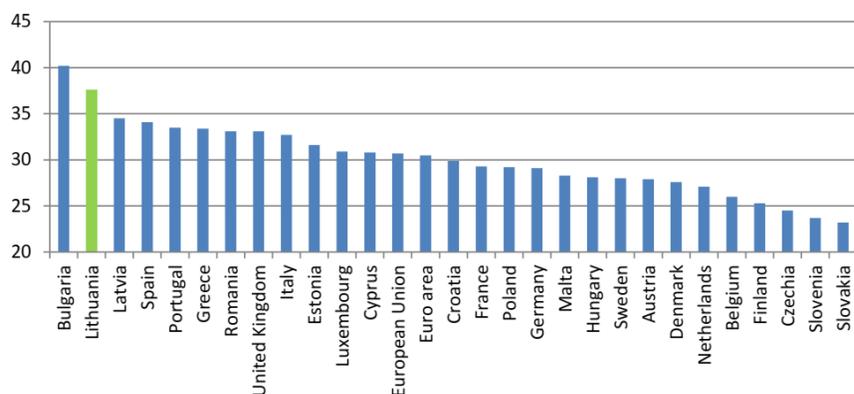


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### **Drivers of changes in income inequality in Lithuania: the role of policy, labour market structure, returns and demographics**

The 2011 World Economic Forum has identified income inequality as one of the “two most serious challenges the world is facing today”. Income inequality has increased since the 1980s in most advanced economies and emerging markets. Across the European Union, Lithuania displays one of the highest levels of income inequality across the European Union (EU). According to Eurostat, the Gini index of household equivalized disposable income was 37.6 % in 2017 (see Figure 1). This is the second largest Gini coefficient across the EU ranking 7 Gini points higher than the European Union as a whole and 14.4 Gini points higher than Slovakia, another former member of the Soviet Union.

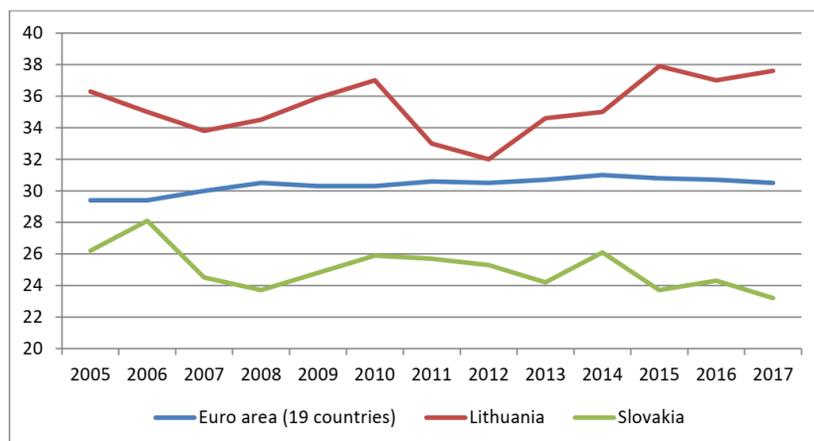
Figure 1: Gini coefficient of household equivalized disposable income in 2107, Eurostat



While income inequality in Lithuania was high in general, it was found be especially large between the top and the bottom income deciles, between the employed the remaining population, between the elderly and other age subgroups, between educated and less educated population subgroups (IMF, 2016).

Additionally, income inequality in Lithuania has been on the rise. Figure 2 contains the dynamics of the Gini coefficient for Lithuania, the Euro area and Slovakia from 2005 to 2017. This is the full period for which data from the most reliable data on income inequality, the European Union Statistics on Income and Living Conditions (EU-SILC) instrument, is currently available. Income inequality in Lithuania has consistently exceeded income inequality in the Euro area and Slovakia. Additionally, there was a sharp rise in income inequality since 2011, when the Gini coefficient rose by 5.6 Gini points. In contrast, the Gini coefficient has been falling in Slovakia.

Figure 2: Gini coefficient of household equivalized disposable income, Eurostat



Despite a rapid rise in income inequality in Lithuania since 2011, little empirical work exists explaining this trend. Understanding what drives changes in income distributions over time is a central issue in economic and policy analysis. In our paper, we explore the nature of the changes in income inequality and identify the key sources of inequality and the mediating role of the fiscal system in shaping income inequality in Lithuania between 2005 and 2017. We go beyond standard approaches (see Bourgignon et al. 2008, Sologon et al. 2018, for a review) and propose a new method that tackles the limitations of existing methods by allowing for the modelling of the whole household disposable income distribution and a detailed assessment of the anatomy and drivers of changes in this distribution (or functionals such as inequality measures) between any two moments in time. This is a methodological development, and constitutes one of our two main contributions to the literature. We build on the approach developed in Sologon et al. (2018), adapting it to study changes in income distributions over time for one single country instead of differences in income distributions across countries in one given moment. The method integrates both micro-econometric and microsimulation approaches, combining a flexible parametric modelling of the distribution of household market income with the EUROMOD tax-benefit model to simulate the value of taxes and benefits. We generate a multitude of counterfactual income distributions, obtained by “swapping” the characteristics of the country in two different moments in time along four main dimensions: (i) labour market structure; (ii) returns; (iii) demographic composition; and (iv) tax-benefit system. The comparison of these counterfactual distributions then allows us to quantify the contribution of each dimension to the changes in the income distribution (and functionals) observed between any two moments in time. The model is constructed on the basis of the European Union Statistics on Income and Living Conditions (EU-SILC) survey, a household survey that is available in a harmonised form for all European Union (EU) countries. The fact that the model relies on EU-SILC data and uses the pan-European EUROMOD microsimulation tool is a particularly useful feature, as it gives the model the potential to be easily adapted to examine changes in income distributions over time in any EU country.

High income inequality has raised a debate in Lithuania whether such inequality is problematic. On the one hand, high income inequality could simply reflect a different economic or demographic structure of Lithuania. On the other hand, it could be a symptom of other problems, such as inadequate pensions, inequalities of opportunities, unfair resource distribution or tax evasion, for example. Additionally, recent empirical literature suggests that income inequality can be economically harmful on its own: it can reduce economic growth or make economic growth less stable (Grigoli and Robles, 2017, Ostry et. al. 2011). We contribute to the debate by further exploiting the EU-SILC sample micro data together with micro-economic techniques and micro-simulation approaches in a decomposition analysis. Specifically, we quantify the role of tax-benefit systems, employment and occupation structures, labour prices and market returns and demographic composition in accounting for differences in income inequality in Lithuania over time. We focus on the peaks and troughs of the Gini coefficient, which is why we look at the following time intervals: 2005-2007, 2007-2010, 2010-2012, 2012-2017. This will help shed light on what factors caused income inequality to change over time and what is the space of manouvering for policy responses.