail	:	:	1.11			0.91
OECD PMR[7], professional services[8]	:	:	1.85			1.44
OECD PMR[7], network industries[9]	:	:	2.02			1.95

Notes:

*** While the indicator values from 2003 to 2013 are comparable, the methodology has considerably changed in 2018. As a result, past vintages cannot be compared with the 2018 PMR indicators**

[1] Value added in constant prices divided by the number of persons employed.

[2] Compensation of employees in current prices divided by value added in constant prices.

[3] The methodologies, including the assumptions, for this indicator are shown in detail here: http://www.doingbusiness.org/methodology.

[4] 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?".

[5] Percentage population aged 15-64 having completed tertiary education.

[6] Percentage population aged 20-24 having attained at least upper secondary education.

[7] 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

[8] Simple average of the indicators of regulation for lawyers, accountants, architects and engineers.

[9] Aggregate OECD indicators of regulation in energy, transport and communications (ETCR).

Sources:

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

Table C.6: **Green Growth Performance**

Green growth performance		2013	2014	2015	2016	2017	2018
Macroeconomic							
Energy intensity	kgoe / €	0.21	0.20	0.21	0.21	0.20	0.20
Carbon intensity	kg / €	0.63	0.60	0.60	0.58	0.57	-
Resource intensity (reciprocal of resource productivity)	kg / €	1.45	1.32	1.29	1.30	1.40	1.51
Waste intensity	kg / €	-	0.19	-	0.19	-	-
Energy balance of trade	% GDP	-6.1	-4.7	-3.6	-2.6	-3.0	-4.0
Weighting of energy in HICP	%	16.84	14.25	13.60	11.79	11.94	12.49
Difference between energy price change and inflation	p.p.	-1.8	-4.8	-9.2	-5.5	-3.6	1.9
Real unit of energy cost	% of value added	27.8	27.7	28.7	29.8	-	-
Ratio of environmental taxes to labour taxes	ratio	0.27	0.28	0.25	0.24	0.23	-
Environmental taxes	% GDP	1.7	1.7	1.9	1.9	1.9	2.0
Sectoral							
Industry energy intensity	kgoe / €	0.12	0.11	0.11	0.11	0.11	0.11
Real unit energy cost for manufacturing industry excl. refining	% of value added	13.8	14.0	14.3	14.5	-	-
Share of energy-intensive industries in the economy	% GDP	9.34	9.32	9.19	9.44	9.64	-
Electricity prices for medium-sized industrial users	€ / kWh	0.12	0.12	0.10	0.09	0.08	0.09
Gas prices for medium-sized industrial users	€ / kWh	0.04	0.04	0.02	0.03	0.03	0.04
Public R&D for energy	% GDP	0.02	0.01	0.02	0.01	0.01	0.01
Public R&D for environmental protection	% GDP	0.00	0.01	0.01	0.00	0.00	0.00
Municipal waste recycling rate	%	27.8	30.5	33.1	48.0	48.1	52.5
Share of GHG emissions covered by ETS*	%	37.5	34.7	34.1	30.7	30.8	29.6
Transport energy intensity	kgoe / €	0.44	0.47	0.51	0.51	0.49	0.49
Transport carbon intensity	kg / €	1.71	2.08	2.11	2.40	2.68	2.65
Security of energy supply							
Energy import dependency	%	78.5	78.3	78.4	77.6	75.6	-
Aggregated supplier concentration index	HHI	97.5	87.6	71.6	51.6	45.6	-
Diversification of energy mix	HHI	27.3	26.9	27.4	27.1	26.9	27.0

All macro intensity indicators are expressed as a ratio of a physical quantity to GDP (in 2010 prices)
Energy intensity: gross inland energy consumption (in kgoe) divided by GDP (in EUR)
Carbon intensity: greenhouse gas emissions (in kg CO2 equivalents) divided by GDP (in EUR)
Resource intensity: domestic material consumption (in kg) divided by GDP (in EUR)
Waste intensity: waste (in kg) divided by GDP (in EUR)
Energy balance of trade: the balance of energy exports and imports, expressed as % of GDP.
Weighting of energy in HICP: the proportion of 'energy' items in the consumption basket used for the construction of the HICP.
Difference between energy price change and inflation: energy component of HICP, and total HICP inflation (annual % change).
Real unit energy cost: real energy costs as % of total value added for the economy.
Industry energy intensity: final energy consumption of industry (in kgoe) divided by gross value added of industry (in 2010 EUR).
Real unit energy costs for manufacturing industry excluding refining: real costs as % of value added for manufacturing sectors.
Share of energy-intensive industries in the economy: share of gross value added of the energy-intensive industries in GDP.
Electricity and gas prices for medium-sized industrial users: consumption band 500–20 00MWh and 10 000 -100 000 GJ; figures excl. VAT.
Recycling rate of municipal waste: ratio of recycled and composted municipal waste to total municipal waste.
Public R&D for energy or for the environment: government spending on R&D for these categories as % of GDP.
Proportion of GHG emissions covered by EU emissions trading system (ETS) (excluding aviation): based on GHG emissions. (excl. land use, land use change and forestry) as reported by Member States to the European Environment Agency.
Transport energy intensity: final energy consumption of transport activity including international aviation (kgoe) divided by gross value added in transportation and storage sector (in 2010 EUR).
Transport carbon intensity: GHG emissions in transportation and storage sector divided by gross value added in transportation and storage sector (in 2010 EUR).
Energy import dependency: net energy imports divided by gross inland energy consumption incl. consumption of international bunker fuels.
Aggregated supplier concentration index: Herfindahl index covering oil, gas and coal. Smaller values indicate larger diversification and hence lower risk.
Diversification of the energy mix: Herfindahl index covering natural gas, total petrol products, nuclear heat, renewable energies and solid fuels. Smaller values indicate larger diversification.
* European Commission and European Environment Agency - 2018 provisional data.
Source: European Commission and European Environment Agency (Share of GHG emissions covered by ETS); European Commission (Environmental taxes over labour taxes and GDP); Eurostat (all other indicators).

ANNEX D: INVESTMENT GUIDANCE ON JUST TRANSITION FUND 2021-2027 FOR LITHUANIA

Building on the Commission proposal, this Annex **([17])** presents the preliminary Commission services' views on priority investment areas and framework conditions for effective delivery for the 2021-2027 Just Transition Fund investments in Lithuania. These priority investment areas are derived from the broader analysis of territories facing serious socio-economic challenges deriving from the transition process towards a climate-neutral economy of the Union by 2050 in Lithuania, assessed in the report. This Annex provides the basis for a dialogue between Lithuania and the Commission services as well as the relevant guidance for the Member States in preparing their territorial just transition plans, which will form the basis for programming the Just Transition Fund. The Just Transition Fund investments complement those under Cohesion Policy funding for which guidance in the form of Annex D was given in the 2019 Country Report for Lithuania ([18]).

Lithuania's greenhouse gas (GHG) intensity per value added produced is among the highest in the EU due to a generally large energy intensity of the Lithuanian economy (almost twice exceeding the EU average) and to a few highly GHG-intensive industrial installations. These installations are situated in Kaunas, Telsiai and Siauliai Counties and are very important source of employment with almost 4,500 people employed directly and large number working in the supporting businesses.

In line with ambitious climate goals and transition to a carbon neutral economy, the emissions from the GHG-intensive industries would need to be reduced as much as technologically feasible and potential negative social, and economic impacts resulting from this transition mitigated. In order to make the most affected regions more resilient to potential impacts of decarbonisation and industrial transformation, a diversification of economic activities and creation of new business opportunities deserve serious consideration. The smart specialisation strategy ([19]) provides an important framework to set priorities for innovation in support of economic transformation. Based on this preliminary assessment, it appears warranted that the Just Transition Fund concentrates its intervention on these geographical areas.

In order to tackle these transition challenges, priority investment needs have been identified for development and deployment of innovative solutions for efficient and clean production and energy use and ensuring necessary skills for those affected by the transition. Key actions of the Just Transition Fund could target in particular:

- investments in research and innovation activities and fostering transfer of advanced technologies;
- investments in the deployment of technology and infrastructures for affordable clean energy, in greenhouse gas emission reduction, energy efficiency and renewable energy;
- investments in enhancing the circular economy, notably through promoting new circular business models and smarter design for reparability, reuse and remanufacturing;
- upskilling and reskilling of workers.

Emission-intensive industrial sites in the Kaunas, Telsiai and Siauliai counties performing activities listed in Annex I to Directive 2003/87/EC, employ a substantial number of workers and their activity is at risk due to their high greenhouse gas emissions. Support to investments to reduce the emissions could be considered, provided that they achieve a substantial reduction of emissions (going substantially below the relevant benchmarks used for free allocation under Directive 2003/87/EC) and on the condition that the investments are compatible with the European Green Deal.

([17]) This Annex is to be considered in conjunction with the EC proposal for a Regulation of the European Parliament and of the Council on the Just Transition Fund 2021-2027 (COM(2020) 22) and the EC proposal for a Regulation of the European Parliament and of the Council laying down common provisions on the European Regional Development Fund, the European Social Fund Plus, the Cohesion Fund, and the European Maritime and Fisheries Fund and financial rules for those and for the Asylum and Migration Fund, the Internal Security Fund and the Border Management and Visa Instrument (COM(2020) 23)

([18]) SWD(2019) 1014 final

([19]) As defined in Article 2(3) of Regulation EU 1303/2013 (CPR)

In addition, in order to increase the resilience of the affected regions, investment needs have also been identified for the diversification of the local economy. Key actions of the Just Transition Fund could target in particular:

- productive investments in SMEs, including start-ups, leading to economic diversification and reconversion;
- investments in creation of new firms, including through business incubators and consulting services.

ANNEX E: ASSESSMENT OF LITHUANIA'S PROGRESS TOWARDS THE SDGS

Assessment of Lithuania's short-term progress towards the SDGs ([20])

Table E.1 shows the data for Lithuania and the EU-28 for the indicators included in the EU SDG indicator set used by Eurostat for monitoring progress towards the SDGs in an EU context ([21]). As the short-term trend at EU-level is assessed over a 5-year period, both the value at the beginning of the period and the latest available value is presented. The indicators are regularly updated on the SDI dedicated section of the Eurostat website.

Table E.1: **Indicators measuring Lithuania's progress towards the SDGs**

SDG / Sub-theme	Indicator	Unit	Lithuania				EU-28			
			Starting		Latest		Starting		Latest	
			year	value	year	value	year	value	year	value
SDG 1 – No poverty										
Multidimensional poverty	People at risk of poverty or social exclusion	% of population	2013	30.8	2018	28.3	2013	24.6	2018	21.9
	People at risk of income poverty after social transfers	% of population	2013	20.6	2018	22.9	2013	16.7	2018	17.1
	Severely materially deprived people	% of population	2013	16.0	2018	11.1	2013	9.6	2018	5.8
	People living in households with very low work intensity	% of population aged 0 to 59	2013	11.0	2018	9.0	2013	11.0	2018	8.8
	In-work at-risk-of-poverty rate	% of population aged 18 or over	2013	9.1	2018	8.1	2013	9.0	2018	9.5
Basic needs	Population living in a dwelling with a leaking roof, damp walls, floors or foundation or rot in window frames or floor	% of population	2013	19.9	2018	14.8	2013	15.6	2018	13.9
	Self-reported unmet need for medical care	% of population aged 16 or over	2013	3.2	2018	2.2	2013	3.7	2018	2.0
	Population having neither a bath, nor a shower, nor indoor flushing toilet in their household	% of population	2013	12.0	2018	9.1	2013	2.2	2018	1.7
	Population unable to keep home adequately warm	% of population	2013	29.2	2018	27.9	2013	10.7	2018	7.3
	Overcrowding rate	% of population	2013	28.0	2018	22.8	2013	17.0	2018	15.5
SDG 2 – Zero hunger										
Malnutrition	Obesity rate	% of population aged 18 or over	2014	17.3	2017	17.4	2014	15.9	2017	15.2
Sustainable agricultural production	Agricultural factor income per annual work unit (AWU)	EUR, chain linked volumes (2010)	2012	6 827	2017	6 413	2012	14 865	2017	17 304
	Government support to agricultural research and development	million EUR	2013	6.7	2018	8.6	2013	3 048.6	2018	3 242.5
	Area under organic farming	% of utilised agricultural area	2013	5.7	2018	8.1	2013	5.7	2018	7.5
	Gross nitrogen balance on agricultural land	kg per hectare	2010	44	2015	25	2010	49	2015	51
Environmental impacts of agricultural production	Ammonia emissions from agriculture	kg per ha of utilised agricultural area	2012	9.5	2017	8.8	2011	19.7	2016	20.3
	Nitrate in groundwater	mg NO_3 per litre	N/A	:	N/A	:	2012	19.2	2017	19.1
	Estimated soil erosion by water	km^2	2010	11.8	2016	11.5	2010	207 232.2	2016	205 294.5
	Common farmland bird index	index 2000 = 100	N/A	:	N/A	:	2013	83.9	2018	80.7
SDG 3 – Good health and well-being										
Healthy lives	Life expectancy at birth	years	2012	74.1	2017	75.8	2012	80.3	2017	80.9
	Share of people with good or very good perceived health	% of population aged 16 or over	2013	46.3	2018	44.0	2013	67.3	2018	69.2
Health determinants	Smoking prevalence	% of population aged 15 or over	2012	30	2017	29	2014	26	2017	26
	Obesity rate	% of population aged 18 or over	2014	17.3	2017	17.4	2014	15.9	2017	15.2
	Population living in households considering that they suffer from noise	% of population	2013	14.1	2018	14.8	2013	18.8	2018	18.3
	Exposure to air pollution by particulate matter ($PM_{2.5}$)	$\mu g/m^3$	2012	20.3	2017	22.8	2012	16.8	2017	14.1
Causes of death	Death rate due to chronic diseases	number per 100 000 persons aged less than 65	2011	258.7	2016	224.4	2011	132.5	2016	119.0
	Death rate due to tuberculosis, HIV and hepatitis	number per 100 000 persons	2011	9.0	2016	8.2	2011	3.4	2016	2.6
	People killed in accidents at work	number per 100 000 employed persons	2012	4.98	2017	2.77	2012	1.91	2017	1.65
	People killed in road accidents	number of killed people	2012	302	2017	191	2012	28 231	2017	25 257
Access to health care	Self-reported unmet need for medical care	% of population aged 16 or over	2013	3.2	2018	2.2	2013	3.7	2018	2.0

(Continued on the next page)

([20]) Data extracted on 9 February 2020 from the Eurostat database (official EU SDG indicator set; see https://ec.europa.eu/eurostat/web/sdi/main-tables).

([21]) The EU SDG indicator set is aligned as far as appropriate with the UN list of global indicators, noting that the UN indicators are selected for global level reporting and are therefore not always relevant in an EU context. The EU SDG indicators have strong links with EU policy initiatives.

Table (continued)

SDG / Sub-theme	Indicator	Unit	Lithuania				EU-28			
			Starting		Latest		Starting		Latest	
			year	value	year	value	year	value	year	value
SDG 4 – Quality education										
Basic education	Early leavers from education and training	% of the population aged 18 to 24	2013	6.3	2018	4.6	2013	11.9	2018	10.6
	Participation in early childhood education	% of the age group between 4-years-old and the starting age of compulsory education	2012	84.8	2017	91.9	2012	94.0	2017	95.4
	Underachievement in reading	% of 15-year-old students	2015	25.1	2018	24.4	2015	19.7	2018	21.7
	Young people neither in employment nor in education and training	% of population aged 15 to 29	2013	13.7	2018	9.3	2013	15.9	2018	12.9
Tertiary education	Tertiary educational attainment	% of the population aged 30 to 34	2013	51.3	2018	57.6	2013	37.1	2018	40.7
	Employment rate of recent graduates	% of population aged 20 to 34	2013	75.5	2018	84.7	2013	75.4	2018	81.7
Adult education	Adult participation in learning	% of population aged 25 to 64	2013	5.9	2018	6.6	2013	10.7	2018	11.1
SDG 5 – Gender equality										
Gender-based violence	Physical and sexual violence to women experienced within 12 months prior to the interview	% of women	N/A	:	2012	6	N/A	:	2012	8
Education	Gender gap for early leavers from education and training	percentage points, persons aged 18–24	2013	3.1	2018	3.1	2013	3.4	2018	3.3
	Gender gap for tertiary educational attainment	percentage points, persons aged 30–34	2013	18.9	2018	20.7	2013	8.5	2018	10.1
	Gender gap for employment rate of recent graduates	percentage points, persons aged 20–34	2013	2.7	2018	4.2	2013	4.4	2018	3.4
Employment	Gender pay gap in unadjusted form	% of average gross hourly earnings of men	2012	11.9	2017	15.2	2012	17.4	2017	16.0
	Gender employment gap	percentage points, persons aged 20–64	2013	2.6	2018	2.3	2013	11.7	2018	11.6
	Gender gap in inactive population due to caring responsibilities	percentage points, persons aged 20–64	2013	16.6	2018	18.3	2013	25.5	2018	27.1
Leadership positions	Seats held by women in national parliaments and governments	% of seats	2014	23.6	2019	23.2	2014	27.2	2019	31.5
	Positions held by women in senior management	% of board members	2014	16.5	2019	12.0	2014	20.2	2019	27.8
SDG 6 – Clean water and sanitation										
Sanitation	Population having neither a bath, nor a shower, nor indoor flushing toilet in their household	% of population	2013	12.0	2018	9.1	2013	2.2	2018	1.7
	Population connected to at least secondary wastewater treatment	% of population	2012	63.1	2017	73.8	N/A	:	N/A	:
Water quality	Biochemical oxygen demand in rivers	mg O_2 per litre	2012	2.11	2017	2.14	2012	2.06	2017	2.00
	Nitrate in groundwater	mg NO_3 per litre	N/A	:	N/A	:	2012	19.2	2017	19.1
	Phosphate in rivers	mg PO_4 per litre	2012	0.043	2017	0.080	2012	0.096	2017	0.093
	Inland water bathing sites with excellent water quality	% of bathing sites with excellent water quality	2013	84.4	2018	84.2	2013	76.5	2018	80.8
Water use efficiency	Water exploitation index	% of long term average available water (LTAA)	2012	3.0	2017	1.3	N/A	:	N/A	:
SDG 7 – Affordable and clean energy										
Energy consumption	Primary energy consumption	million tonnes of oil equivalent (Mtoe)	2013	5.8	2018	6.3	2013	1 577.4	2018	1 551.9
	Final energy consumption	million tonnes of oil equivalent (Mtoe)	2013	4.8	2018	5.6	2013	1 115.5	2018	1 124.1
	Final energy consumption in households per capita	kgoe	2013	496	2018	533	2013	605	2018	552
	Energy productivity	EUR per kgoe	2013	4.7	2018	4.9	2013	7.6	2018	8.5
	Greenhouse gas emissions intensity of energy consumption	index 2000 = 100	2012	112.6	2017	102.5	2012	91.5	2017	86.5
Energy supply	Share of renewable energy in gross final energy consumption	%	2013	22.7	2018	24.4	2013	15.4	2018	18.0
	Energy import dependency	% of imports in gross available energy	2013	78.5	2018	77.2	2013	53.2	2018	55.7
Access to affordable energy	Population unable to keep home adequately warm	% of population	2013	29.2	2018	27.9	2013	10.7	2018	7.3

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Table (continued)

SDG / Sub-theme	Indicator	Unit	Lithuania				EU-28			
			Starting		Latest		Starting		Latest	
			year	value	year	value	year	value	year	value
SDG 8 – Decent work and economic growth										
Sustainable economic growth	Real GDP per capita	EUR per capita, chain-linked volumes (2010)	2013	10 780	2018	13 310	2013	25 750	2018	28 280
	Investment share of GDP	% of GDP	2013	18.5	2018	20.6	2013	19.5	2018	20.9
	Resource productivity	EUR per kg, chain-linked volumes (2010)	2013	0.69	2018	0.66	2013	1.98	2018	2.04
Employment	Young people neither in employment nor in education and training	% of population aged 15 to 29	2013	13.7	2018	9.3	2013	15.9	2018	12.9
	Employment rate	% of population aged 20 to 64	2013	69.9	2018	77.8	2013	68.4	2018	73.2
	Long-term unemployment rate	% of active population	2013	5.1	2018	2.0	2013	5.1	2018	2.9
	Gender gap in inactive population due to caring responsibilities	percentage points, persons aged 20–64	2013	16.6	2018	18.3	2013	25.5	2018	27.1
Decent work	People killed in accidents at work	number per 100 000 employed persons	2012	4.98	2017	2.77	2012	1.91	2017	1.65
	In-work at-risk-of-poverty rate	% of population	2013	9.1	2018	8.1	2013	9	2018	9.5
SDG 9 – Industry, innovation and infrastructure										
R&D and innovation	Gross domestic expenditure on R&D	% of GDP	2013	0.95	2018	0.88	2013	2.01	2018	2.12
	Employment in high- and medium-high technology manufacturing and knowledge-intensive services	% of total employment	2013	34.9	2018	36.8	2013	45.0	2018	46.1
	R&D personnel	% of active population	2013	0.77	2018	0.83	2013	1.15	2018	1.36
	Patent applications to the European Patent Office (EPO)	number	2012	33	2017	22	2012	56 772	2017	54 649
Sustainable transport	Share of buses and trains in total passenger transport	% of total inland passenger-km	2012	8.1	2017	8.9	2012	17.2	2017	16.7
	Share of rail and inland waterways in total freight transport	% of total inland freight tonne-km	2012	70.3	2017	66.7	2012	25.4	2017	23.3
	Average CO2 emissions per km from new passenger cars	g CO_2 per km	2013	139.8	2018	128.9	2014	123.4	2018	120.4
SDG 10 – Reduced inequalities										
Inequalities within countries	Relative median at-risk-of-poverty gap	% distance to poverty threshold	2013	24.8	2018	28.2	2013	23.8	2018	24.6
	Income distribution	income quintile share ratio	2013	6.1	2018	7.1	2013	5.0	2018	5.2
	Income share of the bottom 40 % of the population	% of income	2013	18.9	2018	17.5	2013	21.1	2018	21.0
	People at risk of income poverty after social transfers	% of population	2013	20.6	2018	22.9	2013	16.7	2018	17.1
Inequalities between countries	Purchasing power adjusted GDP per capita	Real expenditure per capita (in PPS)	2013	19 600	2018	24 800	2013	26 800	2018	31 000
	Adjusted gross disposable income of households per capita	Purchasing power standard (PPS) per inhabitant	2013	14 930	2018	18 391	2013	20 392	2018	22 824
	Financing to developing countries	million EUR, current prices	2012	:	N/A	:	2012	147 962	2017	155 224
	Imports from developing countries	million EUR, current prices	2013	2 284	2018	3 411	2013	817 475	2018	1 013 981
Migration and social inclusion	Asylum applications	Positive first instance decisions, per million inhabitants	2013	19	2018	48	2013	213	2018	424
SDG 11 – Sustainable cities and communities										
Quality of life in cities and communities	Overcrowding rate	% of population	2013	28.0	2018	22.8	2013	17.0	2018	15.5
	Population living in households considering that they suffer from noise	% of population	2013	14.1	2018	14.8	2013	18.8	2018	18.3
	Exposure to air pollution by particulate matter ($PM_{2.5}$)	µg/m^3	2012	20.3	2017	22.8	2012	16.8	2017	14.1
	Population living in a dwelling with a leaking roof, damp walls, floors or foundation or rot in window frames or floor	% of population	2013	19.9	2018	14.8	2013	15.6	2018	13.9
	Population reporting occurrence of crime, violence or vandalism in their area	% of population	2013	6.4	2018	3.7	2013	14.5	2018	12.7
Sustainable mobility	People killed in road accidents	number of killed people	2012	302	2017	191	2012	28 231	2017	25 257
	Share of buses and trains in total passenger transport	% of total inland passenger-km	2012	8.1	2017	8.9	2012	17.2	2017	16.7
Adverse environmental impacts	Settlement area per capita	m^2	2009	898.9	2015	1 053.1	2012	625.0	2015	653.7
	Recycling rate of municipal waste	% of total waste generated	2013	27.8	2018	52.5	2013	41.7	2018	47.0
	Population connected to at least secondary wastewater treatment	% of population	2012	63.1	2017	73.8	N/A	:	N/A	:

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Table (continued)

SDG / Sub-theme	Indicator	Unit	Lithuania				EU-28			
			Starting		Latest		Starting		Latest	
			year	value	year	value	year	value	year	value
SDG 12 – Responsible consumption and production										
Decoupling environmental impacts from economic growth	Consumption of toxic chemicals	million tonnes	N/A	:	N/A	:	2013	300.3	2018	313.9
	Resource productivity	EUR per kg, chain-linked volumes (2010)	2013	0.69	2018	0.66	2013	1.98	2018	2.04
	Average CO2 emissions per km from new passenger cars	g CO_2 per km	2013	139.8	2018	128.9	2014	123.4	2018	120.4
	Energy productivity	EUR per kgoe	2013	4.7	2018	4.9	2013	7.6	2018	8.5
Energy consumption	Primary energy consumption	million tonnes of oil equivalent (Mtoe)	2013	5.8	2018	6.3	2013	1 577.4	2018	1 551.9
	Final energy consumption	million tonnes of oil equivalent (Mtoe)	2013	4.8	2018	5.6	2013	1 115.5	2018	1 124.1
	Share of renewable energy in gross final energy consumption	%	2013	22.7	2018	24.4	2013	15.4	2018	18.0
Waste generation and management	Circular material use rate	% of material input for domestic use	2012	3.8	2017	4.8	2012	11.5	2017	11.7
	Generation of waste excluding major mineral wastes	kg per capita	2012	993	2016	1 223	2012	1 716	2016	1 772
	Recycling rate of waste excluding major mineral wastes	% of total waste treated	2012	51	2016	68	2012	55	2016	57
SDG 13 – Climate action										
Climate mitigation	Greenhouse gas emissions	index 1990 = 100	2012	44.1	2017	42.7	2012	82.1	2017	78.3
	Greenhouse gas emissions intensity of energy consumption	index 2000 = 100	2012	112.6	2017	102.5	2012	91.5	2017	86.5
	Primary energy consumption	million tonnes of oil equivalent (Mtoe)	2013	5.8	2018	6.3	2013	1 577.4	2018	1 551.9
	Final energy consumption	million tonnes of oil equivalent (Mtoe)	2013	4.8	2018	5.6	2013	1 115.5	2018	1 124.1
	Share of renewable energy in gross final energy consumption	%	2013	22.7	2018	24.4	2013	15.4	2018	18.0
	Average CO2 emissions per km from new passenger cars	g CO_2 per km	2013	139.8	2018	128.9	2014	123.4	2018	120.4
Climate impacts	European mean near surface temperature deviation	temperature deviation in °C, compared with the 1850–1899 average	N/A	:	N/A	:	2013	1.4	2018	2.1
	Climate-related economic losses	EUR billion, in 2017 values	N/A	:	N/A	:	2012	2 719	2017	2 649
	Mean ocean acidity	pH value	N/A	:	N/A	:	2013	8.06	2018	8.06
Support to climate action	Contribution to the international 100bn USD commitment on climate related expending	EUR million, current prices	N/A	:	2017	1.5	N/A	:	2017	20 388.7
SDG 14 – Life below water										
Ocean health	Coastal water bathing sites with excellent water quality	% of bathing sites with excellent water quality	2013	81.3	2018	87.5	2013	85.5	2018	87.1
	Mean ocean acidity	pH value	N/A	:	N/A	:	2013	8.06	2018	8.06
Marine conservation	Surface of marine sites designated under NATURA 2000	km^2	2013	674	2018	1 563	2013	251 566	2018	551 899
Sustainable fisheries	Estimated trends in fish stock biomass	index 2003 = 100	N/A	:	N/A	:	2012	110.0	2017	136.0
	Assessed fish stocks exceeding fishing mortality at maximum sustainable yield (Fmsy)	% of stocks exceeding fishing mortality at maximum sustainable yield ($F>F_{MSY}$)	N/A	:	N/A	:	2012	52.9	2017	42.7
SDG 15 – Life on land										
Ecosystems status	Share of forest area	% of total land area	2009	36.3	2015	38.3	2012	40.3	2015	41.6
	Biochemical oxygen demand in rivers	mg O_2 per litre	2012	2.11	2017	2.14	2012	2.06	2017	2.00
	Nitrate in groundwater	mg NO_3 per litre	N/A	:	N/A	:	2012	19.2	2017	19.1
	Phosphate in rivers	mg PO_4 per litre	2012	0.043	2017	0.080	2012	0.096	2017	0.093
Land degradation	Soil sealing index	index 2006 = 100	2009	100.9	2015	102.9	2009	101.7	2015	104.2
	Estimated soil erosion by water	km^2	2010	11.8	2016	11.5	2010	207 232.2	2016	205 294.5
	Settlement area per capita	m^2	2009	898.9	2015	1 053.1	2012	625.0	2015	653.7
Biodiversity	Surface of terrestrial sites designated under NATURA 2000	km^2	2013	7 890	2018	8 103	2013	787 766	2018	784 252
	Common bird index	index 2000 = 100	N/A	:	N/A	:	2013	94.7	2018	93.5
	Grassland butterfly index	index 2000 = 100	N/A	:	N/A	:	2012	72.2	2017	74.1

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SDG / Sub-theme	Indicator	Unit	Lithuania				EU-28			
			Starting		Latest		Starting		Latest	
			year	value	year	value	year	value	year	value
SDG 16 – Peace, justice and strong institutions										
Peace and personal security	Death rate due to homicide	number per 100 000 persons	2011	5.1	2016	3.6	2011	0.9	2016	0.6
	Population reporting occurrence of crime, violence or vandalism in their area	% of population	2013	6.4	2018	3.7	2013	14.5	2018	12.7
	Physical and sexual violence to women experienced within 12 months prior to the interview	% of women	N/A	:	2012	6	N/A	:	2012	8
Access to justice	General government total expenditure on law courts	million EUR	2012	89	2017	111	2012	48 381	2017	51 027
	Perceived independence of the justice system	% of population	2016	49	2019	49	2016	52	2019	56
Trust in institutions	Corruption Perceptions Index	score scale of 0 (highly corrupt) to 100 (very clean)	2013	57	2018	59	N/A	:	N/A	:
	Population with confidence in the EU Parliament	% of population	2013	53	2018	57	2013	39	2018	48
SDG 17 – Partnerships for the goals										
Global partnership	Official development assistance as share of gross national income	% of GNI	2013	0.11	2018	0.11	2013	0.43	2018	0.48
	EU financing to developing countries	million EUR, current prices	2012	:	N/A	:	2012	147 962	2017	155 224
	EU imports from developing countries	million EUR, current prices	2013	2 284	2018	3 411	2013	817 475	2018	1 013 981
Financial governance within the EU	General government gross debt	% of GDP	2013	38.7	2018	34.1	2013	86.3	2018	80.4
	Shares of environmental and labour taxes in total tax revenues	% of total tax revenues	2013	6.2	2018	6.6	2013	6.4	2018	6.1

Source: Eurostat

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