



REPUBLIC OF LITHUANIA

SELECTED ISSUES

May 2016

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April 28, 2016

Approved By
European Department

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INEQUALITY AND INCOME DISTRIBUTION IN LITHUANIA IN AN INTERNATIONAL COMPARISON: TRENDS, CAUSES, AND POLICIES¹

Lithuania has recovered well from the 2008–09 crisis and developmental indicators look reasonably good, but it features one of the highest levels of income inequality in the EU. High levels of inequality, especially widening inequality, may not only be undesirable from a social point of view, but may also have important implications for economic growth and macroeconomic stability. This paper documents the main characteristics and causes of Lithuania’s inequality differentials relative to peers, and suggests policies that may reduce them. Some of these policies would raise incomes by boost growth, such as measures to bring down structural unemployment. A second set of policies—notably a reform of the tax and benefit system—would make faster and larger inroads into inequality though redistribution, but would require deeper and more comprehensive reforms. Individual measures could be combined into a budget neutral package.

A. Why do we worry about inequality?

1. Mild inequality creates important incentives for people to invest in physical and human capital and increase their labor effort, but excessive inequality can undermine economic performance. No country has ever come close to reaching complete equality—suggesting a revealed tolerance by societies for at least some degree of inequality. However, if inequality becomes too high and has a tendency to increase, it can undermine equality of opportunity and economic potential. In this case, important social, cultural, but also economic tradeoffs come into play. The literature has itemized four key reasons why high and rising inequality matters for the economy.

2. First, inequality prevents lower income groups from affording key goods and services—a phenomenon that becomes more pervasive the greater the degree of income inequality in a society.² Sharp increases in relative prices for housing, education and health care over the past 20 years have made them increasingly unaffordable for those at the lower end of the income distribution in many countries. While this can lead to low aggregate social outcomes, it can also lead to inefficiencies in public spending because untargeted, inefficient rationing may occur when public resources are insufficient to meet increased demand from those unable to afford privately provided resources, and also because disparities in care and education can ultimately be

¹ Prepared by Nicoletta Batini with research assistance from Nhu Nguyen.

² See Bernstein (2014).

more expensive to address in the longer run. Crucially, there is now considerable empirical evidence showing that the inability of many to secure basic needs tends to reduce potential growth.³

3. Second, inequality makes low-income earners financially fragile. Many people at the bottom of the income and wealth distributions have little or no economic cushion to see them through an unexpected expense or even short period of unemployment.⁴ Financial fragility inhibits the efficient smoothing of consumption over the life cycle and low liquidity can make it costly for households to respond to even moderate shocks to income. When this hits many households and small companies at the same time—as was the case in Lithuania during the economic crisis of 2008–09—it can become systemic, affecting both trend growth and the level of potential output.

4. Third, economic inequality tends to perpetuate itself because it often comes bundled with inequality of opportunity and political inequality. Prosperity depends on innovation, and innovative potential may be wasted if the playing field is uneven for many. Economic inequality can also lead to greater political inequality. Those politically empowered may use their influence to gain economic advantage by tapping and securing inefficient rent-seeking activities, thereby increasing economic inequality yet further in a vicious circle.⁵ This can stifle competition, restrain technological advance and growth, and lead to inefficient resource allocation.

5. Last but not least, inequality can be a cause and a consequence of emigration.⁶ Millions of workers and their families move each year across borders and across continents, seeking to escape poverty at home or to find better opportunities abroad—a very relevant issues for Lithuania and the other Baltic states, which feature the highest emigration rates in the EU. While this may benefit migrants themselves through better job opportunities and higher wages, migration ‘after-effects’—remittances and return migration—can increase interpersonal and inter-household inequality in originating countries. Because migrants come from the most productive age groups, unequal power structures within sending countries go unchallenged and economic performance is sapped more generally (IMF, forthcoming). Conversely, income inequality can hasten emigration if people come to see their opportunities at home as limited.

³ Education, health care, and stable and affordable housing lead to self-sufficiency, higher TFP, larger and more productive labor forces, and thus stronger economic growth and greater macroeconomic stability. For the relationship between education and growth, see, for example, Aghion (2009) and Hanusheck and Woessmann (2010). For the relationship between healthcare and growth see, among others, Lennox and Ehrenpreis (2003). For the relationship between stable housing and home ownership and growth see, for example, Wardrip (2011).

⁴ See Lusardi, Schneider, and Tufano (2011).

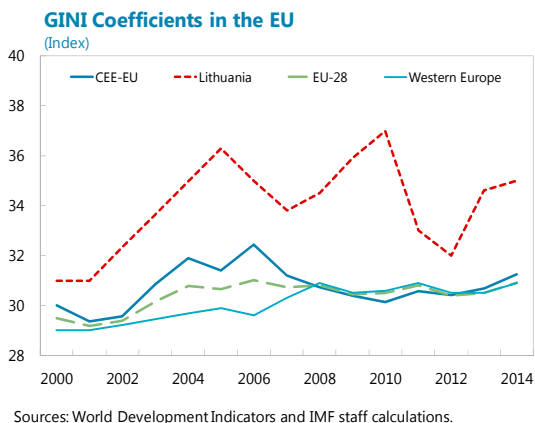
⁵ See Acemoglu and Robinson (2014).

⁶ See Black, Natali, and Skinner (2005), and Vargas-Silva (2011).

B. The Haves and the Have Nots: How Unequal is Lithuania?

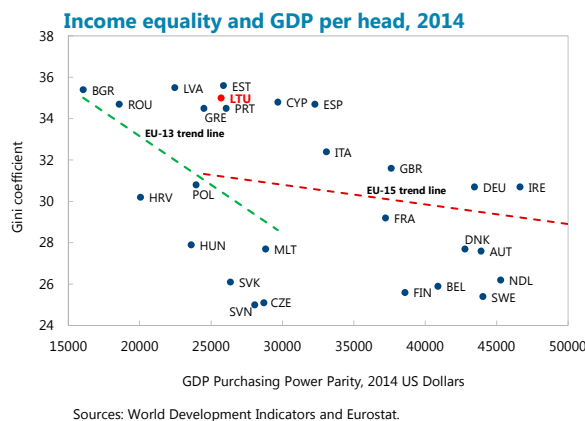
6. Similarly to the other Baltic States, Lithuania’s economic transition to a market economy has coincided with a much larger increase in inequality than in other CEE countries.⁷

While income inequality, measured with the Gini index after taxes and transfers,⁸ increased sharply in all Baltic States during the first years of transition—an increase that was much larger than in other CEE states due to the more severe decline in output in the region—inequality in Lithuania kept rising through the mid-2000s, until the economic boom and associated steep fall in unemployment briefly reduced it. But the crisis of 2008–09 erased these gains, and inequality has hovered at high levels since then. As a result, Lithuania remains today the fourth most income-unequal EU and CEE country, after Bulgaria, Estonia, and Latvia.⁹



Sources: World Development Indicators and IMF staff calculations.

7. Moreover, while poorer countries do tend to report higher levels of inequality than do wealthier ones, Lithuania’s income inequality is high even after controlling for its level of economic development. Among the New Member States, Hungary, Slovakia, the Czech Republic, and Slovenia have lower levels of inequality than would be expected on the basis of their per capita GDP. Lithuania, Latvia, and Estonia, on the other hand, have higher levels of inequality relative to their per capita



Sources: World Development Indicators and Eurostat.

⁷ In what follows Lithuania is compared to three main country groupings: the EU-28, the EU-15, which corresponds to Western Europe, and the CEE which comprises countries in Central and Eastern Europe that are part of the EU. The CEE group excludes Lithuania to avoid biasing the comparison up or down in the direction of Lithuania’s inequality characteristics.

⁸ For definitions of the measures of inequality indicators used in this chapter see Box 1.

⁹ Despite its high inequality, Lithuania’s scores very well in the UN’s Human Development Index (37 out of 188 countries) on 2014 data. When the value is discounted for inequality, the HDI falls due to inequality in the distribution of the HDI dimension indices, but by less than the average of the “Very High HDI” group. (Estonia and Latvia show smaller and larger losses due to inequality, respectively.) Finally, Lithuania scores relatively well on the Gender Inequality Index (“GI”, which reflects gender-based inequalities in three dimensions—reproductive health, empowerment, and economic activity) displaying a value of 0.125, ranking 23rd out of 155 countries in the 2014 index.

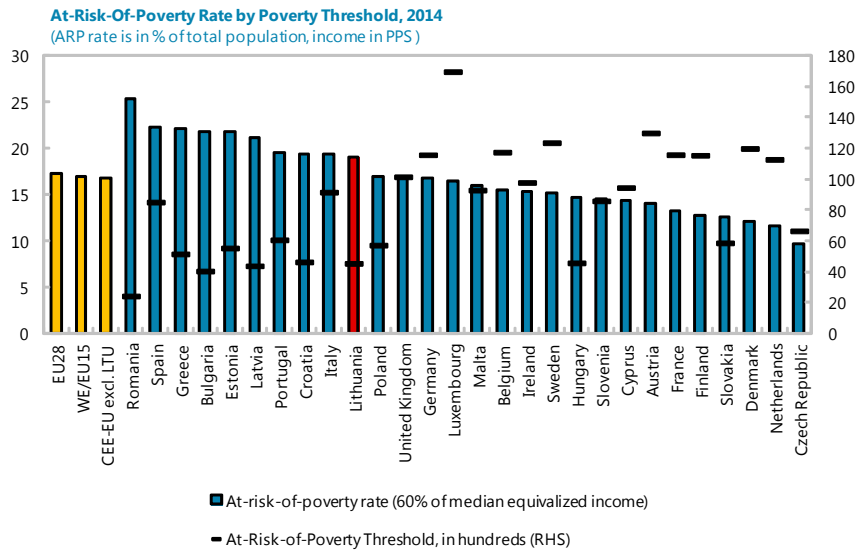
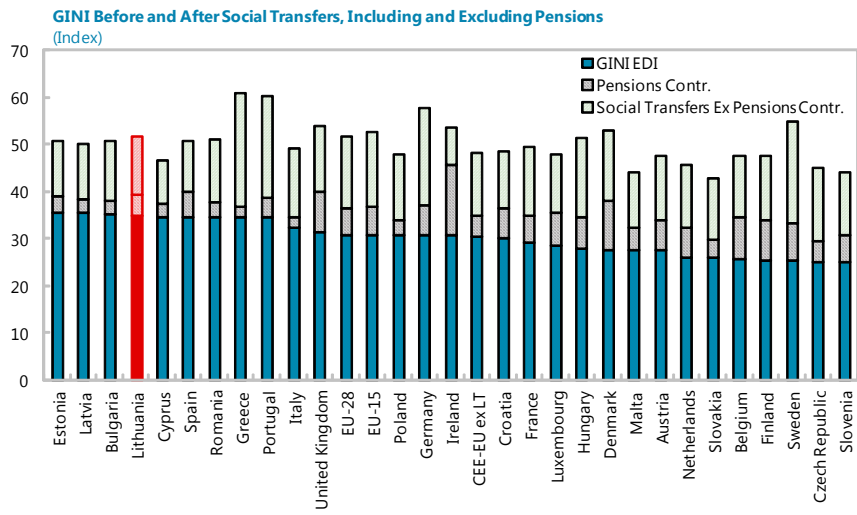
GDP. Among the EU-15 countries Finland and Sweden have a lower degree of inequality than their GDP per head would suggest, while Ireland, the UK, and Spain have higher degrees of inequality.

8. Inequality in Lithuania is mainly driven by the top and bottom ends of the income distribution, but income is more heterogeneous than in peers also among those in the middle of the distribution. In the EU, the top 20 percent of the population in terms of equivalized disposable income received 5 times as much income as the bottom 20 percent on average. The EU-15 and CEE displayed similar ratios. But in Lithuania, this ratio was larger at 6.1—close to the high-end of the EU-28 distribution and similar to that in Latvia, Portugal, and Spain. The same pattern emerges when taking ratios of the tenth and the first income deciles, with Lithuania’s distribution again displaying more skewness than observed in the EU-28, EU-15, or in CEE (Figure 1). Moreover, income is also somewhat more unequally distributed among all intermediate levels of the distribution than in peers, with the bottom half of the distribution accounting for only about ¼ of total income compared to about ⅓ in both CEE and the EU-15.

9. Accordingly, one fifth or more of the Lithuanian population was estimated to be at-risk-of-poverty (ARP). This rate is some 11 percent above the EU-28 average and considerably higher than in other CEE countries, such as the Czech Republic, despite Lithuania’s at-risk-of poverty threshold being lower in absolute terms.¹⁰ In addition, the ARP rate has been increasing in Lithuania, while in the EU-28 as a whole it remained broadly stable during 2011–13, on account of rising social transfers in the wake of the global financial crisis.

¹⁰ The threshold is set at 60 percent of the national median equivalized disposable income after social transfers and is expressed in purchasing power standards (PPS) in order to take account of the differences in the cost of living across countries. In 2014, this threshold varied considerably among the EU Member States in 2013 from PPS 2,361 in Romania, PPS 3,540 in Bulgaria and PPS 3,868 in Latvia to a level between PPS 11,507 and PPS 12,542 in Finland, France, the Netherlands, Denmark, Germany, Belgium, Sweden, and Austria, with Luxembourg at the top at PPS 16,818.

Figure 1. Gini Indices and At-Risk-of-Poverty Rates



Sources: Eurostat and IMF staff calculations.

Box 1. Measuring Inequality

The most widely used measure for income inequality is the **Gini coefficient**. The Gini coefficient measures the area between the Lorenz curve (which plots the cumulative distribution of income - the percentage of income going to a given percentage of the population, when the latter is ranked according to income levels) and the line of complete equality (the 45-degree line, where a given percentage of income goes to the same percentage of population). The maximum possible value of the Gini coefficient is 1 (when one individual has all the income in a country), while the lowest value is 0 (when everyone has the same income). In Eurostat data, the Gini coefficient is based on the equivalized disposable income of each individual.

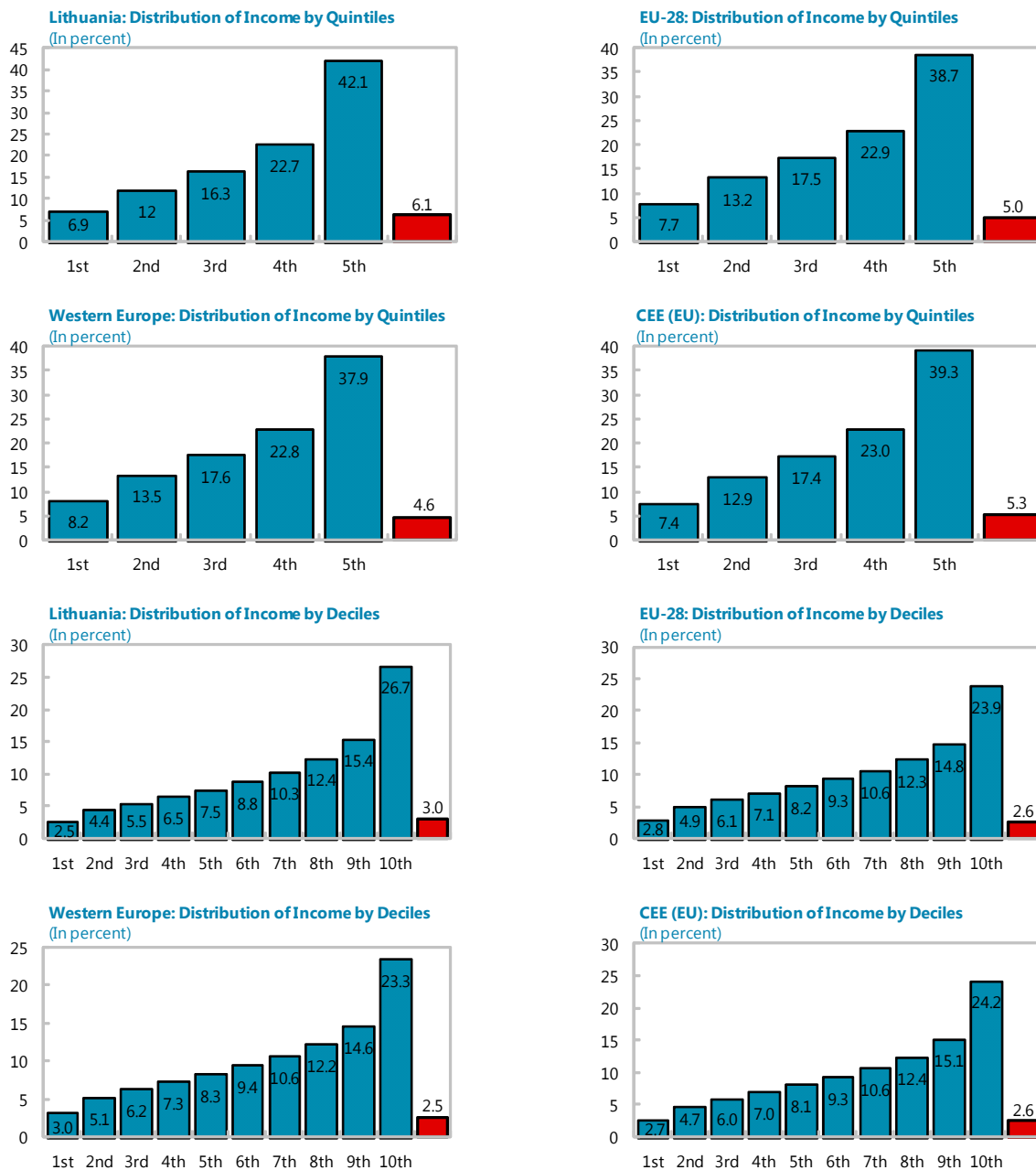
The **equivalized disposable income** is the total income of a household, after tax and other deductions, that is available for spending or saving, divided by the number of household members converted into equalized adults; household members are equalized or made equivalent by weighting each according to their age, using the so-called modified OECD equivalence scale. The equivalized disposable income is calculated adding up all monetary incomes received from any source by each member of a household, and adding/deducting net taxes. In order to reflect differences in a household's size and composition, the total (net) household income is divided by the number of 'equivalent adults', using a standard (equivalence) scale: the modified OECD scale. The resulting figure is called the equivalized disposable income and is attributed equally to each member of the household. For poverty indicators, the equivalized disposable income is calculated from the total disposable income of each household divided by the equivalized household size. The income reference period is a fixed 12-month period (such as the previous calendar or tax year).

In addition to the Gini, several other inequality measures have been developed by researchers. The **income quintile share ratio** or the **S80/S20 ratio** is a measure of the inequality of income distribution. It is calculated as the ratio of total income received by the 20 percent of the population with the highest income (the top quintile) to that received by the 20 percent of the population with the lowest income (the bottom quintile). All incomes are computed as equivalized disposable income.

Other measures include the **squared coefficient of variation** (SCV), the mean logarithmic deviation (MLD), the **Theil-index** and the **Atkinson-indices**. These tend usually to show very similar rankings to Gini. The **at-risk-of-poverty rate** is the share of people with an equivalized disposable income (after social transfer) below the at-risk-of-poverty threshold, which is set at 60 percent of the national median equivalized disposable income after social transfers. This indicator does not measure wealth or poverty, but low income in comparison to other residents in that country, which does not necessarily imply a low standard of living.

The **relative median income ratio** is defined as the ratio of the median equivalized disposable income of people aged above 65 to the median equivalized disposable income of those aged below 65.

Figure 2. Distribution of Income by Quintiles and Deciles and Income Share Ratios



Sources: Eurostat and IMF staff calculations.

Note: Blue bars indicate quintiles and deciles for respective country(ies). Red bars indicate income share ratios. For quintile charts, the ratio is calculated dividing the 5th quintile by the 1st quintile of the income distribution. For the deciles charts, the ratio is calculated dividing the 10th decile by the 1st decile of the income distribution.

Throughout the panel, income is measured as equivalized disposable income in Purchasing Power Standards (PPS).

10. Dissecting inequality by sources of income shows that employee and self-employment earnings are the main drivers.¹¹

- *Employee earnings.* Lithuania showed one of the highest degrees of household earnings inequality in the EU-28.^{12,13} While the distribution of gross earnings among full-time employees was even less equal elsewhere in Europe (notably Latvia and the UK), inequality in the distribution of earnings among households—what ultimately matters for income inequality as households are assumed to share income from employment equally between their members—was among the highest.
- *Self-employment.* Income from this source is more unequally distributed in all countries than is income from dependent employment. But in Lithuania it is relatively more unequally distributed than elsewhere, and it has a somewhat higher share in total income.
- *Capital.* Wealth and capital income are unlikely to play a central role in explaining Lithuania's relatively high income inequality.¹⁴ According to the 2015 Credit Suisse Global Wealth Report,¹⁵ the wealth Gini for Lithuania is high at 67.5 percent, but not as high as elsewhere, including some of the most egalitarian EU countries such as Denmark and Sweden. Moreover, in Lithuania income from wealth is a smaller share in total income than in other countries and hence has a

¹¹ Based on 2012 data in the European Commission's Social Situation Monitor.

¹² Together with Ireland, Spain, and Latvia, measured on an annual basis, showing on latest data (2012) a Gini of 0.42 versus an EU-28 average Gini of 0.35.

¹³ This, however, does not take account of the fact that some households do not have income from employment at all, as no one of working age is in work. The proportion of people, who live in work-poor households, was among the largest in Lithuania, after Ireland, Greece, Latvia, and Spain. Between 2008 and 2012, the share of those living in low work intensity households increased in most countries, and considerably so in countries like Lithuania, the other Baltic states (but also Spain, Ireland, and Greece) where the economic crisis brought about an important fall in employment rates.

¹⁴ While non-wage private sector income has increased substantially in the five years following the economic transition, the privatization process had mixed effects on wealth inequality in Lithuania. Land redistribution was quite successful after a sweeping land reform, bringing land use by owners from 3 to 85 percent). However, non-land capital redistribution, ensuing after three reform phases, left most of the population excluded because these people were mainly passive during the discussion of privatization of the enterprises (Maldeikis et al., 2012). While recent data on the distribution of net worth for Lithuania is scant, as a result of these legacies and of the general tendency of wealth concentration to be an order of magnitude larger than that of income (Piketty, 2014), inequality in wealth remains today potentially more extreme than in income, in line with findings for other countries (IMF, 2015a).

¹⁵ Evidence on the distribution of wealth between households is provided by two international studies on wealth inequality. The Davies et al. (2008) study assembles estimates clustered around the year 2000. The sources of these data are mostly household surveys, but there are three from wealth registers (Denmark, Sweden, and Switzerland) and two from estate multiplier estimates (France and the UK). The Luxembourg Wealth Study (LWS) is a data archive of household surveys, the goal of which is to harmonize wealth and income data in order to provide a definition of wealth that is comparable across countries. None of these studies comprises data for the Baltic States. However, over the past 5 years Credit Suisse has published a report on the world global wealth, which includes Lithuania alongside the other two Baltic States. Specifically, the reports focus on the distribution within and across nations of individual net worth defined as the marketable value of financial assets plus non-financial assets (principally housing and land) less debt.

lower impact on overall income distribution. One explanation for Lithuania's relatively low wealth inequality is that not enough time has passed for sizable inequalities to accumulate. Another likely explanation is that privatization process had mixed effects on wealth inequality in Lithuania, the redistribution of land and real estate was relatively equitable implying, in the majority of cases, a transfer of property rights from the state to individual households so that, on average, land and real estate use by owners is above 75 percent.

11. Upward income mobility is lower than in other countries, while downward income mobility is higher. Longitudinal data allow monitoring income mobility, i.e., how people change their position on the income distribution scale over time. Looking at the income transitions in 2009 and 2013, two years that well represent the crisis and post-crisis periods, two key points emerge. First, as one would expect, in 2009 more people moved down one decile (about 21 percent of the population) than up one decile (about 16 percent of the population) in Lithuania.¹⁶ Downward mobility also dominated at the EU level. But in contrast to balanced development in the EU in 2013, in Lithuania again more people moved down than up (10 versus 18 percent). Second, while overall income mobility in Lithuania was generally comparable to that in EU peers, it fell considerably behind in 2013. This could indicate that the deep crisis may have left longer legacies, for example by creating lasting difficulties to reintegrate into the labor market for those that had lost their jobs.

12. Dissecting inequality along a number of population characteristics shows that employment status, age, and gender are more important drivers than elsewhere in Europe (Figure 3).

- *Employment status.* In Lithuania, the median income of the unemployed is only $\frac{1}{3}$ of that for the whole population—a much worse situation than in the EU-28, EU-15, or CEE. As a result, Lithuania—together with the other two Baltic States, Hungary, Romania, and Luxembourg—is one of the six EU member states where more than half of the unemployed were at-risk-of-poverty in 2014. Retirees are also considerably worse off compared to their EU peers. While retirees in the EU-28, EU-15, and CEE command a medium income similar to that of the population at large, retirees in Lithuania have $\frac{1}{3}$ less. Consequently, more than one in five Lithuanian retirees is at risk of poverty compared to one in seven in the EU-28.
- *Age.* The median income of working-age Lithuanians exceeds that of those under 16 and over 65 years by a larger margin than elsewhere in Europe. While the median young and the median old tend to have lower incomes than those aged 16–64 throughout the EU, income inequality by

¹⁶ The statistics reported here indicate the percentage change in the total population that moved up or down one decile in the income distribution of income (“transition of income within one year by decile”, EU-SILC by Eurostat). People can change their position on the income distribution scale over time, and can belong to different deciles or quintiles. This can be related also to how the financial situation of the other people living in the same country changes over time. The percentage of population moving up and down does not need to sum to zero in net terms as shifts in income of a few individuals can potentially affect the position of large portions of the remainder population in the distribution of income and vice versa.

age is starker in Lithuania than in peer countries. Specifically, in the EU-28 and EU-15, people aged 65 and above had a median income equivalent to 94 percent of the median income for the population under the age of 65.¹⁷ In Lithuania this proportion was much lower at 77 percent. These relatively low ratios likely reflect differences in pension entitlements, but could also be indicative of other generational imbalances in lifetime income developed in more recent times or during the economic transition, when many among the current old may have seen their savings wiped out.

- *Females and males.* Lithuania reports sizeable differences in income inequality between genders when measured both in terms of deviations of median male and female income from total median income and in terms of ARP rates.¹⁸ Lithuanian female median income was some 2½ percent lower than that of the total population, while that of males was 4 percent higher. Consequently, the income and ARP gender gaps stood, respectively, 50 and 100 percent above those for the EU on average, though they were similarly high in other CEE countries.
- *Household structure.* Individuals living in households with many children report much lower relative income than elsewhere in Europe. In Lithuania,¹⁹ those living in households composed of two adults with three or more dependent children had incomes ⅓ lower than those of households with fewer than three children. Large families tend to be relatively worse off also elsewhere in Europe, as these families also are more likely to have only one main income earner, but difference are generally less stark.
- *Educational attainment.* The median incomes of Lithuanians with secondary education exceed the total median income of the 18–64 age group by over 40 percent—a return on this kind of education stronger than in peer countries and indeed similar to that from tertiary education. Lithuanians who have completed only primary education are relatively worse off than their peers in other countries—their incomes were 33 percent less than total median income compared to 22 percent for the EU on average.

13. Lower income of the elderly and the young may partly reflect that they are particularly prone to unemployment. Despite the decrease in the Lithuanian population, unemployment remains rather high at around 9 percent measured in harmonized EU terms. Long-term unemployment accounts for close to half of the total. Long-term unemployment is especially high among the elderly—a trend likely exacerbated by the 2008–09 crisis. The overall correlation between unemployment rates and inequality, which has remained positive and

¹⁷ The relative median income ratio is defined as the ratio of the median equivalized disposable income of people aged above 65 to the median equivalized disposable income of those aged below 65.

¹⁸ The relative median income ratio is defined here as the ratio of the median equivalized disposable income of a specific population group to the median equivalized disposable income of the total population.

¹⁹ Alongside Bulgaria, Spain, Italy, Lithuania, Hungary, the Netherlands, Poland, Portugal, Romania and the United Kingdom, the Former Yugoslav Republic of Macedonia and Serbia.

significant at around 0.3, may at least in part explain why inequality in Lithuania affects specific age groups more severely than elsewhere in Europe.²⁰

Table 1. Lithuania: Correlation between Unemployment Rate and GINI Coefficient, 1992–2012

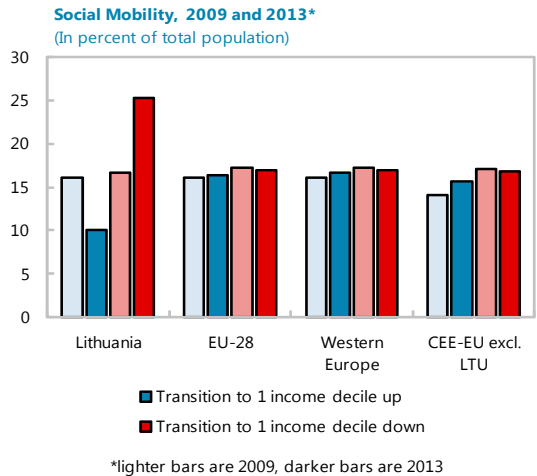
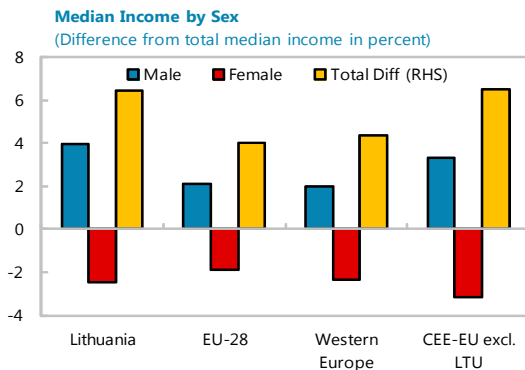
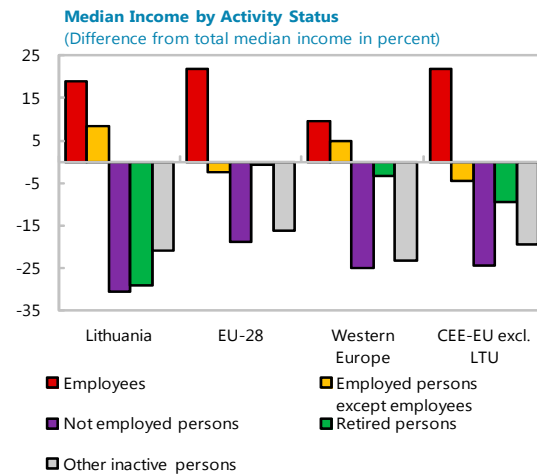
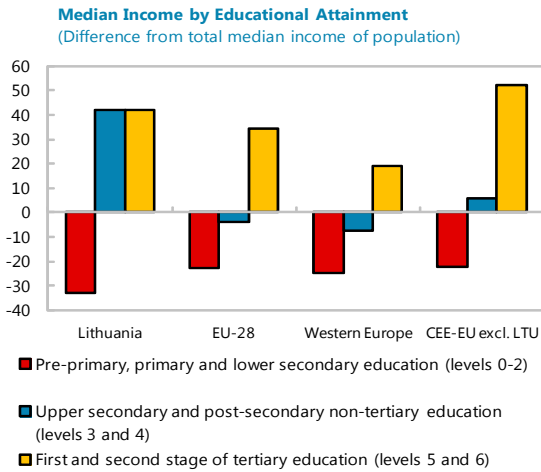
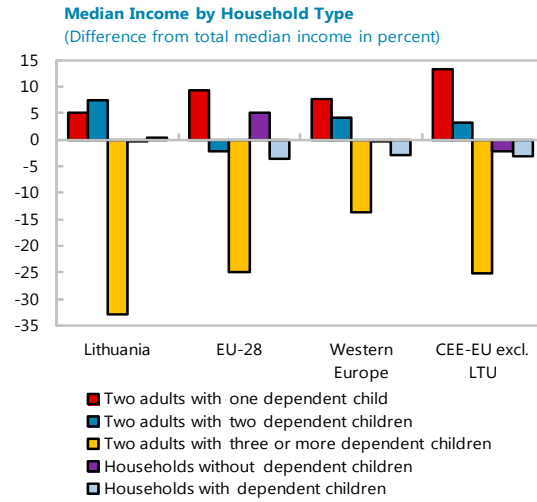
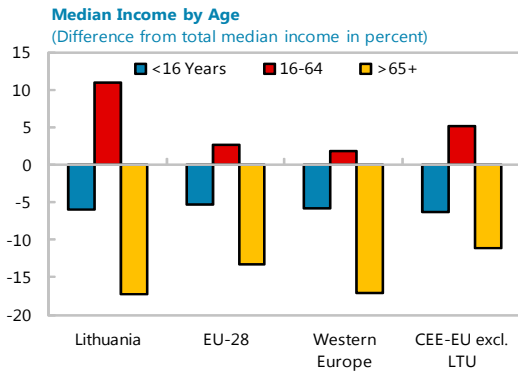
	1992–2012	1992–2001	2002–12
Unemployment Rate and GINI	0.341	0.320	0.270
Change in Unemployment rate and change in GINI	0.285	0.306	0.302

Sources: WDI, Haver Analytics, and IMF staff calculations.

14. Four factors—age, household structure, educational attainment, and employment status—jointly accounted for ⅓ of income inequality in Lithuania. This is less than in countries like Bulgaria, Denmark, or Hungary, where these factors account for between 38–41 percent, but considerably more than in most other countries. In Austria, for example, they are responsible for as little as 18 percent of total inequality. Thus, in Lithuania, as well as in all other EU countries, factors not identified with the characteristics of age, household structure, educational attainment, and employment status account for the lion’s share of observed inequality. In other words, differences in income between households with similar characteristics were more important than differences between those with different characteristics.

²⁰ The table shows dynamic correlations between the Gini coefficient and the unemployment rate (or changes thereof) where the unemployment rate lags the inequality indicator three years. This accounts for the natural lag between income and unemployment, given savings and the impact of unemployment benefits on income—even if small—in a variable period after the loss of a job.

Figure 3. Relative Income Inequality of Different Population Groups and Income Mobility



Sources: Eurostat and IMF staff calculations.

C. Causes of Inequality

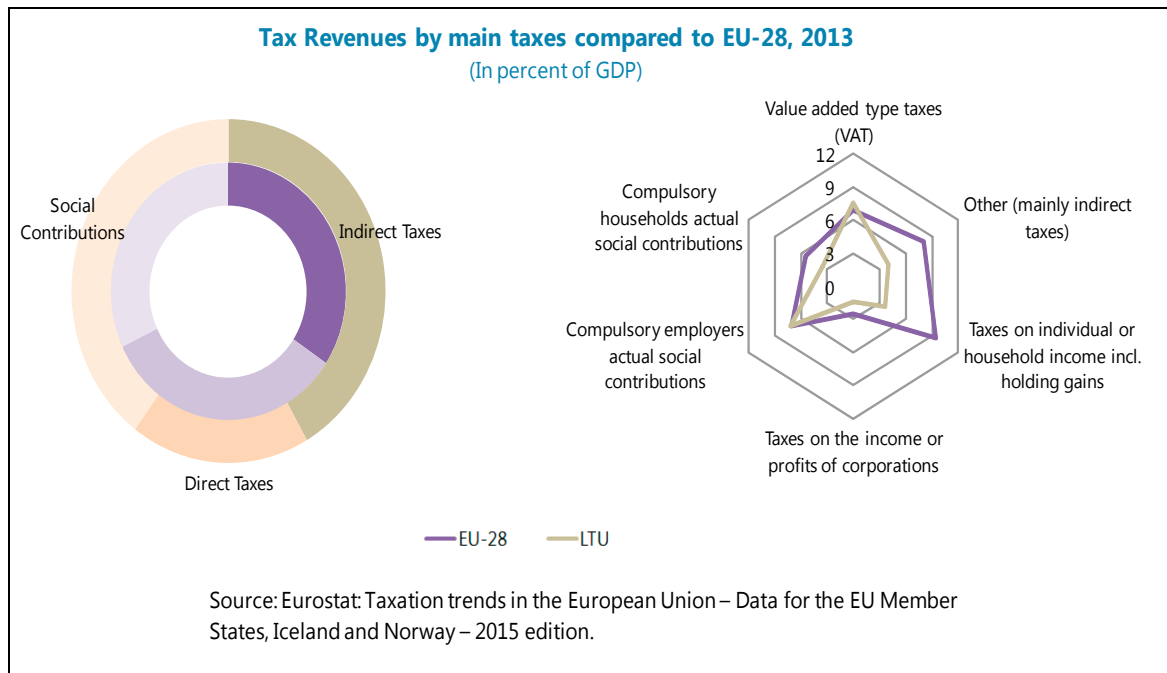
15. Income inequality in Lithuania has multiple causes. Prominent ones include generally low living standards, modest public expenditure on social protection and limited tax progressivity, as well as high income volatility, reflecting in part small automatic stabilizers and pro-cyclical fiscal policies. These factors may conspire to spur outward migration, as Lithuanians seek better economic opportunities abroad, which in turn could feed back into income inequality in a vicious circle.

16. Still low living standards can easily push people into poverty traps and fuel emigration. With average gross wages of only around €750 per month, many Lithuanians struggle to satisfy their basic needs and to get ahead. Their situation is financially fragile, making them vulnerable to adverse shocks from which it is difficult to recover. Low wages also reduce the attractiveness of the Lithuanian labor market, spurring emigration to more advanced, higher income countries. Lithuania's emigration rates have been the highest in the EU with the population declining from 3.5 million at the start of the millennium to under 2.9 million in the beginning of 2016, two-thirds of which reflects net migration. Large-scale emigration poses risks for the rest of the population if it is predominantly the most productive individuals that leave, as is typically the case in CEE. This could perpetuate low living standards. Remittances can help mitigate the adverse effects of emigration if they are used by families back home to invest in education or provide social protection, but they could also raise reservation wages, thereby pushing up inactivity levels. The overall net effect of emigration on economic activity is found to be negative in CEE (IMF, forthcoming).

17. The tax structure is skewed toward labor and consumption taxes, there is little tax progressivity, and a low revenue take constrains resources for social spending. Lithuania's tax system, in comparison to other EU countries and non-EU peers, relies heavily on social security contributions and consumption taxes, and thus plays a more limited role in income redistribution, especially in the upper income brackets. A relatively low revenue take means that all spending is low, including outlays for social protection, but the share of social protection spending in total spending is also smaller than elsewhere.

- *Unbalanced tax structure.* Lithuania's tax structure remains heavily concentrated on labor and consumption taxes, with very little taxation of capital and near-zero wealth taxes. Taxes on capital as a share of GDP are the fifth lowest in the EU, yielding less than half the EU average. Compared to the EU average, Lithuania's share of consumption taxes in total tax revenue is very high (42 percent in Lithuania, vs. 29 percent in the EU), and that of capital and wealth low (9 percent in Lithuania, vs. 20 percent in the EU). Its share of taxes on labor income is close to the EU average (49 percent in Lithuania vs. 51 percent in the EU), but is more reliant on social contributions while direct taxes play less of a role.
- *Weak progressivity of personal income and overall taxation.* Lithuania's tax system is not as progressive as that of other EU peers, despite recent modest hikes in capital income taxation and improvements in the basic personal income tax allowance. This reflects high reliance on

consumption taxes, which tend to be regressive, still very low capital and wealth taxation, and corporate and personal income taxes, that are levied at a flat, low rate of just 15 percent. Moreover, basic and child allowances under the PIT of €200 and €120 per month remain low relative to wages by European standards. Social security pensions are the only progressive part of the system with contributions uncapped, but benefits only weakly related to earnings. However, unlike in several European countries there is no basic allowance for social security contributions.



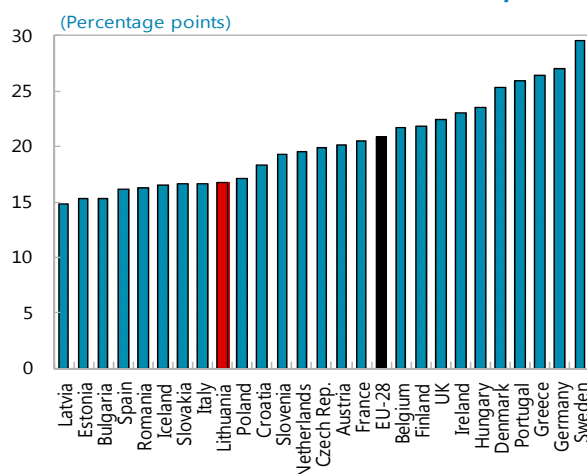
- *Low fiscal revenues and limited scope for public spending.* In 2014, Lithuania exhibited the lowest tax and social contribution collections in the EU of only 28 percent of GDP compared to an EU average of 40 percent of GDP, because of low tax rates combined with weak tax administration. Consequently, the financial envelope for public expenditure, including for redistributive policies, is tighter in Lithuania than elsewhere.
- *Insufficient spending on social protection.* Not only is social protection spending low because revenues are limited, Lithuania also devotes a smaller share of overall spending to social protection than most other countries. As a result, at only 14.5 percent of GDP Lithuania’s social protection spending is the second lowest in the EU, which allocates 23.4 percent of GDP on average. The distribution of social protection spending across programs does not differ much between Lithuania and other European countries. Overall, because social protection spending is so low, it mitigates income inequality by much less than in most other countries.

18. Output is has been highly volatile.²¹

Volatility was over 2½ times above the EU average and the third highest in the EU after Latvia and Estonia.²² High GDP volatility tends to exacerbate income inequality by imparting volatility on individual income, especially that of low-income earners. With little access to finance and savings, they cannot smooth consumption and may have to forego investing in human or physical capital in bad times.

19. High volatility partly reflects procyclical fiscal policy and small automatic stabilizers. As a

small open economy in a currency union, Lithuania is particularly exposed to external shocks. But, historically, periods of excess demand have also been associated with periods of expansionary fiscal policy and downturns with fiscal consolidation, thereby amplifying the economic cycle. Moreover, Lithuania's budgetary position seems less responsive to fluctuations in output than those of the euro area or other CEE countries. This is because automatic stabilizers are small as a result of a small public sector and inelastic public expenditure (Eller, 2009).

GINI before Transfers minus GINI, 2014

Sources: Eurostat and IMF staff calculations.

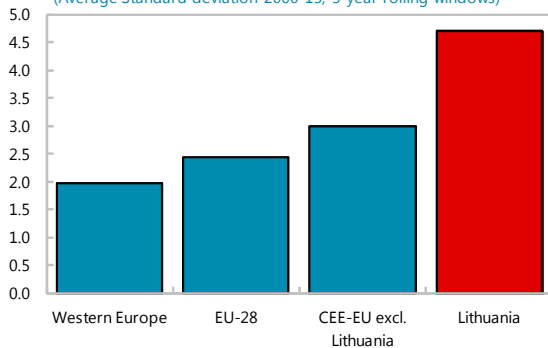
²¹ The empirical literature has documented a clear link between macroeconomic volatility and inequality (for example, Breen and Georgia-Panarales (2005) who, using a cross-section of developed and developing countries, find that greater output volatility, defined as the standard deviation of the rate of output growth, is associated with a higher Gini coefficient and income share of the top quintile.

²² The volatility of output is computed here as the standard deviation of yearly output growth over a 5-year rolling window.

Figure 4. Causes of Inequality - Selected Indicators

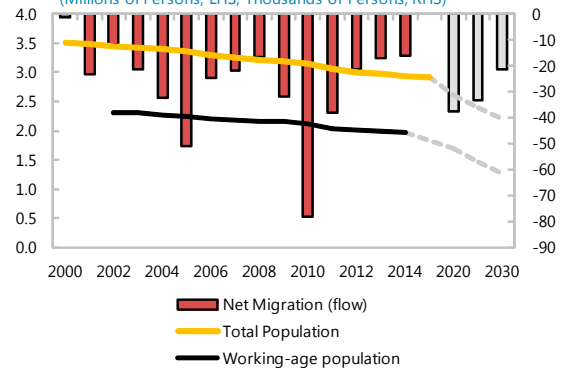
Output Volatility

(Average Standard deviation 2000-15, 5-year rolling windows)



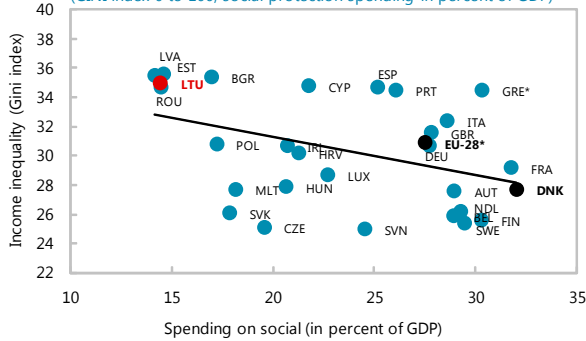
Population Levels 2000-30

(Millions of Persons, LHS; Thousands of Persons, RHS)



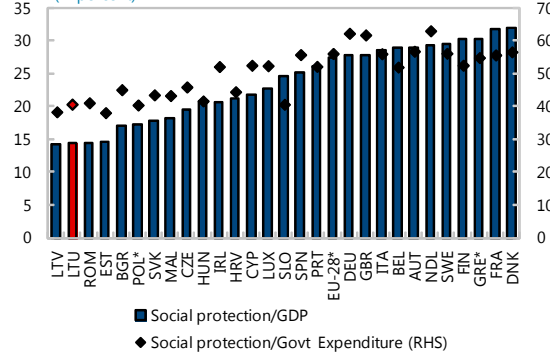
Income Equality on Spending and Social Protection

(GINI index 0 to 100, social protection spending in percent of GDP)



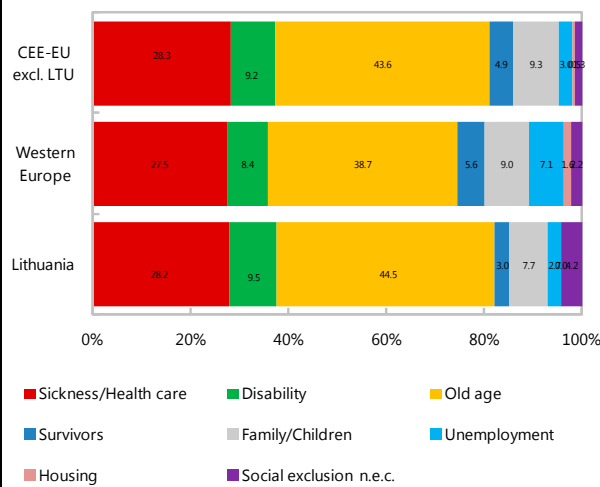
Public Expenditure for Social Protection, 2013

(In percent)

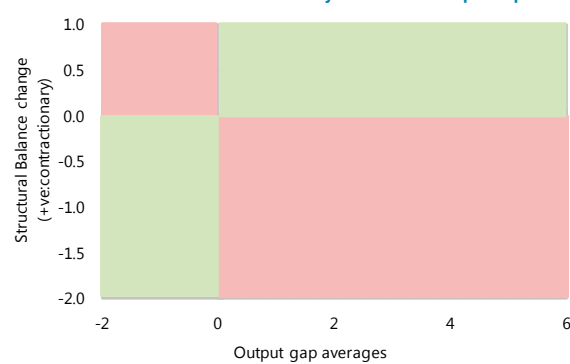


Social Protection by Function, 2013

(In percent of total social protection spending)



Lithuania: Structural Fiscal Adjustment and Output Gap Level



Sources: Eurostat, Haver Analytics, World Economic Outlook and IMF staff calculations.

* Denotes 2012 data.

D. Policies to Tackle Inequality

20. Recently, the political agenda on income inequality has become more prominent with the introduction of European targets for income equality in the context of the Europe 2020 growth strategy. Lithuania's commitment, enshrined in the 2014 National Reform Program, is to lower the number of persons at risk of poverty or social exclusion by 170,000 between 2008 and 2020 as part of a broader effort at the EU level.

21. More recently, Lithuania has taken some moderate steps to address income inequality and to make low-wage earners better off through large minimum wage hikes.²³ Basic and child allowances under the PIT have been raised, capital income first became taxable and the exemption threshold was subsequently decreased, and social assistance was transferred to local governments with a view to improve targeting. Proposals to make the unemployment benefit system somewhat more generous are under discussion in Parliament. Minimum wages have been hiked by over 50 percent since August 2012 to support low-wage earners. While a legitimate policy tool for addressing income inequality, minimum wages are now high relative to average wages by international standards, risking counterproductive side effects, such as reduced job market prospects for the less qualified, more informality, and reduced international competitiveness. Increases in minimum wages are also ineffective for the unemployed—who as shown in Section B are among the most afflicted by inequality—and may benefit households with two income earners that are already relatively well off (IMF, 2016).

22. What else could be done to redress Lithuania's high income inequality? Policies can be grouped into two broad categories: dual purpose measures that would raise output and employment, especially for the low-skilled, and measures that focus more on redistribution across households.

23. Dual purpose measures foster income equality and also directly boost growth. They include:

- *Measures to reduce structural unemployment.* Structural unemployment is still high, workers' skills are often a poor fit for labor market needs, and emigration pressures are pervasive. In response, Active Labor Market Programs (ALMPs) could be strengthened by spending more, providing more extensive training, and expanding eligibility beyond the registered unemployed. A reduction of the tax wedge for low-wage earners, for example by introducing a basic allowance to social security contributions, would be helpful. The proposed new Labor Code currently under discussion in Parliament could spur hiring and help attract FDI by modernizing labor relations. Effective life-long learning programs would be a valuable tool to help older

²³ The already agreed increase for mid-2016 will bring it to euro 380 per month, more than 40 percent higher than three years ago, corresponding to 52 percent of the average wage, and covering as many as 20 percent of all workers.

works keep up with evolving skill requirements and prevent a premature end to their economic activity.

- *Measures to improve the education system.* With low early school leaving and high tertiary education attainment rates, Lithuania is performing well vis-à-vis the Europe 2020 headline target in education. Students' educational outcomes may be boosted by recent reforms, such as making early childhood education and care compulsory for all from the age of five, the development of a nation-wide student competence measurement system, and induction training and more professional support for teachers. But achievements in reading and mathematics remain unsatisfactory compared to peers, vocational training is underdeveloped and overly school based, and skill mismatches in tertiary education are pervasive. The latter could be addressed by mandatory student orientation before fields of study are chosen and reallocation of government-paid study places from social sciences to science and technology. Overall, the education system is oversized with too many schools, universities, study programs, and teachers. There hence is scope for savings that could be spent on boosting the quality of education (IMF, 2015b).
- *Measures to foster productivity.* Higher productivity would also help reduce unemployment, provide more and better job opportunities generally, and provide a base for sustainable wage growth. With more disposable income, households at the bottom end of the income distribution would be less financially fragile and in a better position to realize their potential even in bad times. Inasmuch as those emigrating do so in search of better living standards, higher incomes across the income distribution would also help stem emigration, thereby indirectly helping redress at-risk-of poverty issues and relative inequality. Company upgrading through the promotion of more sophisticated products, better processes, better branding and marketing, new markets, etc. is critical and Lithuania's innovation policy should put more emphasis on these aspects. Better public-private cooperation, mainly by creating a legal basis for the commercialization of research outcomes, and rationalization of Lithuania's fragmented innovation infrastructure could help raise R&D spending and make it more efficient. There is also room to improve Lithuania's already favorable business environment further through better bankruptcy procedures, simplification of commercial legislation including that related to labor markets, more rigorous use of cost-benefit analysis in public procurement, and more liberal immigration procedures to address critical skill shortages. Better tax enforcement would improve fairness and help scale back Lithuania's large shadow economy, where workers can easily get caught in low productivity traps.

24. More directly redistribution-focused measures promise larger and faster inroads than the dual purpose measures, and would focus primarily on reform of the tax and spending system. The decision on whether to embrace these additional reforms is largely a matter of social choice about how egalitarian society should be. However, the macroeconomic consequences need to be born in mind. Although effects on near and long-term growth is less clear cut, recent evidence seems to lend support to the view that, if properly designed, tax and spending policies can help

achieve both stronger growth and greater equality of outcomes and opportunities (Ostry et al, 2014; Clements et al., 2015).

25. Empirical evidence suggests that in advanced economies, fiscal policies have been instrumental in reducing market-income inequality. For example, they have, on average, reduced the Gini coefficients by about one-third, of which, approximately two-thirds was due to transfer programs and about one third was the result of progressive taxation. Fiscal policy instruments can have an impact both in the short term—personal income taxes, for instance, immediately affect household disposable income—and in the long term—current education spending, for instance, is likely to affect future earnings.

26. In the case of Lithuania, tax policy could play a major role in making the income distribution less unequal. Improving the redistributive impact of taxation hinges primarily on the ability to raise the progressivity of personal income taxes, as well as the level and structure of taxes imposed on capital income and wealth. But taxation is also critical for generating the funds needed to finance spending that promotes equity.

27. Concretely, the authorities could consider the following options for reducing inequality in addition to dual-purpose measures:

- *Raise more revenue from the well-to-do* by hiking taxes on capital income and wealth. While there is a limit to how much revenue this can deliver, other European countries, including in CEE, have demonstrated that considerably more is achievable than currently in Lithuania.
- *Introduce more progressivity in the personal income tax system* by raising basic allowances and adding an upper bracket to the currently flat-rate PIT. The social security system is already progressive, but could be made more so by introducing a basic allowance. Current considerations to strengthen the insurance character of social security pensions would go in the opposite direction. These adverse effects would need to be offset by a more radical overhaul of the PIT, complemented by a shift to budget-financed basic pensions.
- *Improve tax administration and continue to strengthen underdeveloped tax bases.* As discussed in Clements et al. (eds., 2015), it is critical to strengthen tax compliance as a prerequisite, for instance, for effective taxation of personal incomes.
- *Raise the amount and improve the targeting of public expenditure devoted to social protection,* especially unemployment benefits, ALMPs, social assistance, and old-age pensions—all of which are currently low by EU standards. There is room to better target disability insurance benefits. This would mitigate the impact of adverse shocks on low-income households.
- *Ensure a countercyclical fiscal stance within the confines of applicable fiscal rules to build buffers in good times and support demand in bad ones.*

28. The eventual package of measures to redress income inequality should be budget neutral. Changes to the tax and benefits system as well as many of the other reforms would have

fiscal implications, potentially large ones. They should not undermine the hard-won fiscal achievements since the 2008–09 crisis, which allowed the structural budget deficit to reach the target of ½ percent of GDP. As some of the proposed measures would increase the deficit while others would reduce it, it should be possible to design a budget neutral package. Moreover, there is scope for generating fiscal space by making public spending more efficient, for example by tackling the oversized infrastructures in health and education while continuing to supply an appropriate level of services to the public (OECD, 2016).

E. Conclusions

29. Income inequality in Lithuania is high relative to peers and to Lithuania’s own post-transition history. At these levels, not only might inequality be socially undesirable, but it also may negatively affect macroeconomic performance. It prevents many from satisfying basic needs, renders a considerable part of the population financially fragile, may foster rent-seeking through the political process, could spur emigration, and ultimately lowers economic growth. Lithuania’s relatively high inequality is driven primarily by the top and bottom ends of the income distribution. Compared to peers, very low income status is particularly concentrated among the unemployed, the retired, the unskilled, and families with many children. Social mobility is low.

30. This paper has identified several causes of inequality. Perhaps chief among them are the limited progressivity of the tax system and the low social protection spending, which means that the fiscal system plays less of a role in alleviating inequality of market incomes than elsewhere. Low social protection spending is partly the other side of the coin of limited fiscal revenues. High macroeconomic volatility combined with pro-cyclical fiscal policies is another prominent driver of inequality.

31. There are two sets of policy measures that can help mitigate inequality: measures that boost growth directly with an especially large impact on the poor, and more redistribution-focused measures that focus directly on raising the incomes of the very poor through fiscal measures while buttressing growth indirectly. Some modest policy steps have already been introduced, but reliance on minimum wages has been excessive and further hikes risk becoming counterproductive. Dual purpose measures are desirable in their own right, like reforms to tackle structural unemployment, to modernize and rationalize the education system, to propel productivity growth, or to make fiscal policy countercyclical. Appetite for redistribution-focused measures depends on social preferences. These steps could make larger inroads into reducing income inequality. They include making the tax system more progressive and spending more on social protection while improving targeting. Higher revenue mobilization remains important to generate the funds for pro-equity spending.

32. Policy measures should be designed as a budget neutral package. Hard-won fiscal gains over past years need to be protected for continued good macroeconomic performance and building fiscal buffers to avoid pro-cyclical fiscal policy in bad times, which tend to exacerbate inequality.

References

- Acemoglu, D. and J. A. Robinson, 2014, *Why Nations Fail: The Origins of Power, Prosperity, and Poverty*, (Danver, MA: Crown Publishing Group).
- Aghion, P., Boustan, L., Hoxby, C. and J. Vandenbussche, 2009, "The Causal Impact of Education on Economic Growth, Evidence from the United States," *Brookings Papers on Economic Activity*, ed. by Romer, D., and Wolfers, J.
- Bastagli, F., Coady, D. and Gupta, S., "Income Inequality and Fiscal Policy," IMF Staff Discussion Note 12/08, (Washington: International Monetary Fund).
- Black, R., C. Natali and J. Skinner, 2005, *Migration and Inequality*, (Washington: World Bank).
- Clements et al., 2015, *Fiscal Policy and Inequality*, (Washington: International Monetary Fund).
- Davies, J.B., 2008, *Personal Wealth from a Global Perspective*, (Oxford: Oxford University Press).
- Davies, J.B., and others, 2008, "The World Distribution of Household Wealth," pp. 395–418.
- Eller, M., 2009, "Fiscal Position and Size of Automatic Stabilizers in the CESEE EU Member States-Implications for Discretionary Measures," *Focus on European Economic Integration, Issue 2*, pp.78–84.
- European Commission, 2015, *Social Situation Monitor*.
- , 2016, *Social Situation Monitor*.
- Hanusheck, E. A. and L. Woessmann, 2010, "The Economics of International Differences in Economic Achievements," NBER Working Paper No. 15949 (Cambridge: National Bureau of Economic Research).
- International Monetary Fund, 2015a, "Causes and Consequences of Income Inequality: A Global Perspective," Staff Discussion Note 13/15.
- , 2015b, "From Expenditure Consolidation to Expenditure Consolidation: Addressing Public Expenditure Pressures in Lithuania," IMF Country Report No. 15/139, (Washington: International Monetary Fund).
- , 2016, "Getting Minimum Wages Right in Central Eastern and Southeastern Europe," Cross-country Report on Minimum Wages, (Washington: International Monetary Fund).
- , forthcoming, "Should They Stay or Should They Go? Economic Impact of Emigration on Eastern Europe," IMF Staff Discussion Note.

Lennox, J. and D. Ehrenpreis, 2003, "Good Health: The Cornerstone of Development," OECD Observer.

Lusardi, A., Schneider, D., and P. Tufano, 2011, "Financially Fragile Households: Evidence and Implications," Brookings Papers on Economic Activity, Economic Studies Program, The Brookings Institution, vol. 42, No. 1, pages 83–150.

Maldeikis, E., 1996, "Privatization in Lithuania: Expectations, Process and Consequences," Centre for Economic Reform and Transformation.

OECD, 2016, OECD Economic Surveys: Lithuania, (Paris: Organization for Economic Cooperation and Development)

Ostry, J.D., A. Berg and C. G. Tsangarides, 2014, "Redistribution, Inequality, and Growth," IMF Staff Discussion Note 14/02 (Washington: International Monetary Fund).

Piketty, T., 2014, *Capital in the 21st Century*, Harvard University Press.

Vargas-Silva, C., 2014, "Intereconomics," Vol. 49, No. 3, pp. 116–158.

Wardrip, K., 2011, "Public Transit's Impact on Housing Costs: A Review of the Literature," Center for Housing Policy-Insights from Housing Policy Research.