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MYKOLAS ROMERIS UNIVERSITY

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Assessment of factors affecting income inequality in the EU country groups

SUMMARY OF DOCTORAL DISSERTATION

Social Sciences,
Economics (S 004)

VILNIUS 2022

The dissertation was prepared between 2013 and 2021 at Šiauliai University (from 2021-01-01 Vilnius University Šiauliai Academy), under the doctoral program right conferred to Vytautas Magnus University, ISM University of Management and Economics, Mykolas Romeris University and Vilnius University Šiauliai Academy on 28 December 2020 by the Resolution No V-2005 of the Minister of Education and Science of the Republic of Lithuania.

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The dissertation shall be defended at a public meeting of the Dissertation Defence Panel at 10 a. m. on 5th of April 2022 in meeting room 413 of the Vilnius University Šiauliai Academy.
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Pajamų nelygybę lemiančių veiksnių poveikio vertinimas ES šalių grupėse

DAKTARO DISERTACIJOS SANTRAUKA

Socialiniai mokslai,
ekonomika (S 004)

VILNIUS 2022

Disertacija rengta 2013–2021 metais Šiaulių universitete (nuo 2021-01-01 Vilniaus universiteto Šiaulių akademijoje) pagal LR švietimo ir mokslo ministro 2020 m. gruodžio 28 d. įsakymu Nr. V-2005 suteiktą doktorantūros teisę Vytauto Didžiojo universitetui su ISM Vadybos ir ekonomikos universitetu, Mykolo Romerio universitetu, Vilniaus universitetu (Vilniaus universitetui doktorantūros teisė suteikiama asmenų, įstojusių į doktorantūrą Šiaulių universitete iki 2020 m. gruodžio 31 d., studijoms užbaigti).

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Disertaciją galima peržiūrėti ISM Vadybos ir ekonomikos universiteto, Mykolo Romerio universiteto, Vilniaus universiteto, Vytauto Didžiojo universiteto bibliotekose ir VU interneto svetainėje adresu:
https://www.vu.lt/naujienos/ivykiu-kalendorius

INTRODUCTION

Relevance of the topic. The recent Great Recession has prompted policymakers and economists to consider the phenomenon of income inequality and its economic and social causes and consequences in terms of poverty, social inclusion, social trust, the maintenance of democratic institutions, economic growth, and other issues. Income inequality has been recently growing in many countries, and it is one of the biggest economic and social problems. International Monetary Fund, Organization for Economic Co-operation and Development (OECD) and other organizations stress the importance of addressing this issue.

According to Atkinson, Brandolini (2009), income inequality primarily shows whether or not a particular society becomes more egalitarian over time and in which direction it progresses in socio-economic terms. For example, it may be important to identify the differences between the highest-income earners and the lowest-income earners, or why income inequality is rising. It is therefore important to link these changes in income distribution or periods of stability to theories of economic and social behavior that may reveal the causes of income inequality among individuals.

Growing income inequality and the extent of income inequality affect the social, economic and institutional environment of the countries, contribute to the living standards of the countries, and the socio-economic situation of households. Choosing the right tools is important to tackling growing income inequality. Their choice is influenced by the identification of the factors that determine income inequality, and the assessment of the direction of their impact. Also, when assessing what affects income inequality, it is important to take into account the prevailing social models in the countries, which highlight the differences among the countries and the impact of individual factors on income inequality. Even countries with similar economic structures differ in the level of income inequality and, according to Stiglitz (2015), differences in income inequality are related to policy decisions. The parties' decisions may depend on the extent to which the prevailing view is that the markets are efficient or inefficient. In the first case, countries tend to rely more on neoliberal economic doctrine, and in the second, the welfare state, where the role of government is more active (Stiglitz, 2017). Thus, the assessment of the impact of factors on income inequality remains a relevant topic in the scientific debate and determines the relevance of the chosen topic of the work.

Level of research of the scientific problem. Analyzing the theoretical aspects of the phenomenon of income inequality, correlations have been observed between the distribution of household income and the functional distribution of income (Daudey, García-Peñalosa, 2007; Francese, Mulas-Granados, 2015; Stockhammer, 2012; Checchi, Garcia-Penalosa, 2010). From a theoretical point of view, the functional distribution of income and related theories (classical, Marxist, neoclassical, Stolper ir Samuelson, Kaldor, Goodwin, Kalecki, political economy theories) were first examined. However, with the growing number of capital owners in the population, the availability of data on personal income has led to an analysis of the phenomenon of income inequality and its causes. The first to link income inequality to the process of industrialization was Kuznets (Atkinson, 1997; Kuznets, 1955). Theories that analyze the causes of functional income distribution are also linked to the causes of income inequality. In the literature, the authors analyze the determinants of income inequality from a variety of perspectives (including a combination of several approaches): human capital; skills-based technological change; internationalization of production; labor market institutions; the role of the welfare state; the level of inequality; models of capitalism and institutional complementarity; the role of corporate governance, the financial market.

Income inequality can be influenced by factors related to the market economy, such as globalization, technological change, and institutional factors related to setting the rules of the game in the market, creating a certain environment. According to the factors analyzed in the research, three groups of studies can be distinguished. Some authors study and evaluate the impact of market factors on income inequality: factors of globalization (Huh, Park, 2021; Chu, Hoang, 2020; Law, 2020; Osorio, Pinto, 2020; Auguste, 2018; Cabral, García-Díaz, Mollick, 2016; Lim, McNelis, 2016; Sheng, 2015; Asteriou, Dimelis, Moudatsou, 2014; Elmawazini, Sharif, Manga, Drucker, 2013; Jaumotte, Lall, Papageorgiou, 2008; Jaumotte, Lall, Papageorgiou, 2013; Franco, Gerussi, 2013; Çelik, Basdas, 2010; Wade, 2004), factors of technological change (Giri, Pandey, Mohapatra, 2021; Madsen, Strulik, 2020; Suphanachart, 2019; Kharlamova, Stavytskyy, Zarotiadis, 2018; Richmond, Triplett, 2017; Jaumotte, Lall, Papageorgiou, 2008; Jaumotte, Lall, Papageorgiou, 2013), and factors of financialization (Menyelim, 2021; Benczúr, Kvedaras, 2021; Kling ir kt., 2020; Cihak ir kt. 2020; Omar, Inaba, 2020; Makhlouf, Kellard, Vinogradov, 2020; De la Cuesta-González, Ruza, Rodríguez-Fernández, 2020; Fischer, Huerta, Valenzuela, 2019; Zhang, Naceur, 2019; Baiardi, Morana, 2018; Haan, Sturm, 2017; Stockhammer, Guschanski, Köhler, 2016; Soons, 2016; Alvarez, 2015; Hermes, 2014; Zalewski, Whalen, 2010). Another group of authors singles out the impact of institutional factors on income inequality: the impact of labor market institutional factors (Arestis, Ferreiro, Gómez, 2020; Josifidis, Supic, Beker Pucar, 2017; Jaumotte, Buitron, 2015; Obadić, Šimurina, Sonora, 2014; Checchi, García-Peñalosa, 2008; Checchi, Garcia-Penalosa, 2010; Calderón, Chong, 2009), the impact of fiscal policy factors (Piketty, Yang, Zucman, 2019; Saez, 2017; Arestis, Gonzalez-Martinez, 2016; IMF, 2014; Feld, Schnellenbach, 2014; Obadić, Šimurina, Sonora, 2014; Bastagli, Coady, Gupta, 2012; Aiginger, Leoni, 2009; Kenworthy, Pontusson, 2005). However, according to Stiglitz (2016), the market does not operate in a vacuum - it operates in a certain formed institutional environment. Thus, a third group of authors can be identified that assesses the impact of both market and institutional factors on inequality. The impact of globalization, technological change, and labor market institutions (Josifidis, Supic, 2017; Kristal, Cohen, 2017; Josifidis, Mitrović, Supić, Glavaški, 2016; Alderson, Nielsen, 2002) or globalization, technological change, and fiscal policy on income inequality is most commonly analyzed (Stiglitz, 2016; Atkinson, 2003). These studies reveal that due to globalization, technological change tends to increase income inequality, weakening the role of trade unions, the bargaining power of workers, and the role of government in redistributing income and spending on social security. Along with these factors, other researchers are evaluating the impact of financialization on income inequality (Jain-Chandra, Kinda, Kochhar, Piao, Schauer, 2016; Dabla-Norris, Kochhar, Ricka, Suphaphiphat, Tsounta, 2015). The impact of financialization and labor market institutions (Kus, 2012) or financialization, labor market institutions, and fiscal policy on income inequality is also analyzed, without distinguishing among factors of globalization and technological change (Tridico, 2018; Darcillon, 2015). These studies highlight the growing impact of the financialization factor on the growth of income inequality in countries with weaker trade unions, lower bargaining power and lower social security spending. However, a study (Ghossoub, Reed, 2017) assessing the impact of financialization and monetary policy on income inequality found that the most financially developed countries face lower income inequality in the case of low inflation. Similarly, Bodea, Houle, and Kim (2021) found that high inflation increases income inequality.

The results of research assessing the impact of different factors on income inequality are conflicting. There is disagreement about the significance of the identification of different factors determining inequality, the direction of their impact. Virtually all studies confirm the positive effects of financial globalization on increasing income inequality (Asteriou, Dimelis, Moudatsou, 2014; Elmawazini, Sharif, Manga, Drucker, 2013; Dabla-Norris, Kochhar, Ricka, Suphaphiphat, Tsounta 2015; etc.), but the effects of trade globalization on income inequality have been mixed. The results of research conducted by some researchers show that the globalization of trade increases income inequality (Çelik, 2021b; Elmawazini ir kt., 2013), while others reduce it (Durongkaveroj, 2021; Kim, Hsieh, Lin, 2019; Jain-Chandra ir kt., 2016; Asteriou ir kt., 2014; Jaumotte ir kt., 2013). A study by Mallick, Mahalik, Padhan (2020) identified the ambiguous effects of globalization on income inequality. For example, the authors identified the positive effects of globalization on income inequality in India and the negative effects in China.

The impact of technological change and financialization on income inequality is ambiguous. Some factors of financialization, such as financial liberalization, banking / financial crises, increase income inequality and microfinance intensity reduce income inequality. The factors of labor market institutions are particularly much debated. Dabla-Norris et al. (2015) emphasize that the impact of inequality is due to labor market flexibility. Others (Han, Pyun, 2021; Kristal, Cohen, 2017; Darcillon, 2015; Huber, Stephens, 2014; Obadić ir kt., 2014; Checchi, Garcia-Penalosa, 2010; Alderson, Nielsen, 2002) emphasize the importance of trade union membership and the bargaining power of wage setting. The inconsistency of the results can be explained by the fact that the research sample differs, using different indicators reflecting different factors, different independent variables included in the regression equations. An analysis of research by country groups shows that the results are not unambiguous. Dabla-Norris, Kochhar et al. (2015) found that income inequality increased the most in both developed and developing countries due to labor market flexibility, and Jaumotte, Lall, Papageorgiou, (2013) found that technological change inequality increased the most in income inequality in developed and developing countries. Asteriou, Dimelis and Moudatsou (2014) examined the EU countries and found that income inequality decreased in central (core) countries (Austria, Belgium, Germany, France, Luxembourg, Netherlands, United Kingdom) and peripheral countries (Greece, Italy, Ireland, Portugal, Spain), while income inequality in high-tech countries (Finland, Sweden, Denmark) and the new EU countries increased. The reduction of income inequality in the central EU countries was mainly due to the openness of the capital account and trade openness, in the peripheral - FDI; the increase in income inequality in high-tech EU countries has been mainly driven by research and development, and in the new EU countries by FDI. Studies have also been carried out distinguishing countries according to the country groups with different welfare regimes (Josifidis, Mitrović, Supić, Glavaški, 2016; Dafermos, Papatheodorou, 2013). These studies emphasize that the level of income inequality is related to the efficiency of the social security system, i.e. income inequality is lower in the country groups with social democratic (characteristic universality of social services and benefits) and conservative-corporate (social security model related to employment status) welfare regimes than Mediterranean (characteristic fragmentation of social security model) and liberal (characteristic social security model specificity, no universality) country groups with welfare regimes. However, there is a lack of research that comprehensively assesses the impact of individual factors on income inequality among the country groups of different welfare regimes. There is also a lack of research involving the new EU countries.

The scientific literature draws the attention of researchers to the following important issues of the impact of factors on income inequality: what the advantages and disadvantages of indicators measuring income inequality are; what the relationship between income inequality and the functional distribution of income is; what theoretical approaches to assess the impact of factors on income inequality are; how to assess the impact of factors on income inequality; which factors influence income inequality, etc. It should be noted that research continues to discuss what affects income inequality. However, when assessing the field of research on the causes of income inequality, most research focuses on one or more determinants of income inequality. There is a lack of research that comprehensively analyzes the factors of globalization, technological change, financialization, labor market institutions, and fiscal policy.

There is also a lack of research to assess the impact of these factors in the context of different welfare regimes in the EU countries. The problem of assessing the impact of factors on income inequality in the country groups with different welfare regimes is relevant both theoretically and practically, and will be addressed in this dissertation.

Scientific problem: what factors influence income inequality and how the impact of the factors on income inequality differs among the EU country groups of different welfare regimes.

The object of the research is the impact of the factors on income inequality.

The aim of the research is to evaluate the impact of the factors on income inequality in the EU country groups after analyzing theoretical and empirical research on the impact of the factors on income inequality and developing an evaluation model.

The objectives of the research:

1. To reveal the content of income inequality, to identify the main factors influencing income inequality and their theoretical interpretations, distinguishing possible differences in impact.
2. To analyze the methodological aspects, results and research limitations of empirical research conducted on globalization, technological change, financialization, impact of labor market institutions and fiscal policy factors on income inequality.
3. Based on the analysis of scientific literature sources, to develop a model for assessing the impact of factors on income inequality, identifying the impact of factors and differences in the country groups with different welfare regimes.
4. To develop a methodology for assessing the impact of the factors on income inequality.

5. To assess the impact of the factors and differences in the impact of income inequality on the EU country groups with different welfare regimes.

The work methods.

The analysis, grouping, comparison, synthesis and generalization of scientific sources were used to reveal the aspects of theoretical and empirical research that assessed the factors determining inequality and allowed to develop the methodology.

Descriptive statistics and regression analysis methods were used to assess the impact of the factors on income inequality. Regression analysis was performed using the least squares method or, in the case of heteroscedastia, the regression of stabilized residual errors was used to calculate estimates for econometric models. Regression analysis was performed using the Gretl program.

The study **period covers** the years from 1995 to 2018.

Results describing the scientific novelty and practical significance of the work:

1. Based on the analysis of scientific literature, the theoretical aspects of income inequality are related to theories of functional income distribution and 3 sources of income (wages, capital income and transfers): a) demand and supply of skills related to neoclassical theory (through technological change), to Stolper Samuelson's theory (through international trade); the sociological approach relates to Kalecki theory (through the role of government), to the theory of political economy (through collective bargaining, the role of government); all these processes are related to pay; b) the role of financial markets is linked to Kaldor's theory and is all linked to return on capital; c) the role of government in transfers is related to Kalecki and theories of political economy. Also taking into account all 3 sources of income and theoretical considerations, a model for assessing the determinants of income inequality is based on the approach of the effect of skill-based technical change, the approach of internationalization of production, the approach of labor market

institutions, the approach of role of the welfare state, and the approach of role of financial markets.

2. Theoretical and empirical analysis of the factors determining income inequality has made it possible to distinguish the importance of both market and institutional factors for income inequality. Based on the links among the theoretical aspects of income inequality, theories of functional income distribution and approaches to income inequality, the factors that may affect income inequality are identified: globalization, technological change, financialization (market factors); labor market institutions, fiscal policy (institutional factors).

3. A model for assessing the impact of factors on income inequality and an assessment methodology have been developed to examine the impact of globalization, technological change, financialization, labor market institutions, and fiscal policy on income inequality in the country groups with different welfare regimes. As the analyzed research revealed a lack of studies to assess the effects of factors among different groups of welfare regimes, this study identified differences in the effects of factors among the country groups. Thus, the practical significance of the work is that - the obtained research results can be used for further research; - the developed model can also be applied in the formation of economic and social policy, which would make decisions on the reduction of excessive income inequality, formation and adjustment of the social protection model; - the developed model can be extended and applied not only to the assessment of the causes of income inequality in the country groups with different welfare regimes, but also in the particular countries using time series data.

Research hypotheses:

H1: The globalization of trade reduces income inequality in the country group of Central and Eastern European welfare regimes, while other country groups have different directions of impact.

H2: Financial globalization increases income inequality among all the country groups of different welfare regimes.

H3: Technological change increases income inequality among all the country groups of different welfare regimes.

H4: Financialization increases income inequality among the country groups with all welfare regimes.

H5: Labor market institutions reduce income inequality among all the country groups with different welfare regimes.

H6: Fiscal policy reduces income inequality among all the country groups with different welfare regimes.

Limitations of the study. As the effect of individual factors on income inequality is examined to determine whether the effect of factors differs among the EU country groups with different welfare regimes, only the effect of the factors determining income inequality is analyzed - the effect of unexplored interactions between factors and income inequality on factors. The dissertation aims to assess the impact of both market and institutional factors on income inequality, therefore, the model includes factors most often used in empirical research and with the most connections to the main sources of income and theories of functional income distribution: globalization, technological change, financialization, labor market institutions, and fiscal policy.

Although the EU countries share many common features of economic and social policies, there are also some differences among the countries in their social security models, which allow countries to be divided into different welfare regimes and thus to identify differences in the impact of factors on income inequality. Thus, the study only assesses the impact of the factors on income inequality in different EU welfare regimes.

Due to the different tax systems in the countries, the study distanced itself from the variables reflecting tax policy. Thus, the variables in the group of fiscal policy factors for social protection expenditure and redistribution (redistribution related to social benefits and pensions) were selected for the study.

In the study, the indicators of income inequality are related to the disposable income of households, but disposable income is not broken down by sources of income. Thus, the dissertation does not assess the impact of the individual income sources on income inequality, but focuses on the external factors affecting income inequality. The effect of the factors on the change of the individual sources of income is also not analyzed.

Structure of the work and its scope. The dissertation consists of an introduction, three chapters, conclusions, bibliography and 7 annexes. Thesis consists of: 146 pages; 19 figures, 31 tables. 165 literature sources were used in the dissertation.

The logical structure of the dissertation is presented in Figure 1. The first chapter addresses the first and second tasks. This chapter reveals the content and main theoretical aspects of income inequality; developing links between income inequality and possible causes of income inequality; summarizes the theoretical aspects of globalization, technological change, financialization, labor market institutions, and fiscal policy, and the results of empirical research. The second chapter deals with the third and fourth objectives. This chapter develops an impact assessment model for the determinants of income inequality, which aims to reveal the effects of determinants of income inequality among the country groups with different welfare regimes. The research methodology is also developed, which substantiates the indicators and methods used, divides the countries into welfare regimes, formulates hypotheses, and reveals the limitations of the research. The third chapter deals with the fifth objective. An empirical study is conducted to assess the impact of globalization, technological change, financialization, labor market institutions, and fiscal policies on income inequality among the EU welfare regimes.

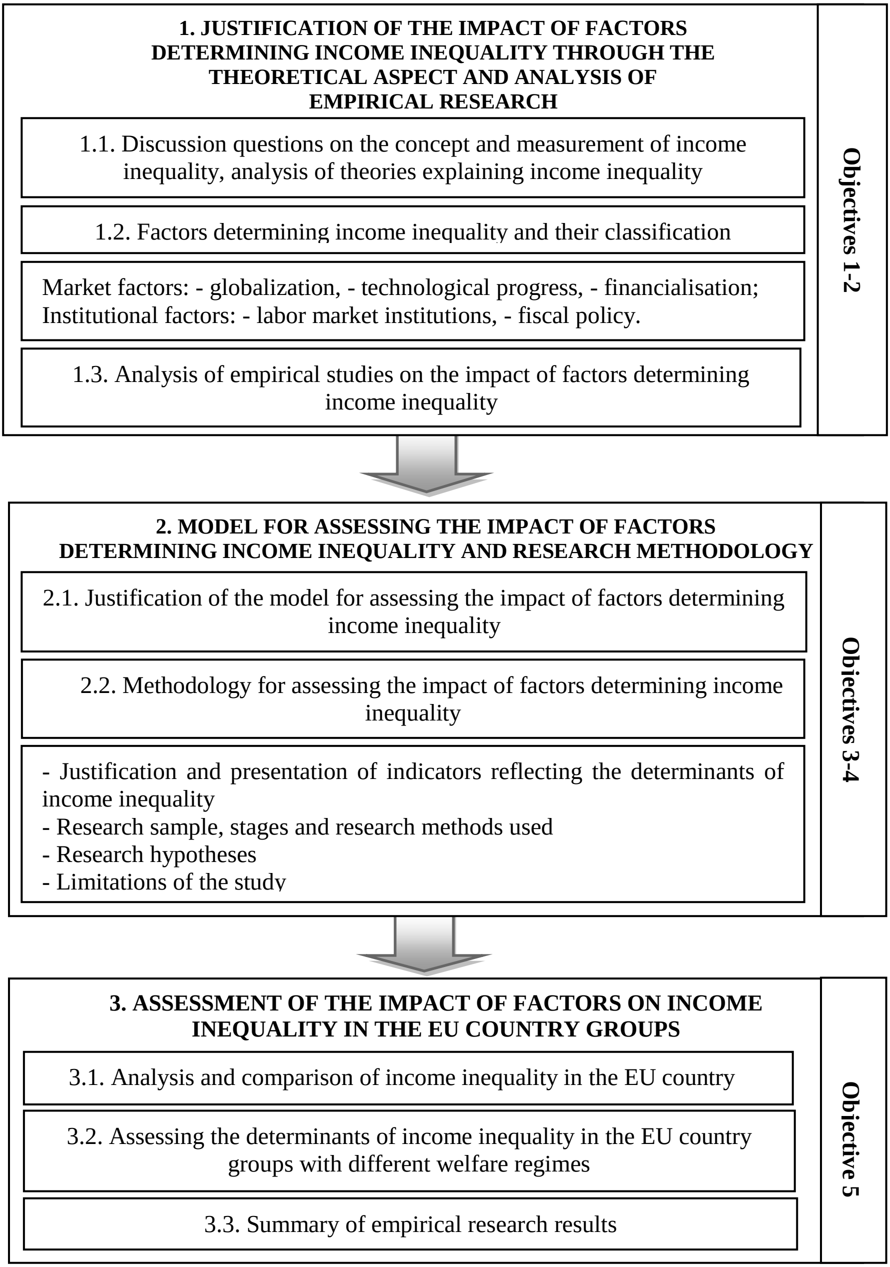


Fig. 1. The logical structure of the dissertation

1. JUSTIFICATION OF THE IMPACT OF FACTORS DETERMINING INCOME INEQUALITY THROUGH THE THEORETICAL ASPECT AND ANALYSIS OF EMPIRICAL RESEARCH

In this chapter of the dissertation, in order to reveal the content of income inequality, theoretical interpretations, identify the main factors affecting income inequality and their theoretical and empirical aspects, the concept of income inequality, discussion aspects, theories explaining income inequality, classification of income inequality factors are analyzed; theoretical aspects of the main factors determining income inequality and the main results of empirical research on the relationship between income inequality and its determinants (technological change, globalization, financialization, labor market institutions, fiscal policy) are revealed.

After analyzing the content of income inequality and theories explaining income inequality, it can be stated that income inequality is related to income inequality, which may result from differences in opportunities and differences in personal effort and talent. Income inequality can be assessed by analyzing income differences among the factors of production, i. e. labor and capital, income disparities among households, income disparities among the countries. Although the economic theory first analyzed the distribution of income between labor and capital, however, with the industrialization process in the middle of the twentieth century, income inequality between individuals / households began to be assessed, as there was no longer a clear separation between workers and owners of capital. Theoretical aspects of income inequality are related to the theories of functional income distribution, i. e. demand and supply of skills related to neoclassical theory (through the technological change), with Stolper Samuelson theory (through the international trade); the sociological approach relates to Kalecki theory (through the role of government), to the theory of political economy (through the collective bargaining, the role of government);

the role of financial markets in Kaldor's theory; the role of government in transfers is related to Kalecki theories of political economy.

Analyzing scientific articles, it is observed that among the effects of market factors on income inequality, the factors of ***globalization*** (Nolan, Richiardi, Valenzuela, 2019; Cabral, García-Díaz, Mollick, 2016; Lim, McNelis, 2016; Sheng, 2015; Asteriou, Dimelis, Moudatsou, 2014; Elmawazini, Sharif, Manga, Drucker, 2013; Jaumotte, Lall, Papageorgiou, 2008; Jaumotte, Lall, Papageorgiou, 2013; Franco, Gerussi, 2013; Çelik, Basdas, 2010; Wade, 2004), ***technological change*** (Cetin, Demir, Saygin, 2021; Richmond, Triplett, 2017; Jaumotte, Lall, Papageorgiou, 2008; Jaumotte, Lall, Papageorgiou, 2013), and ***financialization*** (Kaldor, 2021; Haan, Sturm, 2017; Stockhammer, Guschanski, Köhler, 2016; Soons, 2016; Alvarez, 2015; Hermes, 2014; Zalewski, Whalen, 2010) are most often identified. Meanwhile, scientific articles note that among the impact of institutional factors on income inequality, ***labor market institutions*** (Fortin, Lemieux, Lloyd, 2021; Josifidis, Supic, Beker Pucar, 2017; Jaumotte, Buitron, 2015; Obadić, Šimurina, Sonora, 2014; Checchi, García-Peñalosa, 2008; Checchi, Garcia-Penalosa, 2010; Calderón, Chong, 2009) and ***fiscal policy factors*** (Hailemariam, Sakutukwa, Dzhumashev, 2020; Saez, 2017; Arestis, Gonzalez-Martinez, 2016; IMF, 2014; Feld, Schnellenbach, 2014; Obadić, Šimurina, Sonora, 2014; Bastagli, Coady, Gupta, 2012; Kenworthy, Pontusson, 2005) are most often pointed out.

According to Stiglitz (2016), the market does not operate in a vacuum - it operates in a certain institutional environment, so it is important to assess the impact of both market and institutional factors on income inequality. Thus, these factors are related to approaches to income inequality (see Figure 2).

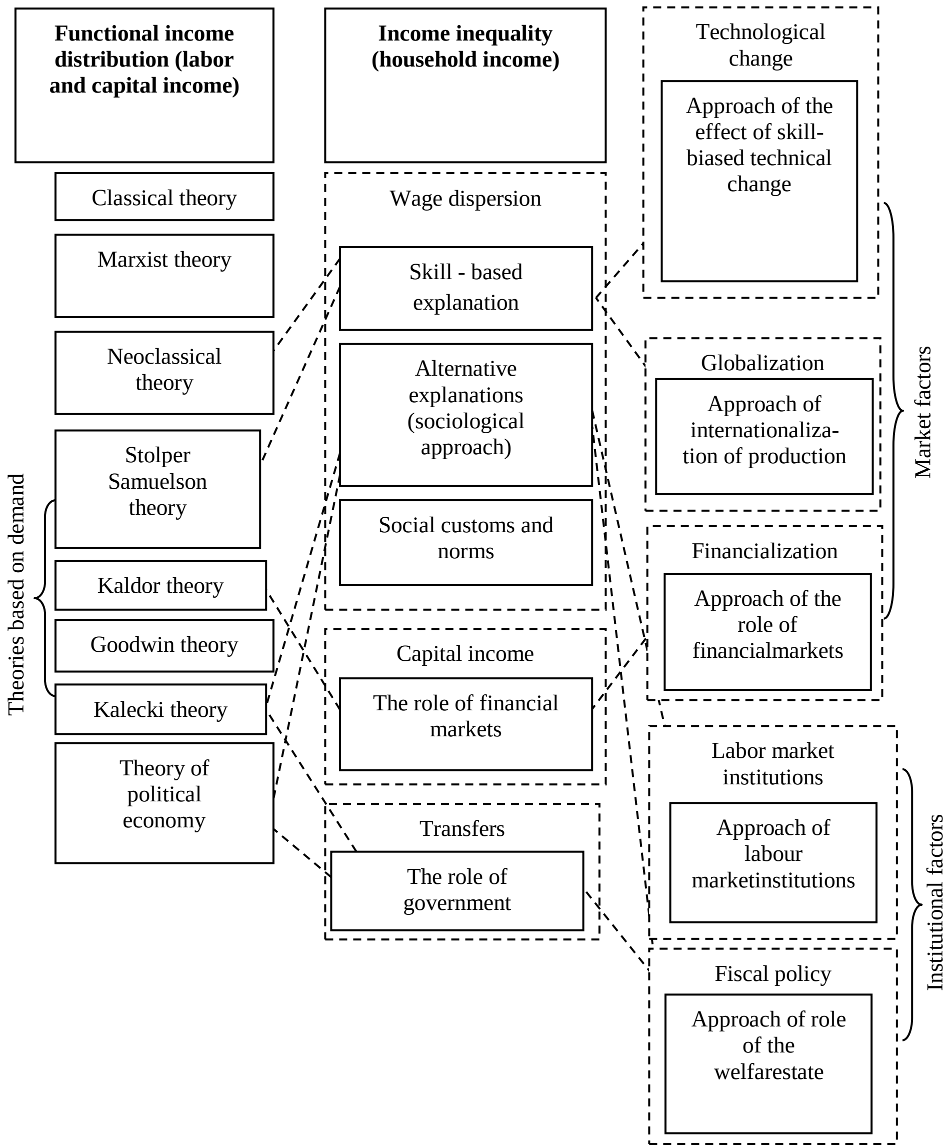


Fig. 2. Relationships among the theoretical aspects of income inequality, theories of functional income distribution and approaches to income inequality

Income inequality can be related to the above-mentioned 3 sources of income and approaches to income inequality: 1) wages, which are related to globalization, technological change processes, labor market institutions and fiscal policy; 2) capital income, which is related to the role of financial markets; 3) transfers related to the role of government (fiscal policy). Therefore, in a detailed analysis of the causes of income inequality, it is important to assess the aspects related to this income and further analyze the determinants of income inequality, considering the approach of the effect of skill-based technical change (income inequality is affected by technological change), the approach of internationalization of production (income inequality is affected by globalization), the approach of labor market institutions (income inequality affects labor market institutions), the approach of role of the welfare state (fiscal policy), and approach of the role of financial markets (financialization).

Summarizing the theoretical aspects of globalization, technological change, financialization, labor market institutions and fiscal policy, it can be stated that the impact of factors and its differences on income inequality depends on the level of country development, and the role of government (the extent of welfare state). Globalization is increasing income inequality in developed countries due to technological change, and may reduce income inequality in developing countries due to increased unskilled labor wages. However, globalization and technological change can reduce the demand for unskilled labor and increase income inequality. The impact of financialization on income inequality may depend on the role of government, i. e. the more the role of government diminishes, the more income inequality may increase. Differences in the impact of labor market institutions on income inequality can be attributed to job flexibility and the level of employment protection. Differences in the impact of fiscal policies on income inequality among the countries may be due to different levels of social protection expenditure.

Having analyzed the empirical studies, they can be divided into three groups: 1) empirical research, which analyzes only one factor: a) financialization (Haan, Sturm, 2017, Hermes, 2014), b) globalization (Asteriou, Dimelis, Moudatsou, 2014, Elmawazini, Sharif, Manga, Drucker, 2013, Lin, Fu, 2016), c) labor market institutions (Checchi, Garcia-Penalosa, 2010); d) technological change (Richmond, Triplett, 2017); 2) empirical research which analyzes two factors: a) factors of globalization and technological change (Jaumotte, Lall, Papageorgiou, 2013), b) factors of labor market institutions and fiscal policy (Obadić, Šimurina, Sonora, 2014); 3) empirical research which analyzes three or more factors (Dabla-Norris, Kochhar, Ricka, Suphaphiphat, Tsounta, 2015, Jain-Chandra, Kinda, Kochhar, Piao, Schauer, 2016, Darcillon, 2015, Huber, Stephens, 2014, Alderson, Nielsen, 2002, Kristal, Cohen, 2017). It should be noted that those who usually analyze one or more factors include control variables in the study that reflect other factors. However, there are not many studies that emphasize a comprehensive assessment of the factors that determine income inequality, including both market and institutional factors. The isolation of only one or two factors in empirical studies does not reveal an overall picture of the causes of income inequality.

Based on the analysis of the scientific literature, it can be stated that some studies assess the impact of the factors determining inequality in the different countries of the world (Haan, Sturm, 2017; Richmond, Triplett, 2017; Jain-Chandra et al., 2016), other studies assess the impact on the country groups of developed and developing countries (Dabla-Norris et al., 2015; Jaumotte et al., 2013); the impact only in developing countries (Lin, Fu, 2016; Hermes, 2014). There have also been a number of studies assessing the impact of different determinants of inequality in developed OECD countries (Darcillon, 2015; Huber, Stephens, 2014; Checchi, Garcia-Penalosa, 2010; Alderson, Nielsen, 2002) and several studies analyzing the impact in the EU countries (Asteriou et al., 2014, Obadić et al., 2014). An analysis of empirical research has shown that there is a lack of research that assesses the causes of income inequality in the EU countries and possible differences among the countries, taking into account country-specific social models that reveal the role of government in these countries.

In summary, it can be stated that the research differs in the number of factors determining the income inequality analyzed, the methods used, the size of the analyzed countries, and the research period. It also depends on the approach chosen by the authors, which leads to income inequality, whether market or institutional factors, or both market and institutional factors. The results show that the main consensus is on the impact of fiscal policy on income inequality, with fiscal policy variables reducing income inequality. The main objections are to the impact of globalization on income inequality, as the assessment of developed countries shows that globalization increases income inequality, but the assessment of the impact of developing countries in the country groups has found both negative (reducing income inequality) and positive (increasing income inequality) effects on income inequality. The impact of technological change and financialization on income inequality depends on the choice of individual indicators, but it has generally been found to increase income inequality. The impact of labor market institutions on income inequality is both positive and negative (depending on indicators).

2. MODEL FOR ASSESSING THE IMPACT OF FACTORS DETERMINING INCOME INEQUALITY AND RESEARCH METHODOLOGY

In order to assess the impact of the factors identified in the theoretical part on income inequality, whether the direction of the factors differs in the country groups with different welfare regimes, a model for assessing the impact of income inequality on technological change, globalization, financing, labor market institutions and fiscal policy has been formed (see Figure 3).

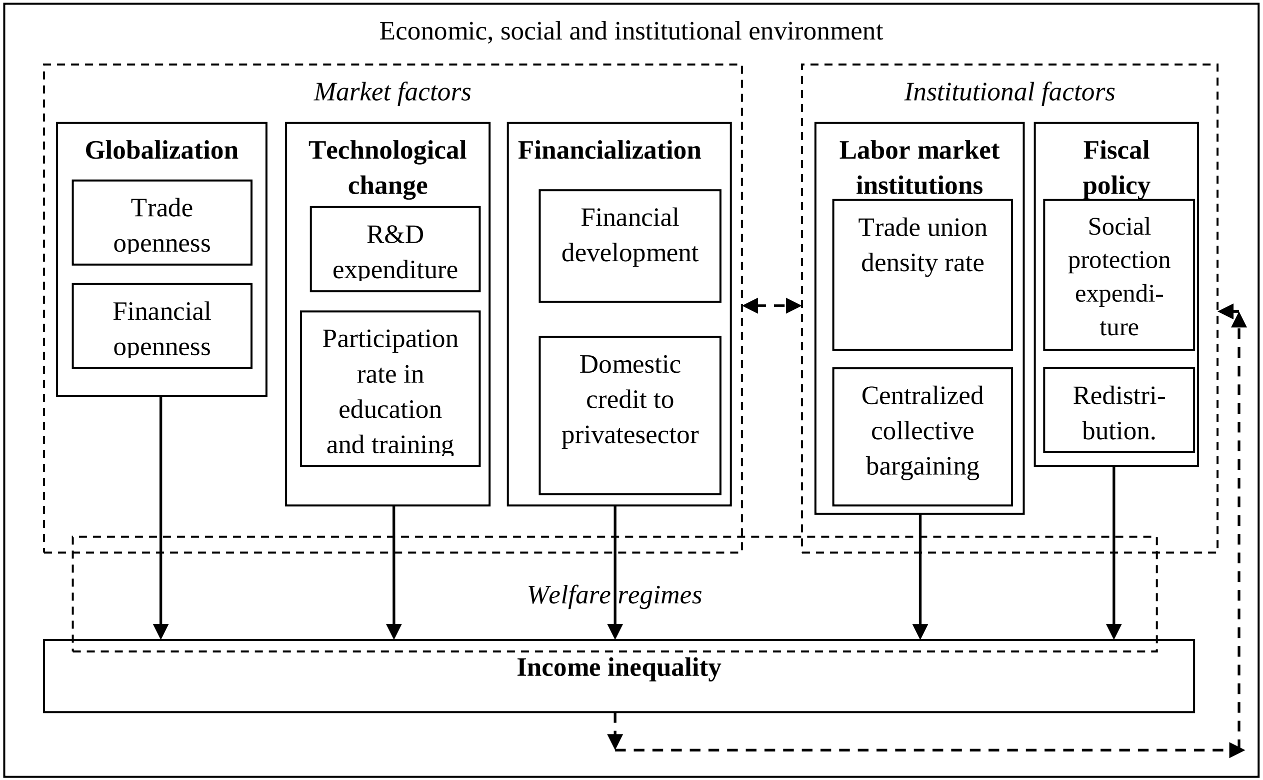


Fig. 3. Model for assessing the impact of factors determining income inequality

This model is based on the relationship among the theoretical aspects of income inequality, theories of functional income distribution and approaches to income inequality presented in the first chapter of the dissertation: 1) globalization is related to the approach of internationalization of production, when assessing the impact of market globalization on the income inequality demand for skilled and unskilled work; 2) technological change is related to the approach of the effect of skill-based technical change, when assessing the impact of technological change on the demand for skilled labor; 3) financialization is related to the approach of the role of financial markets, where household financial decisions increase the influence of financial institutions on income inequality; 4) labor market institutions are related to the approach of labor market institutions, when assessing the role of trade unions in income inequality; 5) fiscal policy is related to the approach of role of the welfare state, when assessing government decisions on income redistribution and expenditure decisions and how this affects income inequality.

This model assesses the impact of income inequality on 5 aspects. How income inequality affects the country groups with different welfare regimes (impact is indicated by a continuous indicator): 1) factors of trade openness and financial openness that reflect globalization; 2) factors of expenditure on R&D and participation in education and training programs reflecting technological change; 3) factors reflecting financialization in financial development and domestic credit to the private sector; 4) factors of membership of trade unions and centralized collective bargaining reflecting labor market institutions; 5) social protection expenditure and redistribution factors reflecting fiscal policy.

Income inequality and its determinants exist in the economic, social and institutional environment. Market and institutional factors in this environment affect income inequality in the context of an existing welfare regime. The model also provides feedback (marked with dotted arrows) that is not directly measured, and in this case it is the information that affects the institutional factors environment and its decisions. Decisions in the institutional environment influence market factors and their decisions, and the latter also affect institutional factors. Thus, considering the differences in the effects of factors among the country groups with different welfare regimes, the impact and proportions of market and institutional factors on income inequality depend on these decisions.

The study used dependent variables reflecting income inequality and independent variables reflecting the determinants of income inequality (see Table 1).

Table 1

Description of dependent and independent variables used in the study

Abbreviation	**Explanation, units of measurement**	**Source**	**Period/number of countries**
Dependent variable (income inequality)			
Gini_market	Gini market coefficient (%) – Gini coefficient of equivalised disposable income before social transfers (pensions included in social transfers)	Eurostat	2003-2018 /28 ES šalys*
Net gini	Gini coefficient (%) – Gini coefficient of equivalised disposable income.	Eurostat	1995-2018 /28 ES šalys*
Palma	Palma ratio is the ratio of the tenth decile (share of national equivalent income, PPS) to the sum of the first, second, third, fourth deciles (share of national equivalent income, PPS).	Estimated by author according to Eurostat	1995-2018 /28 ES šalys*
Quintile	The quintile differentiation coefficient is the ratio of the fifth quintile (share of national	Estimated by author according to Eurostat	1995-2018 /28 ES šalys*

Abbreviation	Explanation, units of measurement	Source	Period/number of countries
	equivalent income, PPS) to the first quintile (share of national equivalent income, PPS).		
Independent variables (globalization)			
Trade	Trade openness (%) is the ratio of the amount of exports and imports to GDP.	Estimated by author according to Eurostat	1995-2018 /28 EU counties*
Fin_open	Financial openness (%) is the ratio of the amount of assets and liabilities of foreign investors to GDP.	Estimated by author according to Eurostat	1995-2018 /28 EU counties*
Independent variables (technological change)			
R_D	Expenditure on R&D (%) - ratio of expenditure on research and development to GDP.	Eurostat	1995-2017 /28 EU counties*
Skill_prem	Level of participation in education and training programs (%) - the share of the number of participants in education and training programs aged 18-64 in the last 4 weeks.	Eurostat	2004-2018 /28 EU counties*
Independent variables (financialization)			
Fin_develop	The financial development index varies from 0 to 1. The higher the value, the higher the financial development.	IMF	1995-2017 /28 EU counties*
Credit_private	Domestic credit to private sector (% of GDP)	The World Bank	2001-2018 /28 EU counties*
Independent variables (labor market institutions)			
Trade_union	Trade union density rate (%). This trade union density rate conveys the number of union	ILO	2000-2016/28 EU counties*

Abbreviation	Explanation, units of measurement	Source	Period/number of countries
	members who are employees as a percentage of the total number of employees.		
Bargaining	The centralized collective bargaining index shows how wages are determined, either through centralized collective bargaining or at the firm level. Values range from 0 to 10. The lower the value, the more centralized collective bargaining.	Fraser institute	2000-2016/28 EU counties*
Independent variables (fiscal policy)			
Social	Social protection expenditure (%) - ratio of social protection expenditure to GDP.	Eurostat	1995-2017 /28 EU counties*
Redistr	Redistribution (percentage points) - the difference between the market Gini coefficient and the Gini coefficient.	Estimated by author according to Eurostat	2003-2018 /28 EU counties*
Control variables			
Unempl	Unemployment rate (%)	Eurostat	1995-2018 /28 EU counties*
Old_age	Old dependency ratio (population 65 and over to population 15 to64 years).	Eurostat	1995-2018 /28 EU counties*
Political_stab	Index of political Stability and absence of violence / terrorism. Varies from -2.5 to 2.5. The greater the importance, the greater the political stability.	The World Bank	1995-2018 /28 EU counties*

Abbreviation	Explanation, units of measurement	Source	Period/number of countries
Rule_law	Index of the rule of law. Varies from -2.5 to 2.5. The higher the value, the better the situation.	The World Bank	1995-2018 /28 EU counties*
Govern_effect	Index of government effectiveness. Varies from -2.5 to 2.5. The higher the value, the better the situation.	The World Bank	1995-2018 /28 EU counties*

** - whereas the study covers the period 1995-2018, the countries that joined the EU in 2018 were also included*

The study period chosen to assess the impact of factors on income inequality covers the period of 1995-2018. This period may reveal medium-term trends in economic development. Also during this period, the post-Soviet countries that joined the EU (mostly in 2004), from the 1990s transitioned to a market economy, therefore it is possible to compare the new EU countries with the old EU ones. In addition, the main indicators used in the survey have been available since 1995 until 2018.

The sample of the study is 28 European Union countries, which in 2018 (last analyzed in the dissertation in 2018) became a part of the EU countries (this composition was in 2013-2020). All countries are classified as developed countries, but their social models also differ in the direction and extent of the factors that contribute to income inequality. In addition, among these countries is Lithuania, which faces the problem of relatively higher and growing income inequality.

The study selected a grouping of the EU countries according to 5 welfare regimes (see Table 2). The grouping of countries is based on an analysis of the scientific literature. The distinguished the country groups with conservative-corporate, social democratic, and liberal welfare regimes are based on the most common classification of these countries. A country group of Mediterranean welfare regimes has also been singled out. Italy is also included in the Mediterranean welfare regime, which Esping-Andersen (1990) classified as a corporate welfare regime, but according to Ferrera (1996), Bonoli (1997), Skuodis (2009), Huber, Stephens (2014), Lauzadyte-Tutliene, Balezentis, Goculenko (2018) Italy is more characterized by the inclusion of the family in the social security model. There was also a problem of which welfare regime to include Cyprus and Malta - as Cyprus and Malta have the characteristics of a Mediterranean welfare regime, these countries are included in this country group (Lauzadyte-Tutliene, Balezentis, Goculenko, 2018; Skuodis, 2009). The fifth country group includes the countries of Central and Eastern Europe, which can be considered separately (Central and Eastern Europe) or together. In the dissertation, these countries belong to one country group of the Central and Eastern European welfare regime.

The division into the country groups with different welfare regimes is expedient, because in these country groups the level and change of income inequality differs, and the extent of income redistribution differs. According to Eurostat, the level of income inequality in the country groups with social democratic and conservative-corporate welfare regimes (average Gini coefficients for 2003-2018 is 25.8 and 27.8, respectively) is estimated to be lower than for liberal, Mediterranean, Central and Eastern European welfare regimes (Gini coefficients averaged 31.5, 32.1 and 30.7, respectively). Also, according to Eurostat, social protection expenditure as a share of GDP is higher in the country groups with social democratic and conservative-corporate welfare regimes (averaging 22.5 per cent and 19.1 per cent respectively between 1995 and 2017) than in the liberal, Mediterranean countries, Central and Eastern European welfare regimes (14.0 per cent, 14.7 per cent and 13.6 per cent respectively). According to Daferma and Papatheodorou (2013), the countries with social democratic and conservative-corporate welfare regimes are more effective in reducing income inequality compared to the countries with liberal and Mediterranean welfare regimes. Higher social transfers are said to be associated with lower levels of income inequality, and an effective social protection system is needed to reduce income inequality. Thus, it is important to determine the impact of factors on income inequality among the country groups with different welfare regimes and whether there are differences in impact among the countries.

Table 2

Grouping of the EU countries by welfare regimes

Welfare regime (abbreviation)	**Countries**	**Description**
Conservative-corporate (conservative)	Belgium, Germany, France, Luxembourg, Netherlands, Austria	It is characterized by relatively generous social security, families are entitled to social services and benefits, social security is related to people's employment status.
Socialdemocratic (socialdemocratic)	Denmark, Finland, Sweden	It is characterized by generous social security, progressive taxation, all persons are entitled to social services and benefits.
Liberal (liberal)	Ireland, United Kingdom	The allocation of resources depends on the market, dominated by social benefits, which are granted after a person's financial situation has been determined.
Mediterranean (mediterranean)	Greece, Spain, Italy, Cyprus, Malta, Portugal	The social security system is not well developed, the payment of social benefits is highly fragmented, and the main compensators for social security gaps are the family and relatives providing social assistance.
Central and Eastern Europe (CentralEastern)	Bulgaria, Czechia, Estonia, Croatia, Latvia, Lithuania,	Social security spending is low, with a relatively lower standard of living than in

Welfare regime (abbreviation)	Countries	Description
	Hungary, Poland, Romania, Slovenia, Slovakia	other welfare regimes.

Source: made by the author on the basis of Y. Dafermos and C. Papatheodorou (2013), M. Skuodis (2009), K. Josifidis, R. D. Mitrović, N. Supić, O. Glavaški (2016) and others.

The study of the impact of factors on income inequality was conducted in 2 stages.

In the first stage, the trends of income inequality in the country groups with different welfare regimes are revealed. Numerical characteristics were used to describe and compare the income inequality expressed in terms of market Gini coefficient, Gini coefficient, Palma ratio and quintile differentiation coefficient: position (average) describing the magnitude of the data values; scatter (standard deviation, maximum value, minimum value) that describes the scatter of the data values.

The second phase aims to assess the impact of globalization, technological change, financialization, labor market institutions and fiscal policy factors on income inequality. This stage reveals the dynamics of variables reflecting the factors of income inequality (globalization, technological change, financialization, labor market institutions, fiscal policy) in the country groups with different welfare regimes. Also, as in the first stage, the extent and distribution of the determinants of income inequality among the country groups are compared. Ordinary least squares (OLS) regression analysis was used to investigate the impact of factors on income inequality among the country groups with different welfare regimes.

Five econometric models have been developed to assess the impact of factors on income inequality among the country groups with different welfare regimes. The model-independent variable is an indicator of income inequality, resulting in 4 model specifications where the dependent variable is a market Gini coefficient, even a

Gini coefficient, a Palma ratio, or a quintile differentiation coefficient (all variables were logarithmized in natural logarithm and differentiated). All models include all independent variables (logarithmic and differentiated), control variables (logarithmic and differentiated), time dummy variables. Thus, the main differences among the models are:

1. the first model identifies the impact of globalization variables on income inequality among the country groups with different welfare regimes. In order to determine whether there are differences in the effects among the country groups, specifications for a model of the effects of globalization on income inequality among the country groups with different welfare regimes were developed with each dependent variable. In each model specification the basic country groups for globalization indicators were changed. One of the specifications of the econometric model is:

$$gini\_market_{i,t}=\alpha+td_3 1997+...+td_{24}2018+\beta_1 Trade_{i,t}+\beta_2 Trade_{i,t}\cdot conservative_{i,t}+\beta_3 Trade_{i,t}\cdot socialdemocratic_{i,t}+\beta_4 Trade_{i,t}\cdot\cdot liberal_{i,t}+\beta_5 Trade_{i,t}\cdot mediterranean_{i,t}+\beta_6 Fin\_open_{i,t}+ +\beta_7 Fin\_open_{i,t}\cdot conservative_{i,t}+\beta_8 Fin\_open_{i,t}\cdot liberal_{i,t}+ +\beta_9 Fin\_open_{i,t}\cdot mediterranean_{i,t}+\beta_{10} Fin\_open_{i,t}\cdot\cdot CentralEastern_{i,t}+\beta_{11} R\_D_{i,t}+\beta_{12} Skill\_prem_{i,t}+ +\beta_{13} Fin\_develop_{i,t}+\beta_{14} Credit\_private_{i,t}+\beta_{15} Trade\_union_{i,t}+ +\beta_{16} Bargaining_{i,t}+\beta_{17} Social_{i,t}+\beta_{18} Redistr_{i,t}+\beta_{19} Unempl_{i,t}+ +\beta_{20} old\_age_{i,t}+\beta_{21} Political\_stab_{i,t}+\beta_{22} Rule\_law_{i,t}+ +\beta_{23} Govern\_effect_{i,t}+u_{i,t} (1),$$

where i – country, t – time period; $gini\_market_{i,t}$ is the indicator reflecting income inequality (in this case the market Gini coefficient); α – constant; td_t – time variables absorbing the impact of time on research results (time dummies); β_1, β_6, β_{11}-β_{23} – coefficients reflecting the impact of an independent factor on a dependent variable, they are interpreted as elasticity coefficients; β_2-β_5 - coefficients showing the difference in the effect of trade openness ($Trade_{i,t}$) among the country groups with different welfare regimes compared to the basic country group (in this case, Central and Eastern Europe); β_7-β_{10} - coefficients showing the difference in the effect of financial openness ($Fin\_open_{i,t}$) among the country groups with different welfare regimes compared to the basic country group (in this case, the social democratic welfare regime); $u_{i,t}$ – model error.

2. the second model identifies the impact of technological change variables on income inequality among the country groups with different welfare regimes. In order to determine whether there are differences in the effects among the country groups, specifications for a model of the effects of technological change on income inequality among the country groups with different welfare regimes were developed with each dependent variable. In each model specification the basic country groups for technological change indicators were changed. One of the specifications of the econometric model is:

$$\begin{aligned}
&gini_market_{i,t}=\alpha+td_3 1997+...+td_{24}2018+\beta_1 Trade_{i,t}+\\
&+\beta_2 Fin_open_{i,t}+\beta_3 R_D_{i,t}+\beta_4 R_D_{i,t}\cdot conservative_{i,t}+\beta_5 R_D_{i,t}\cdot\cdot liberal_{i,t}+\beta_6 R_D_{i,t}\cdot mediterranean_{i,t}+\beta_7 R_D_{i,t}\cdot\\
&\cdot CentralEastern_{i,t}+\beta_8 Skill_prem_{i,t}+\beta_9 Skill_prem_{i,t}\cdot\cdot conservative_{i,t}+\beta_{10} Skill_prem_{i,t}\cdot liberal_{i,t}+\beta_{11} Skill_prem_{i,t}\cdot\cdot mediterranean_{i,t}+\beta_{12} Skill_prem_{i,t}\cdot CentralEastern_{i,t}+\\
&+\beta_{13} Fin_develop_{i,t}+\beta_{14} Credit_private_{i,t}+\beta_{15} Trade_union_{i,t}+\\
&+\beta_{16} Bargaining_{i,t}+\beta_{17} Social_{i,t}+\beta_{18} Redistr_{i,t}+\beta_{19} Unempl_{i,t}+\\
&+\beta_{20} old_age_{i,t}+\beta_{21} Political_stab_{i,t}+\beta_{22} Rule_law_{i,t})+\\
&+\beta_{23} Govern_effect_{i,t}+u_{i,t} \qquad (2)
\end{aligned}$$

where i – country, t – time period;$gini\_market_{i,t}$ is the indicator reflecting income inequality (in this case the market Gini coefficient); α – constant; td_t – time variables absorbing the impact of time on research results (time dummies); β_1, β_2, β_3, β_8, β_{13}-β_{23} – coefficients reflecting the impact of an independent factor on a dependent variable, they are interpreted as elasticity coefficients; β_4-β_7– coefficients showing the difference in the effect of R&D expenditure ($R\_D_{i,t}$) among the country groups with different welfare regimes compared to the basic country group (in this case, the social democratic welfare regime);β_9-β_{12}– coefficients showing the difference in the effect of participation rate in education and training ($Skill\_prem_{i,t}$) among the country groups with different welfare regimes compared to the basic country group (in this case, the social democratic welfare regime); $u_{i,t}$ – model error.

3. the third model identifies the impact of financialization variables on income inequality among the country groups with different welfare regimes. In order to determine whether there are differences in the effects among the country groups, specifications for a model of the effects of financialization on income inequality among the country groups with different welfare regimes were developed with each dependent variable. In each model specification the basic country groups for financialization indicators were changed. One of the specifications of the econometric model is:

$$gini\_market_{i,t}=\alpha+td_3 1997+...+td_{24}2018+\beta_1 Trade_{i,t}+ +\beta_2 Fin\_open_{i,t}+\beta_3 R\_D_{i,t}+\beta_4 Skill\_prem_{i,t}+\beta_5 Fin\_develop_{i,t}+ +\beta_6 Fin\_develop_{i,t}\cdot socialdemocratic_{i,t}+\beta_7 Fin\_develop_{i,t}\cdot\cdot liberal_{i,t}+\beta_8 Fin\_develop_{i,t}\cdot mediterranean_{i,t}+\beta_9 Fin\_develop_{i,t}\cdot \cdot CentralEastern_{i,t}+\beta_{10} Credit\_private_{i,t}+\beta_{11} Credit\_private_{i,t}\cdot\cdot conservative_{i,t}+\beta_{12} Credit\_private_{i,t}\cdot liberal_{i,t}++\beta_{13} Credit\_privat$$

$e_{i,t} \cdot mediterranean_{i,t} + \beta_{14} Credit\_private_{i,t} \cdot \cdot CentralEastern_{i,t} + \beta_{15} Trade\_union_{i,t} + \beta_{16} Bargaining_{i,t} + + \beta_{17} Social_{i,t} + \beta_{18} Redistr_{i,t} + \beta_{19} Unempl_{i,t} + \beta_{20} old\_age_{i,t} + + \beta_{21} Political\_stab_{i,t} + \beta_{22} Rule\_law_{i,t} + \beta_{23} Govern\_effect_{i,t} + u_{i,t}$
(3)

where i – country, t – time period;$gini\_market_{i,t}$ is the indicator reflecting income inequality (in this case the market Gini coefficient); α – constant; td_t – time variables absorbing the impact of time on research results (time dummies); β_1-β_5, β_{10}, β_{15}-β_{23} – coefficients reflecting the impact of an independent factor on a dependent variable, they are interpreted as elasticity coefficients; β_6-β_9– coefficients showing the difference in the effect of financial development ($Fin\_develop_{i,t}$) among the country groups with different welfare regimes compared to the basic country group; β_{11}-β_{14}– coefficients showing the difference in the effect of domestic credit to private sector ($Credit\_private_{i,t}$) among the country groups with different welfare regimes compared to the basic country group; $u_{i,t}$ – model error.

4. the fourth model identifies the impact of labor market institution variables on income inequality among the country groups with different welfare regimes. In order to determine whether there are differences in the effects among the country groups, specifications for a model of the effects of labor market institutions on income inequality among the country groups with different welfare regimes were developed with each dependent variable. In each model specification the basic country groups for labor market institutions indicators were changed. One of the specifications of the econometric model is:

$$gini\_market_{i,t}=\alpha+td_3 1997+...+td_{24}2018+\beta_1 Trade_{i,t}+ +\beta_2 Fin\_open_{i,t}+\beta_3 R\_D_{i,t}+\beta_4 Skill\_prem_{i,t}+\beta_5 Fin\_develop_{i,t}+ +\beta_6 Credit\_private_{i,t}+\beta_7 Trade\_union_{i,t}+\beta_8 Trade\_union_{i,t}\cdot\cdot socialdemocratic_{i,t}+\beta_9 Trade\_union_{i,t}\cdot liberal_{i,t}+ +\beta_{10} Trade\_union_{i,t}\cdot mediterranean_{i,t}+\beta_{11} Trade\_union_{i,t}\cdot\cdot CentralEastern_{i,t}+\beta_{12} Bargaining_{i,t}+\beta_{13} Bargaining_{i,t}\cdot\cdot conservative_{i,t} +\beta_{14} Bargaining_{i,t}\cdot socialdemocratic_{i,t}+ +\beta_{15} Bargaining_{i,t}\cdot mediterranean_{i,t}+\beta_{16} Bargaining_{i,t}\cdot\cdot CentralEastern_{i,t}+\beta_{17} Social_{i,t}+\beta_{18} Redistr_{i,t}+\beta_{19} Unempl_{i,t}+ +\beta_{20} old\_age_{i,t}+\beta_{21} Political\_stab_{i,t}+\beta_{22} Rule\_law_{i,t}+ +\beta_{23} Govern\_effect_{i,t}+u_{i,t} \quad (4)$$

where i – country, t – time period;$gini\_market_{i,t}$ is the indicator reflecting income inequality (in this case the market Gini coefficient); α – constant; td_t – time variables absorbing the impact of time on research results (time dummies); β_1-β_7, β_{12}, β_{17}-β_{23} – coefficients reflecting the impact of an independent factor on a dependent variable, they are interpreted as elasticity coefficients; β_8-β_{11}– coefficients showing the difference in the effect of trade union density rate ($Trade\_union_{i,t}$) among the country groups with different welfare regimes compared to the basic country group; β_{13}-β_{16}– coefficients showing the difference in the effect of centralized collective bargaining ($Bargaining_{i,t}$) among the country groups with different welfare regimes compared to the basic country group; $u_{i,t}$ – model error.

5. the fifth model identifies the impact of fiscal policy variables on income inequality among the country groups with different welfare regimes. In order to determine whether there are differences in the effects among the country groups, specifications for a model of the effects of fiscal policy on income inequality among the country groups with different welfare regimes were developed with each dependent

variable. In each model specification the basic country groups for fiscal policy indicators were changed. One of the specifications of the econometric model is:

$$gini\_market_{i,t}=\alpha+td_{3}1997+...+td_{24}2018+\beta_{1}Trade_{i,t}+ +\beta_{2}Fin\_open_{i,t}+\beta_{3}R\_D_{i,t}+\beta_{4}Skill\_prem_{i,t}+\beta_{5}Fin\_develop_{i,t}+ +\beta_{6}Credit\_private_{i,t}+\beta_{7}Trade\_union_{i,t}+\beta_{8}Bargaining_{i,t}+ +\beta_{9}Social_{i,t}+\beta_{10}Social_{i,t}\cdot socialdemocratic_{i,t}+\beta_{11}Social_{i,t}\cdot\cdot liberal_{i,t}+\beta_{12}Social_{i,t}\cdot mediterranean_{i,t}+\beta_{13}Social_{i,t}\cdot\cdot CentralEastern_{i,t}+\beta_{14}Redistr_{i,t}+\beta_{15}Redistr_{i,t}\cdot \cdot socialdemocratic_{i,t}+\beta_{16}Redistr_{i,t}\cdot liberal_{i,t}+\beta_{17}Redistr_{i,t}\cdot\cdot mediterranean_{i,t}+\beta_{18}Redistr_{i,t}\cdot CentralEastern_{i,t}+ +\beta_{19}Unempl_{i,t}+\beta_{20}old\_age_{i,t}+\beta_{21}Political\_stab_{i,t}+ +\beta_{22}Rule\_law_{i,t}+\beta_{23}Govern\_effect_{i,t}+u_{i,t} \quad (5)$$

where i – country, t – time period; $gini\_market_{i,t}$ is the indicator reflecting income inequality (in this case the market Gini coefficient); α – constant; td_t – time variables absorbing the impact of time on research results (time dummies); β_1-β_9, β_{14}, β_{19}-β_{23} – coefficients reflecting the impact of an independent factor on a dependent variable, they are interpreted as elasticity coefficients; β_{10}-β_{13}– coefficients showing the difference in the effect of social protection expenditure ($Social_{i,t}$) among the country groups with different welfare regimes compared to the basic country group; β_{15},-β_{18}– coefficients showing the difference in the effect of redistribution ($Redistr_{i,t}$) among the country groups with different welfare regimes compared to the basic country group; $u_{i,t}$ – model error.

3. ASSESSMENT OF THE IMPACT OF FACTORS ON INCOME INEQUALITY IN THE EU COUNTRY GROUPS

This chapter, according to the methodology developed in Chapter 2, reveals the trends of income inequality indicators and changes in globalization, technological change, financialization, labor market institutions, and fiscal policy factors in the EU country groups with welfare regimes. Also, according to the developed model, the impact of factors on income inequality in the different EU country groups is assessed in order to test the hypotheses.

The lowest level of income inequality (according to Gini, Palma and quintile differentiation coefficients) during the 1995-2018 period was in the country group with a social democratic welfare regime, but in this country group an increase in all indicators of income inequality was observed. The highest Gini coefficient (as well as the Palma ratio and the quintile differentiation coefficient) was in the country group of Mediterranean welfare regime, but a declining trend in income inequality (except for the market Gini coefficient) was observed. Income inequality has also decreased in the country groups with conservative-corporate and liberal welfare regimes. The country group of Central and Eastern European countries has been observed to have relatively high levels of income inequality and growing trends in income inequality.

Thus, 3 main aspects can be distinguished: 1) the country groups with liberal, Mediterranean and Central and Eastern European welfare regimes are characterized by high levels of income inequality and lower redistribution (the difference between market Gini and Gini coefficients); 2) income inequality increases in the country group with a lower level of income inequality of the social democratic welfare regime, and income inequality decreases in the country group with a lower level of income inequality of the conservative-corporate welfare regime; also in these country groups the difference between the Gini market and the Gini is the largest,

i. e. redistribution maximum; 3) income inequality is rising in the country group of Central and Eastern European welfare regimes with higher levels of income inequality.

Results of the globalization impact assessment of income inequality. The results obtained showed a statistically reliable econometric model with a dependent market Gini coefficient that distinguishes two globalization variables: trade openness and financial openness (see Table 3). In the case of the first variable, the basic country group is the group of countries of the Central and Eastern European welfare regime, and in the case of the second variable, the country group of the social democratic welfare regime. The adjusted R^2 of the econometric model with other dependent variables (Gini, Palma ratio, quintile differentiation coefficient) is less than 0.2, so a very small part of the change in these dependent variables is explained by the change in the independent variables.

Table 3

The impact of globalization on income inequality among the country groups with different welfare regimes

Independent variables	**Dependent variable** **Gini market (ld_gini_market)**
Globalization:	
Trade openess (ld_Trade)	**-0,124****
ld_Trade*conservative	**0,180*****
ld_Trade *socialdemocratic	0,078
ld_Trade *liberal	**0,207****
ld_Trade *mediterranean	**0,140*****
Financial openess (ld_Fin_open)	**0,065***
ld_Fin_open*conservative	−0,047
ld_Fin_open *liberal	**−0,169*****
ld_Fin_open*mediterranean	−0,048
ld_Fin_open *CentralEastern	**−0,086***
Technological change:	
R&D expenditure (ld_R_D)	0,009
Participation rate in education and training (ld_Skill_prem)	0,005

Independent variables	Dependent variable
	Gini market (ld_gini_market)
Financialization:	
Financial development(ld_Fin_develop)	0,005
Domestic credit to private sector (ld_Credit_private)	−0,009
Labor market institutions:	
Trade union density rate (ld_Trade_union)	0,046
Centralized collective bargaining (ld_Bargaining)	0,004
Fiscal policy:	
Social protection expenditure (ld_Social)	−0,087*
Redistribution (ld_Redistr)	0,378***
Control variables:	
Unemployment rate (ld_Unempl)	0,017
Old dependency ratio (ld_old_age)	−0,079
Political Stability and absence of violence (ld_Political_stab)	−0,025
The rule of law (ld_Rule_law)	−0,021
Government effectiveness (ld_Govern_effect)	0,068
Time dummies	Taip
n	233
Adjusted R^2	0,591

* p<0,1, ** p<0,05, *** p<0,01

The model of the impact of globalization factors on income inequality among the country groups with different welfare regimes is statistically reliable and there is no significant difference in the effect of either trade openness or financial openness on any country group compared to the basic country group. Thus, ***the first hypothesis that the globalization of trade reduces income inequality in the country group of Central and Eastern European welfare regimes, while the direction of impact differs in the other country groups has not been confirmed. The second hypothesis that financial globalization increases income inequality among all the country groups of different welfare regimes has been confirmed***.

In summary, trade openness reduces income inequality in the country group of Central and Eastern welfare regimes and there is no difference in the direction of effects in the other country groups of different welfare regime compared to this country group. Financial openness increases income inequality in the country group with a social democratic welfare regime, and there is no difference in the direction of impact in the other country groups compared to this country group. According to the obtained results, it can be stated that the variables of globalization affect income inequality in opposite directions, i. e. trade openness reduces income inequality and financial openness increases income inequality. Comparing the obtained results with the results of other empirical studies, it was found that the effect of financial openness on income inequality coincides with Dabla-Norris et al. (2015), Jain-Chandra et al. (2016), Jaumotte et al. (2013) which used an indicator of the ratio of foreign assets and liabilities to GDP to reflect financial openness, and found that financial openness increases income inequality. Although trade openness may increase income inequality due to technological change in developed countries according to Stolper Samuelson's theorem, the results obtained show the opposite trend. This may be due to the fact that the country group in the Central and Eastern European welfare regime with which differences in the direction of exposure were compared have a relatively lower standard of living.

Results of the assessment of the impact of technological change on income inequality. The results showed a statistically reliable econometric model with a dependent market Gini coefficient comparing the impact of technological change variables on R&D expenditure and participation in education and training inequality (see Table 4). For both variables, the basic country group is with the social democratic welfare regime. The adjusted R^2 of the econometric model with other dependent variables (Gini, Palma ratio, quintile differentiation coefficient) is less than 0.2, so a very small part of the change in these dependent variables is explained by the change in the independent variables.

Table 4

The impact of technological change on income inequality among the country groups with different welfare regimes

Independent variables	Dependent variable Gini market (ld_gini_market)
Globalization:	
Trade openess (ld_Trade)	−0,069
Financial openess (ld_Fin_open)	0,006
Technological change:	
R&D expenditure (ld_R_D)	**0,270*** **
ld_R_D*conservative	**−0,204***
ld_R_D*liberal	**−0,202***
ld_R_D*mediterranean	**−0,284*** **
ld_R_D*CentralEastern	**−0,291*** **
Participation rate in education and training (ld_Skill_prem)	**0,047***
ld_Skill_prem*conservative	**−0,067** **
ld_Skill_prem*liberal	−0,006
ld_Skill_prem*mediterranean	0,002
ld_Skill_prem*CentralEastern	**−0,075** **
Financialization:	
Financial development(ld_Fin_develop)	0,017
Domestic credit to private sector (ld_Credit_private)	−0,015
Labor market institutions:	
Trade union density rate (ld_Trade_union)	0,054
Centralized collective bargaining (ld_Bargaining)	−0,007
Fiscal policy:	
Social protection expenditure (ld_Social)	−0,091*
Redistribution (ld_Redistr)	0,358***
Control variables:	
Unemployment rate (ld_Unempl)	0,027
Old dependency ratio (ld_old_age)	0,010
Political Stability and absence of violence (ld_Political_stab)	−0,030
The rule of law (ld_Rule_law)	−0,019
Government effectiveness (ld_Govern_effect)	0,055
Time dummies	Taip
n	233

Independent variables	Dependent variable
	Gini market (ld_gini_market)
Adjusted R^2	0,590

* p<0,1, ** p<0,05, *** p<0,01

As the model of the impact of technological change on income inequality in the different country groups is statistically reliable and the effect of the participation rate in education and training programs in this model differs from the basic country group, ***the hypothesis that technological change increases income inequality in all the country groups of different welfare regimes, has not been confirmed.***

In summary, R&D spending increases income inequality among the country groups. Participation in education and training programs increases income inequality in all the country groups except the country group with a conservative-corporate welfare regime. Comparing the results of other studies in which technological change has been found to increase income inequality (Dabla-Norris et al., 2015, Jain-Chandra et al., 2016, Jaumotte et al., 2013, Richmond, Triplett, 2017), it can be said that the results are the same in all the country groups with different welfare regimes, except in the country group with conservative-corporate welfare regimes. The reason for the difference in the impact of the conservative-corporate welfare regime in the country group can be attributed to the increasing participation in education and training programs.

Results of the assessment of the impact of financialization on income inequality. The results showed that a econometric model with a dependent market Gini coefficient comparing the effects of the variables expressing financialization - financial development and domestic credit to the private sector - on income inequality is statistically reliable (see Table 5). In the case of the first variable, the basic country group is the country group with a conservative-corporate welfare regime, and for the second variable, the country group with a social democratic welfare regime. The adjusted R^2 of the econometric model with other dependent variables (Gini, Palma ratio, quintile differentiation coefficient) is less than 0.2, so a very small part of the change in these dependent variables is explained by the change in the independent variables.

Table 5

The impact of financialization on income inequality among the country groups with different welfare regimes

Independent variables	Dependent variable Gini market (ld_gini_market)
Globalization:	
Trade openess (ld_Trade)	−0,083*
Financial openess (ld_Fin_open)	0,026
Technological change:	
R&D expenditure (ld_R_D)	0,005
Participation rate in education and training (ld_Skill_prem)	0,009
Financialization:	
Financial development(ld_Fin_develop)	**0,072****
ld_Fin_develop*socialdemocratic	−0,029
ld_Fin_develop*liberal	−0,116
ld_Fin_develop*mediterranean	**−0,116****
ld_Fin_develop*CentralEastern	−0,025
Domestic credit to private sector (ld_Credit_private)	**0,295*****
ld_Credit_private*conservative	**−0,364*****
ld_Credit_private* liberal	**−0,237****
ld_Credit_private*mediterranean	**−0,228****
ld_Credit_private*CentralEastern	**−0,344*****
Labor market institutions:	
Trade union density rate (ld_Trade_union)	0,055*
Centralized collective bargaining (ld_Bargaining)	0,010
Fiscal policy:	
Social protection expenditure (ld_Social)	−0,085**
Redistribution (ld_Redistr)	0,353***
Control variables:	
Unemployment rate (ld_Unempl)	0,020
Old dependency ratio (ld_old_age)	0,020

Independent variables	Dependent variable
	Gini market (ld_gini_market)
Political Stability and absence of violence (ld_Political_stab)	0,015
The rule of law (ld_Rule_law)	−0,026
Government effectiveness (ld_Govern_effect)	0,032
Time dummies	Taip
n	233
Adjusted R^2	0,595

* p<0,1, ** p<0,05, *** p<0,01

As the model of the impact of financialization factors on income inequality among the country groups is statistically reliable and there is no significant difference in either financial development or domestic credit to the private sector in any country group compared to the basic country group, the ***hypothesis that financialization increases income inequality among all the country groups with different welfare regimes has been confirmed.***

In summary, both financial development and domestic credit to the private sector increase income inequality among the country groups. Thus, it shows that the role of the financial market is growing and the processes of financialization are contributing to the growth of income inequality among all the country groups with different welfare regimes and may reduce the role of government. These results are consistent with the link between financialization and growing income inequality mentioned in scientific articles (Stiglitz, 2012; Razgūnė, 2017; Dünhaupt, 2014; Golebiowski, Szczepankowski, Wisniewska, 2016; Palley, 2008). However, comparing the results of the study with Dabla-Norris et al. (2015) found the opposite effect on income inequality, i. e. the ratio of domestic credit to GDP in developed countries has been found to reduce income inequality.

Results of the assessment of the impact of labor market institutions on income inequality. The results showed that an econometric model with a dependent market Gini coefficient comparing the effects of variables expressing labor market institutions - trade union membership and centralized collective bargaining - on income inequality is statistically reliable (see Table 6). In the case of the first variable, the basic country group is the country group with a conservative-corporate welfare regime, and for the second variable it is the country group with a liberal welfare regime. The adjusted R^2 of the econometric model with other dependent variables (Gini, Palma ratio, quintile differentiation coefficient) is less than 0.2, so a very small part of the change in these dependent variables is explained by the change in the independent variables.

Table 6

The impact of labor market institutions on income inequality among the country groups with different welfare regimes

Independent variables	**Dependent variable** **Gini market (ld_gini_market)**
Globalization:	
Trade openess (ld_Trade)	−0,071*
Financial openess (ld_Fin_open)	0,016
Technological change:	
R&D expenditure (ld_R_D)	0,008
Participation rate in education and training (ld_Skill_prem)	0,003
Financialization:	
Financial development(ld_Fin_develop)	0,025
Domestic credit to private sector (ld_Credit_private)	−0,011
Labor market institutions:	
Trade union density rate (ld_Trade_union)	**−0,208***
ld_Trade_union*socialdemocratic	−0,014
ld_Trade_union*liberal	**0,217***
ld_Trade_union*mediterranean	0,123
ld_Trade_union *CentralEastern	**0,289*****
Centralized collective bargaining (ld_Bargaining)	**−0,022****
ld_Bargaining*conservative	0,006
ld_Bargaining*socialdemocratic	**0,044*****

Independent variables	Dependent variable
	Gini market (ld_gini_market)
ld_Bargaining*mediterranean	−0,021
ld_Bargaining*CentralEastern	0,092
Fiscal policy:	
Social protection expenditure (ld_Social)	−0,071
Redistribution (ld_Redistr)	0,363***
Control variables:	
Unemployment rate (ld_Unempl)	0,023
Old dependency ratio (ld_old_age)	−0,050
Political Stability and absence of violence (ld_Political_stab)	−0,024
The rule of law (ld_Rule_law)	0,021
Government effectiveness (ld_Govern_effect)	0,051
Time dummies	Taip
n	233
Adjusted R^2	0,582

* p<0,1, ** p<0,05, *** p<0,01

As the model of the impact of labor market factors on income inequality in the different country groups is statistically reliable and in this model the effects of the trade union membership indicator in the country group with Central and Eastern European welfare regime and the centralized collective bargaining indicator in the social democratic welfare regime differ, comparing with the basic country groups, therefore, ***the hypothesis that labor market institutions reduce income inequality among all the country groups of different welfare regimes has not been confirmed.***

In summary, trade union density rate reduces income inequality in all the country groups except the Central and Eastern European welfare regimes. Also, research by Darcillon (2015), Huber, Stephens (2014), Kristal, Cohen (2017), Alderson, Nielsen (2002) found that unions reduce income inequality. However, a difference in exposure was found in the country group of Central and Eastern European welfare regimes, and it may be related to the fact that this country group had the lowest share of trade union membership.

Centralized collective bargaining reduces income inequality in all the country groups except the country group with the social democratic welfare regime.

Results of the assessment of the impact of fiscal policies on income inequality. The results showed a statistically reliable econometric model with a dependent market Gini coefficient comparing the effects of fiscal policy variables on social protection expenditure and redistribution on income inequality (see Table 7). For both variables, the basic country group is the country group with a conservative-corporate welfare regime. The adjusted R^2 of the econometric model with other dependent variables (Gini, Palma ratio, quintile differentiation coefficient) is less than 0.2, so a very small part of the change in these dependent variables is explained by the change in the independent variables.

Table 7

The impact of fiscal policy on income inequality among the country groups with different welfare regimes

Independent variables	**Dependent variable**
	Gini market (ld_gini_market)
Globalization:	
Trade openess (ld_Trade)	−0,042
Financial openess (ld_Fin_open)	0,019
Technological change:	
R&D expenditure (ld_R_D)	0,001
Participation rate in education and training (ld_Skill_prem)	−0,002
Financialization:	
Financial development(ld_Fin_develop)	−0,002
Domestic credit to private sector (ld_Credit_private)	−0,040
Labor market institutions:	
Trade union density rate (ld_Trade_union)	0,077**
Centralized collective bargaining (ld_Bargaining)	0,003
Fiscal policy:	
Social protection expenditure (ld_Social)	**−0,228****

Independent variables	Dependent variable Gini market (ld_gini_market)
ld_Social*socialdemocratic	0,156
ld_Social*liberal	**0,314*** **
ld_Social*mediterranean	**0,206***
ld_Social*CentralEastern	0,148
Redistribution (ld_Redistr)	**0,293*** **
ld_Redistr*socialdemocratic	**0,255*** **
ld_Redistr*liberal	−0,100
ld_Redistr*mediterranean	−0,043
ld_Redistr*CentralEastern	**−0,150** **
Control variables:	
Unemployment rate (ld_Unempl)	0,021
Old dependency ratio (ld_old_age)	0,079
Political Stability and absence of violence (ld_Political_stab)	0,013
The rule of law (ld_Rule_law)	−0,003
Government effectiveness (ld_Govern_effect)	0,035
Time dummies	Taip
n	233
Adjusted R^2	0,677

* p<0,1, ** p<0,05, *** p<0,01

Because the model of the impact of fiscal policy factors on income inequality among the country groups is statistically reliable and this model does not show a significant difference in the effect of social protection expenditure on any country group compared to the basic country group, ***the hypothesis that fiscal policy reduces income inequality among all the different welfare regimes has been confirmed.***

In summary, social protection expenditure reduces income inequality among all the country groups (compared to the basic country group). Redistribution (as the difference between the Gini coefficient before social transfers and the Gini coefficient after social transfers) increases income inequality (expressed as the market Gini coefficient) among all the country groups. Comparing the obtained results with the interpretations of other scientific articles (Jain-

Chandra et al., 2016, Tridico, 2015), it was found that the impact of social security expenditure on income inequality coincides.

CONCLUSIONS

In order to solve the problem of the influence of factors on income inequality in the country groups with different welfare regimes, taking into account the aim of the dissertation and the set objectives, the following theoretical and empirical research results were obtained:

1. Having analyzed the theoretical aspects of income inequality, income inequality is distinguished ac factors of production, between individuals / households, and among incomes in the different countries. Theoretically, the causes of income inequality are related to theories of functional income distribution and can be explained by: 1) the aspect of wage dispersion, which can be explained by skills supply and demand (relation to globalization and technological change through Stolper Samuelson and neoclassical theories); interface with collective bargaining and the role of government through Kalecki theory and theories of political economy), social customs and norms; 2) in terms of capital income (relation to the role of financial institutions through Kaldor theory); 3) the transfer aspect (relation to the role of government through Kalecki theory and theories of political economy).

2. The main determinants of income inequality have been identified. The market factors include globalization, technological change, financialization, while the institutional factors include labor market institutions, fiscal policy. Empirical studies have shown that the effects of globalization are often described as increasing income inequality, but some studies have found that globalization increases income inequality in both developed and developing countries, while others reduce income inequality in developing countries. After breaking down the globalization into it reflecting factors, it was established that: 1) the impact of trade globalization on income inequality is ambiguous - in some studies it reduces income inequality, in others it increases or is insignificant; 2) the impact of financial globalization on income inequality tends to increase income

inequality. Technological change has been identified as increasing income inequality, but the use of information and communication technologies (internet and mobile) is reducing income inequality. The impact of a group of financialization factors on income inequality is also mixed: 1) financial deepening increases income inequality but reduces it in developed countries; 2) some indicators of financial development are found to be insignificant, and the ratio of bank loans to GDP increases income inequality; 3) financial liberalization increases income inequality; 4) banking crises increase income inequality; 5) microfinance intensity reduces income inequality. One of the indicators of labor market institutions (trade union membership) is mentioned in the research as both reducing and increasing (through the pay gap and unemployment rate channels) income inequality. Income inequality is reduced by labor protection laws, the bargaining power of wage setting and increased by labor market flexibility, capital per employee (through the share of unemployment and unemployment rate channels) and the minimum to wage ratio (through the pay gap and unemployment rate channels). An analysis of empirical research has shown that the impact of fiscal policy factors on income inequality is the most common in reducing income inequality.

3. Based on the analysis of the scientific literature, a model for assessing the impact of factors on income inequality has been developed, distinguishing the factors of globalization (related to the approach of internationalization of production), technological change (related to the approach of the effect of skill-based technical change), financialization (related to the growing role of financial markets), labor markets institutional (related to the approach of labor market institutions), and fiscal policy (related to the approach of role of the welfare state). This model assesses the impact of these five factors on income inequality among the country groups with different welfare regimes and whether there are differences in the direction of impact among these groups.

4. A methodology for estimating the impact of factors on income inequality was developed, in which five factors emphasized in the theoretical part were selected as independent variables, and one of the dependent variables was used to express income inequality (market Gini coefficient, Gini coefficient, Palma ratio or quintile differentiation coefficient); the EU countries were grouped according to welfare regimes (conservative corporate, social democratic, liberal, Mediterranean, Central and Eastern European). Five econometric models have been developed: 1) the impact of globalization on income inequality in the country groups with different welfare regimes; 2) the impact of technological change on income inequality in the country groups with different welfare regimes; 3) the impact of financialization on income inequality in the country groups with different welfare regimes; 4) the impact of labor market institutions on income inequality in the country groups with different welfare regimes; 5) the impact of fiscal policy on income inequality in the country groups with different welfare regimes.

5. According to the developed model and methodology, after assessing the impact of factors on income inequality in the EU country groups of different welfare regimes, the following main results were obtained: 1) the countries groups with liberal, Mediterranean and Central and Eastern European welfare regimes have been found to have high levels of income inequality; income inequality increases in the country group with a lower level of income inequality of the social democratic welfare regime, and income inequality decreases in the country group with a lower level of income inequality in the conservative-corporate welfare regime; income inequality is rising in the country group of Central and Eastern European welfare regimes with higher levels of income inequality; 2) it has been established that in all the country groups the effects of trade openness on income inequality do not exist and, compared to the country group of Central and Eastern European countries, trade openness reduces income inequality; there are also no differences in the direction of the effects of financial openness

among the country groups, i. e. the impact coincides with the country group with the social democratic welfare regime, where financial openness has been found to increase income inequality. The results revealed that the ***first hypothesis*** that the globalization of trade reduces income inequality in the country group of Central and Eastern European welfare regimes, while the direction of impact differs in the other country groups, has not been confirmed. However, the ***second hypothesis*** has been confirmed that financial globalization increases income inequality among all the country groups of different welfare regimes; 3) the results showed that R&D expenditure increases income inequality in the country group with a social democratic welfare regime and in the other country groups, but the impact of participation in education and training programs on income inequality differs among the country groups with social democratic and conservative-corporate welfare regimes: in the first country group it increases income inequality and reduces it in the latter. The results showed that the ***third hypothesis*** that technological change increases income inequality among all the country groups of welfare regimes has been rejected; 4) based on the obtained results, it can be stated that financialization factors increase income inequality and no differences in impact have been identified among the country groups, therefore the ***fourth hypothesis*** that financialization increases income inequality in all the country groups of different welfare regimes has been confirmed; 5) according to the obtained results it can be stated that trade union density rate reduces income inequality in the country group with conservative-corporate welfare regime, and the effect differs in the country group of Central and Eastern European welfare regime (increases income inequality); centralized collective bargaining reduces income inequality within a country group with liberal welfare regime, and the impact varies within the country group of social democratic welfare regime (increases income inequality). The results showed that the ***fifth hypothesis*** that labor market institutions reduce income inequality among all the country groups with different welfare regimes has not been confirmed; 6) social protection expenditure reduces income inequality in the country group with conservative-corporate welfare regime, while in the other country groups the effect overlaps, therefore the ***sixth hypothesis*** that fiscal policy reduces income inequality in all the country groups with different welfare regime has been confirmed.

6. The results of the study on the impact of factors determining income inequality in different welfare regimes in the EU country groups show that in all the country groups income inequality is increased by financial openness, R&D expenditure, financial development, domestic credit to the private sector and trade openness, social security expenditure. The main differences in the impact of factors on income inequality are as follows: in the country group with a conservative-corporate welfare regime, participation rate in education and training reduces income inequality (increases in the other country groups); in the country group of Central and Eastern European welfare regimes, income inequality is increased by trade union density rate (reduces in the other country groups); in the country group with a social democratic welfare regime, income inequality is exacerbated by the index of centralized collective bargaining. Thus, the main recommendations for reducing income inequality would be: to promote trade openness and increase social protection expenditure for all the country groups (especially those with relatively higher income inequality, i.e. the country groups with liberal, Mediterranean, Central and Eastern European welfare regimes); to promote participation in education and training programs for the country group with a conservative-corporate welfare regime; to promote the setting of wages in centralized collective bargaining for the country group with a social democratic welfare regime; encourage trade unions in Central and Eastern Europe to operate more effectively, as trade union membership has a small impact on income inequality and increases income inequality.

7. Summarizing the contribution of the dissertation to the scientific problem, it can be stated that the developed model for

assessing the factors determining income inequality solves the following scientific and practical problems: considering the theoretical links between income inequality and theories of functional income distribution and 3 sources of income (salaries, capital incomes and transfers), the main factors that may affect income inequality are identified; the impact of factors and their differences on income inequality among the country groups with different welfare regimes is assessed.

Directions for further research:

- The developed model can be applied not only to the assessment of the causes of changes in income inequality in the country groups with different welfare regimes, but also in the particular countries (using time series data) or applied to the other country groups in the world.
- Theoretical aspects of the causes of income inequality relate to wages, capital income and transfers. The existing model can be extended to include these sources of income and the impact of these individual sources of income on income inequality to be assessed. The impact of globalization, technological change, financialization, labor market institutions and fiscal policies on these sources of revenue can also be assessed.
- By grouping countries according to different welfare regimes, it is possible to select key indicators in the economic, social and institutional fields and perform cluster analysis. The impact of the factors on income inequality could then be assessed by dividing the countries into the country groups according to the results of the cluster analysis.

SANTRAUKA LIETUVIŲ KALBA

ĮVADAS

Temos aktualumas. Paskutinė įvykusi Didžioji recesija paskatino politikos formuotojus, ekonomistus atsižvelgti į pajamų nelygybės reiškinį ir jo ekonomines, socialines priežastis bei pasekmes, susijusias su skurdo, socialinio įtraukimo, socialinio pasitikėjimo, demokratinių institucijų palaikymo, ekonominio augimo, finansinėmis ir kitomis problemomis. Pastaruoju metu pajamų nelygybė daugelyje šalių auga, ji yra viena iš didžiausių ekonominių ir socialinių problemų. Tarptautinis valiutos fondas, Ekonominio bendradarbiavimo ir plėtros organizacija (EBPO) ir kitos organizacijos pabrėžia, kad svarbu spręsti šią problemą.

Pasak A. B. Atkinsono, A. Brandolini (2009), pajamų nelygybė pirmiausia parodo, ar tam tikra visuomenė bėgant laikui tampa labiau egalitarinė ar ne, kuria linkme socialiniu ekonominiu aspektu progresuoja. Pavyzdžiui, gali būti svarbu nustatyti skirtumus tarp didžiausias pajamas gaunančių ir mažiausias pajamas gaunančių asmenų arba kodėl didėja pajamų nelygybė. Todėl svarbu susieti šiuos pajamų pasiskirstymo pokyčius ar stabilumo laikotarpius su ekonominio ir socialinio elgesio teorijomis, kurios gali atskleisti pajamų nelygybės tarp asmenų priežastis.

Auganti pajamų nelygybė bei pajamų nelygybės mastas veikia šalių socialinę, ekonominę, institucinę aplinką, prisideda prie šalių gyvenimo lygio, namų ūkių socialinės ekonominės situacijos. Tam, kad būtų priimami tinkami sprendimai, susiję su augančios pajamų nelygybės problema, svarbu pasirinkti tinkamas priemones. Jų pasirinkimui įtakos turi veiksnių, lemiančių pajamų nelygybę, nustatymas, jų poveikio krypties vertinimas. Taip pat, vertinant, kas veikia pajamų nelygybę, svarbu atsižvelgti į šalyse vyraujančius socialinius modelius, kurie išryškina šalių skirtumus ir atskirų veiksnių poveikį pajamų nelygybei. Net ir panašios savo ekonomine struktūra šalys skiriasi pajamų nelygybės lygiu ir, anot J. E. Stiglitzo (2015), pajamų nelygybės skirtumai yra susiję su politiniais sprendimais. Šalių sprendimai gali priklausyti nuo to, kiek šalyse vyrauja požiūris, kad rinkos yra efektyvios arba neefektyvios. Pirmuoju atveju šalys linkusios daugiau pasikliauti neoliberalia ekonomine doktrina, o antruoju – gerovės valstybe, kurioje vyriausybės vaidmuo aktyvesnis (Stiglitz, 2017). Taigi veiksnių poveikio pajamų nelygybei vertinimas išlieka aktuali mokslinių diskusijų tema ir lemia pasirinktos darbo tematikos aktualumą.

Mokslinės problemos ištyrimo lygis. Analizuojant teorinius pajamų nelygybės reiškinio aspektus, pastebėtos sąsajos tarp namų ūkių pajamų pasiskirstymo ir funkcinio pajamų pasiskirstymo (Daudey, García-Peñalosa, 2007; Francese, Mulas-Granados, 2015; Stockhammer, 2012; Checchi, Garcia-Penalosa, 2010). Teoriniu aspektu pirmiausia buvo pradėtas nagrinėti funkcinis pajamų pasiskirstymas ir su juo susijusios teorijos (klasikinė, marksistinė, neoklasikinė, Stolperio ir Samuelsono, Kaldoro, Goodwino, Kalecki, politinės ekonomijos teorijos). Tačiau didėjant kapitalo savininkų skaičiui populiacijoje, tapus prieinamiems duomenims apie asmenines pajamas, pradėtas analizuoti pajamų nelygybės reiškinys ir jo priežastys. Pirmasis pajamų nelygybę su industrializacijos procesu susiejo S. Kuznetsas (Atkinson, 1997; Kuznets, 1955). Taip pat svarbios teorijos, kuriose analizuotos funkcinio pajamų pasiskirstymo priežastys siejamos ir su pajamų nelygybės priežastimis. Literatūroje autoriai analizuoja pajamų nelygybę lemiančius veiksnius įvairiais požiūriais (taip pat derindami kelis požiūrius): žmogiškojo kapitalo; įgūdžiais paremtos technologinės pažangos; gamybos internacionalizacijos; darbo rinkos institucijų; gerovės valstybės vaidmens; nelygybės lygio; kapitalizmo modelių ir institucinio papildomumo; įmonių valdymo, finansų rinkos vaidmens.

Pajamų nelygybei įtakos gali turėti tiek su rinkos ekonomika susiję veiksniai kaip globalizacija, technologinė pažanga, tiek instituciniai veiksniai, susiję su žaidimo taisyklių rinkoje nustatymu, tam tikros aplinkos sukūrimu. Pagal tyrimuose analizuojamus veiksnius galima išskirti tris tyrimų grupes. Vieni autoriai tiria ir vertina rinkos veiksnių poveikį pajamų nelygybei: globalizacijos veiksnių (Huh, Park, 2021; Chu, Hoang, 2020; Law, 2020; Osorio, Pinto, 2020; Auguste, 2018; Cabral, García-Díaz,Mollick, 2016; Lim, McNelis, 2016; Sheng, 2015; Asteriou, Dimelis, Moudatsou, 2014; Elmawazini ir kt., 2013; Jaumotte, Lall, Papageorgiou, 2008; Jaumotte, Lall, Papageorgiou, 2013; Franco, Gerussi, 2013; Çelik, Basdas, 2010; Wade, 2004), technologinės pažangos veiksnių (Giri, Pandey, Mohapatra, 2021; Madsen, Strulik, 2020; Suphanachart, 2019; Kharlamova, Stavytskyy, Zarotiadis, 2018; Richmond, Triplett, 2017; Jaumotte, Lall, Papageorgiou, 2008; Jaumotte, Lall, Papageorgiou, 2013) ir finansializacijos veiksnių poveikį (Menyelim, 2021; Benczúr, Kvedaras, 2021; Kling ir kt., 2020; Cihak ir kt. 2020; Omar, Inaba, 2020; Makhlouf, Kellard, Vinogradov, 2020; DelaCuesta-González,Ruza, Rodríguez-Fernández, 2020; Fischer, Huerta, Valenzuela, 2019; Zhang, Naceur, 2019; Baiardi, Morana, 2018; Haan, Sturm, 2017; Stockhammer, Guschanski, Köhler, 2016; Soons, 2016; Alvarez, 2015; Hermes, 2014; Zalewski, Whalen, 2010). Kita autorių grupė išskiria institucinių veiksnių poveikį pajamų nelygybei: darbo rinkos institucijų veiksnių (Arestis, Ferreiro, Gómez, 2020; Josifidis ir kt., 2017; Jaumotte, Buitron, 2015; Obadić, Šimurina, Sonora, 2014; Checchi, García-Peñalosa, 2008; Checchi, Garcia-Penalosa, 2010; Calderón, Chong, 2009), fiskalinės politikos veiksnių poveikį (Piketty, Yang, Zucman, 2019; Saez, 2017; Arestis, Gonzalez-Martinez, 2016; IMF, 2014; Feld, Schnellenbach, 2014; Obadić, Šimurina, Sonora, 2014; Bastagli, Coady, Gupta, 2012; Aiginger, Leoni, 2009; Kenworthy, Pontusson, 2005). Tačiau, pasak J. E. Stiglitzo (2016), rinka neveikia vakuume – ji veikia tam tikroje suformuotoje institucinėje aplinkoje. Taigi galima išskirti trečią autorių grupę, kuri vertina tiek rinkos, tiek institucinių veiksnių poveikį pajamų nelygybei. Dažniausiai analizuojamas globalizacijos, technologinės pažangos ir darbo rinkos institucijų (Josifidis, Supic, 2017; Kristal, Cohen, 2017; Josifidis ir kt., 2016; Alderson, Nielsen, 2002) arba globalizacijos, technologinės pažangos ir fiskalinės politikos poveikis pajamų nelygybei (Stiglitz, 2016; Atkinson, 2003). Šiuose tyrimuose atskleidžiama, kad dėl globalizacijos, technologinės pažangos dažniausiai didėja pajamų nelygybė, kai susilpnėja profesinių sąjungų vaidmuo, darbuotojų derybinė galia, vyriausybės vaidmuo perskirstant pajamas, skiriant išlaidas socialinei apsaugai. Kartu su šiais minėtais veiksniais kiti mokslininkai vertina ir finansializacijos poveikį pajamų nelygybei (Jain-Chandra ir kt., 2016; Dabla-Norris ir kt., 2015). Taip pat analizuojamas finansializacijos ir darbo rinkos institucijų (Kus, 2012) arba finansializacijos, darbo rinkos institucijų ir fiskalinės politikos poveikis pajamų nelygybei, neišskiriant globalizacijos ir technologinės pažangos veiksnių (Tridico, 2018; Darcillon, 2015). Šiuose tyrimuose pabrėžiamas finansializacijos veiksnio įtakos pajamų nelygybės augimui didėjimas šalyse, kurios pasižymi silpnesnėmis profsąjungomis, mažesne darbuotojų derybine galia, mažesnėmis socialinės apsaugos išlaidomis. Tačiau tyrime (Ghossoub, Reed, 2017), kuriame vertintas finansializacijos ir monetarinės politikos poveikis pajamų nelygybei, nustatyta, kad labiau finansiškai išsivysčiusios šalys susiduria su mažesne pajamų nelygybe, kai yra žema infliacija. Taip pat ir C. Bodea, C. Houle, H. Kimas (2021) nustatė, kad aukšta infliacija didina pajamų nelygybę.

Tyrimų, vertinusių skirtingų veiksnių poveikį pajamų nelygybei, rezultatai yra prieštaringi. Nesutariama dėl skirtingų nelygybę lemiančių veiksnių išskyrimo, jų poveikio krypties, reikšmingumo. Praktiškai visuose tyrimuose patvirtinamas teigiamas finansinės globalizacijos poveikis pajamų nelygybės didėjimui (Asteriou, Dimelis, Moudatsou, 2014; Elmawazini ir kt., 2013; Dabla-Norris ir kt., 2015; ir kt.), tačiau analizuojant prekybos globalizacijos poveikį pajamų nelygybei nustatytas nevienareikšmis poveikis. Vienų mokslininkų atliktų tyrimų rezultatai rodo, kad prekybos globalizacija didina pajamų nelygybę (Çelik, 2021b; Elmawazini ir kt., 2013), kitų – mažina (Durongkaveroj, 2021; Kim, Hsieh, Lin, 2019; Jain-Chandra ir kt., 2016; Asteriou ir kt., 2014; Jaumotte ir kt., 2013). H. Mallickas, M. K. Mahalikas, H. Padhanas (2020) atlikę tyrimą nustatė globalizacijos nevienareikšmį poveikį pajamų nelygybei. Pavyzdžiui, autoriai nustatė globalizacijos teigiamą poveikį pajamų nelygybei Indijoje ir neigiamą poveikį Kinijoje.

Technologinės pažangos ir finansializacijos poveikis pajamų nelygybei vertinamas nevienareikšmiškai. Vieni finansializacijos veiksniai, pavyzdžiui, finansinė liberalizacija, bankinės/finansinės krizės, didina pajamų nelygybę, o mikrofinansų intensyvumas – mažina pajamų nelygybę. Ypač daug diskusijų kyla dėl darbo rinkos institucijų veiksnių. E. Dabla-Norris ir kt. (2015) pabrėžia, kad poveikis nelygybei pasireiškia dėl darbo rinkos lankstumo. Kiti (Han, Pyun, 2021; Kristal, Cohen, 2017; Darcillon, 2015; Huber, Stephens, 2014; Obadić ir kt., 2014; Checchi, Garcia-Penalosa, 2010; Alderson, Nielsen, 2002) akcentuoja priklausymo profesinėms sąjungoms, darbo užmokesčio nustatymo derybinės galios svarbą. Rezultatų prieštaringumą galima paaiškinti tuo, kad skiriasi tyrimo imtis, naudojami įvairūs veiksnius atspindintys rodikliai, skirtingi nepriklausomi kintamieji, įtraukti į regresijos lygtis. Analizuojant mokslinius tyrimus pagal šalių grupes, matyti, kad rezultatai nėra vienareikšmiai. E. Dabla-Norris ir kt. (2015) nustatė, kad tiek išsivysčiusiose, tiek besivystančiose šalyse pajamų nelygybė labiausiai didėjo dėl darbo rinkos lankstumo, o F. Jaumotte, S. Lallas, C. Papageorgiou (2013) nustatė, kad išsivysčiusiose ir besivystančiose šalyse pajamų nelygybę labiausiai didino technologinė pažanga. D. Asteriou, S. Dimelis ir A. Moudatsou (2014) ištyrė ES šalis ir nustatė, kad centrinėse (branduolio) šalyse (Austrija, Belgija, Vokietija, Prancūzija, Liuksemburgas, Nyderlandai, Jungtinė Karalystė) bei periferinėse šalyse (Graikija, Italija, Airija, Portugalija, Ispanija) pajamų nelygybė sumažėjo, o aukštųjų technologijų šalyse (Suomija, Švedija, Danija) bei naujosiose ES šalyse pajamų nelygybė padidėjo. Pajamų nelygybės mažėjimą centrinėse ES šalyse labiausiai lėmė kapitalo sąskaitos atvirumas ir prekybos atvirumas, periferinėse – tiesioginės užsienio investicijos (TUI); pajamų nelygybės didėjimą aukštųjų technologijų ES šalyse labiausiai paveikė moksliniai tyrimai ir plėtra, naujosiose ES šalyse – TUI. Taip pat buvo atlikti tyrimai išskiriant šalis pagal skirtingų gerovės režimų šalių grupes (Josifidis ir kt., 2016; Dafermos, Papatheodorou, 2013). Šiuose tyrimuose akcentuojama, kad pajamų nelygybės lygis susijęs su socialinės apsaugos sistemos efektyvumu, t. y. socialdemokratinio (būdingas socialinių paslaugų ir išmokų visuotinumas) ir konservatyviojo-korporatyvinio (socialinės apsaugos modelis siejamas su užimtumo statusu) gerovės režimų šalių grupėse pajamų nelygybė yra mažesnė negu Viduržemio (būdingas socialinio apsaugos modelio fragmentiškumas) ir liberaliojo (būdingas socialinės apsaugos modelio specifiškumas, nėra visuotinumo) gerovės režimų šalių grupėse. Tačiau pasigendama tyrimų, kuriuose būtų kompleksiškai vertinamas atskirų veiksnių poveikis pajamų nelygybei skirtingų gerovės režimų šalių grupėse. Taip pat trūksta tyrimų, kuriuose būtų įtrauktos ir naujosios ES šalys.

Mokslinėje literatūroje atkreipiamas tyrėjų dėmesys į tokias svarbias veiksnių poveikio pajamų nelygybei problemas: kokie rodiklių, matuojančių pajamų nelygybę, privalumai ir trūkumai; kokia pajamų nelygybės sąsaja su funkciniu pajamų pasiskirstymu; kokiais teoriniais požiūriais remtis vertinant veiksnių poveikį pajamų nelygybei; kaip įvertinti veiksnių poveikį pajamų nelygybei, kurie veiksniai turi įtakos pajamų nelygybei ir kt. Reikia pastebėti, kad tyrimuose ir toliau diskutuojama, kas veikia pajamų nelygybę. Tačiau vertinant pajamų nelygybės priežasčių tyrimų lauką, dauguma atliktų tyrimų orientuoti į vieną arba kelis pajamų nelygybę lemiančius veiksnius. Nėra gausu tyrimų, kuriuose būtų kompleksiškai analizuojami globalizacijos, technologinės pažangos, finansializacijos, darbo rinkos institucijų ir fiskalinės politikos veiksniai. Taip pat trūksta tyrimų, kuriuose būtų vertinamas šių veiksnių poveikis skirtingų gerovės režimų ES šalių kontekste. Veiksnių poveikio pajamų nelygybei vertinimo skirtingų gerovės režimų šalių grupėse problema yra aktuali tiek teoriniu, tiek ir praktiniu požiūriu, jai spręsti ir bus skirtas šis disertacinis darbas.

Mokslinė problema: kokie veiksniai daro įtaką pajamų nelygybei ir kaip veiksnių poveikis pajamų nelygybei skiriasi skirtingų gerovės režimų ES šalių grupėse.

Tyrimo objektas – veiksnių poveikis pajamų nelygybei.

Tyrimo tikslas – išanalizavus veiksnių poveikio pajamų nelygybei teorinius ir empirinius tyrimus ir sukūrus vertinimo modelį, įvertinti veiksnių poveikį pajamų nelygybei ES šalių grupėse.

Tyrimo uždaviniai:

1. Atskleisti pajamų nelygybės turinį, identifikuoti pagrindinius pajamų nelygybę veikiančius veiksnius ir jų teorines interpretacijas, išskiriant galimus poveikio skirtumus.
2. Išanalizuoti globalizacijos, technologinės pažangos, finansializacijos, darbo rinkos institucijų ir fiskalinės politikos veiksnių poveikio pajamų nelygybei atliktų empirinių tyrimų metodologinius aspektus, rezultatus, tyrimų ribotumus.
3. Remiantis mokslinės literatūros šaltinių analize, sukurti veiksnių poveikio pajamų nelygybei vertinimo modelį, identifikuojantį veiksnių poveikį ir skirtumus skirtingų gerovės režimų šalių grupėse.
4. Parengti veiksnių poveikio pajamų nelygybei vertinimo metodiką.
5. Įvertinti veiksnių poveikį bei poveikio skirtumus pajamų nelygybei skirtingų gerovės režimų ES šalių grupėse.

Darbe naudoti metodai.

Atskleidžiant teorinių ir empirinių tyrimų, vertinusių veiksnius, lemiančius nelygybę, aspektus bei rengiant metodiką, naudota mokslinių šaltinių analizė, grupavimas, lyginimas, sintezė, apibendrinimas.

Vertinant veiksnių poveikį pajamų nelygybei, pasitelkti aprašomosios statistikos, regresinės analizės metodai. Regresinė analizė atlikta naudojant mažiausių kvadratų metodą arba esant heteroskedastijai ekonometrinių modelių įverčiams apskaičiuoti naudota stabilizuotų liekamųjų paklaidų regresija. Regresinė analizė atlikta pasitelkiant Gretl programą.

Pasirinktas **tyrimo laikotarpis** apima 1995–2018 metus.

Darbo mokslinį naujumą ir praktinį reikšmingumą nusakantys rezultatai:

1. Remiantis atlikta mokslinės literatūros analize, pajamų nelygybės teoriniai aspektai susieti su funkcinio pajamų pasiskirstymo teorijomis bei 3 pajamų šaltiniais (darbo užmokesčiu, kapitalo pajamomis ir lėšų pervedimais (angl. *transfers*)): a) paklausa ir pasiūla įgūdžiams susijusi su neoklasikine teorija (per technologinę pažangą), su Stolperio–Samuelsono teorija (per tarptautinę prekybą); sociologinis požiūris susijęs su Kalecki teorija (per vyriausybės vaidmenį), su politinės ekonomijos teorija (per kolektyvines derybas, vyriausybės vaidmenį); visi šie procesai siejasi su darbo užmokesčiu; b) finansinių rinkų vaidmuo susijęs su Kaldoro teorija ir visa tai siejasi su kapitalo pajamomis; c) vyriausybės vaidmuo lėšų pervedimams susijęs su Kalecki ir politinės ekonomijos teorijomis. Taip pat atsižvelgiant į visus 3 pajamų šaltinius ir teorines sąsajas, sudarytas veiksnių, lemiančių pajamų nelygybę, vertinimo modelis, kuris paremtas įgūdžiais paremtos technologinės pažangos požiūriu, gamybos internacionalizacijos požiūriu, darbo rinkos institucijų požiūriu, gerovės valstybės vaidmens požiūriu bei finansų rinkų vaidmens požiūriu.

2. Atlikta teorinė ir empirinė veiksnių, lemiančių pajamų nelygybę, tyrimų analizė sudarė galimybes išskirti tiek rinkos, tiek institucinių veiksnių svarbą pajamų nelygybei. Remiantis atlikta pajamų nelygybės teorinių aspektų, funkcinio pajamų pasiskirstymo teorijų ir pajamų nelygybės požiūrių sąsajomis, išskirti veiksniai, kurie gali turėti įtakos pajamų nelygybei: globalizacija, technologinė pažanga, finansializacija (rinkos veiksniai); darbo rinkos institucijų, fiskalinės politikos (instituciniai veiksniai).

3. Sudarytas veiksnių poveikio pajamų nelygybei vertinimo modelis bei vertinimo metodika, kuria remiantis ištirtas globalizacijos, technologinės pažangos, finansializacijos, darbo rinkos institucijų, fiskalinės politikos poveikis pajamų nelygybei skirtingų gerovės režimų šalių grupėse. Kadangi išanalizuoti moksliniai tyrimai atskleidė, kad trūksta tyrimų, kuriuose būtų vertinamas veiksnių poveikis skirtingų gerovės režimų šalių grupėse, tai šiuo atliktu tyrimu buvo nustatyti veiksnių poveikio skirtumai tarp šalių grupių. Taigi darbo *praktinis reikšmingumas*: a) gauti tyrimo rezultatai gali būti panaudoti tolesniems moksliniams tyrimams; b) taip pat sudarytas modelis gali būti pritaikytas formuojant ekonominę-socialinę politiką, kuria būtų priimami sprendimai dėl perteklinės pajamų nelygybės mažinimo, socialinio apsaugos modelio formavimo ir koregavimo; c) sudarytas modelis gali būti praplėstas ir taikomas ne tik vertinant pajamų nelygybės priežastis skirtingų gerovės režimų šalių grupėse, bet ir atskirose šalyse naudojant laiko eilučių duomenis.

Tyrimo hipotezės:

H_1: Prekybos globalizacija mažina pajamų nelygybę Vidurio ir Rytų Europos gerovės režimo šalių grupėje, o kitose šalių grupėse poveikio kryptis skiriasi.

H_2: Finansinė globalizacija didina pajamų nelygybę visų gerovės režimų šalių grupėse.

H_3: Technologinė pažanga didina pajamų nelygybę visų gerovės režimų šalių grupėse.

H_4: Finansializacija didina pajamų nelygybę visų gerovės režimų šalių grupėse.

H_5: Darbo rinkos institucijos mažina pajamų nelygybę visų gerovės režimų šalių grupėse.

H_6: Fiskalinė politika mažina pajamų nelygybę visų gerovės režimų šalių grupėse.

Tyrimo apribojimai.

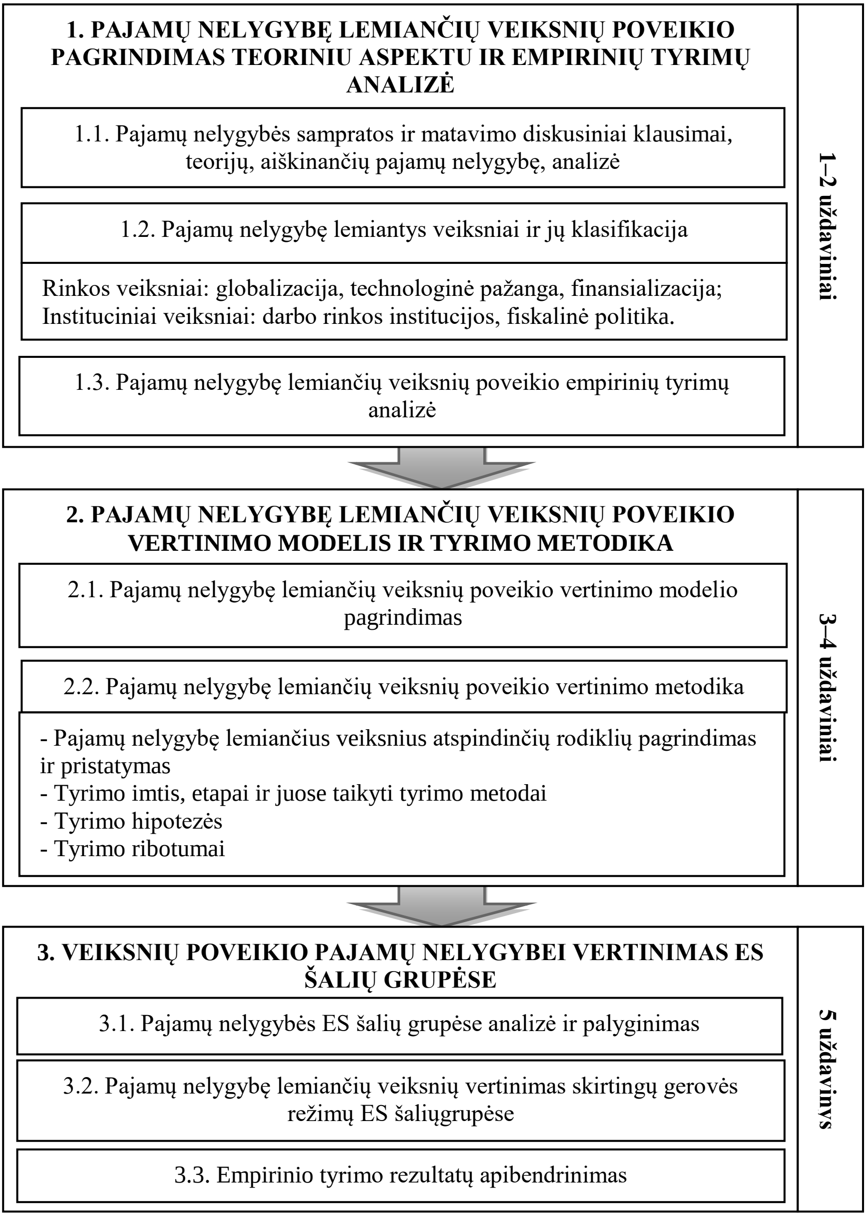
Kadangi siekta ištirti atskirų veiksnių poveikį pajamų nelygybei, t. y. ar veiksnių poveikis skiriasi skirtingų gerovės režimų ES šalių grupėse, analizuotas tik pajamų nelygybę lemiančių veiksnių poveikis – netirtos sąveikos tarp veiksnių bei pajamų nelygybės poveikis veiksniams. Disertacijoje siekta vertinti tiek rinkos, tiek institucinių veiksnių poveikį pajamų nelygybei, todėl į modelį įtraukti dažniausiai empiriniuose tyrimuose naudojami bei daugiausia sąsajų su pagrindiniais pajamų šaltiniais bei funkcinio pajamų pasiskirstymo teorijomis turintys veiksniai: globalizacijos, technologinės pažangos, finansializacijos, darbo rinkos institucijų ir fiskalinės politikos.

Nors ES šalys turi daug bendrų ekonominės socialinės politikos bruožų, šalims būdingi ir tam tikri skirtumai, kurie išryškėja ir taikomuose socialinės apsaugos modeliuose, todėl šalis galima suskirstyti pagal skirtingus gerovės režimus ir tokiu būdu nustatyti veiksnių poveikio pajamų nelygybei skirtumus. Taigi tyrime vertintas tik veiksnių poveikis pajamų nelygybei išskirtose skirtingų gerovės režimų ES šalyse.

Dėl skirtingų šalių mokesčių sistemų tyrime atsiribota nuo mokesčių politiką atspindinčių kintamųjų. Taigi atliekant tyrimą buvo pasirinkti išlaidų socialinei apsaugai ir perskirstymo (perskirstymas susijęs su socialinėmis išmokomis ir pensijomis) fiskalinės politikos veiksnių grupės kintamieji.

Tyrime pajamų nelygybės rodikliai yra susiję su namų ūkių disponuojamomis pajamomis, tačiau disponuojamos pajamos nėra skaidomos pagal pajamų šaltinius. Taigi disertacijoje nėra vertinamas atskirų pajamų šaltinių poveikis pajamų nelygybei, o koncentruojamasi įišorinius pajamų nelygybę veikiančius veiksnius. Taip pat neanalizuojamas veiksnių poveikis atskirų pajamų šaltinių kitimui.

Darbo struktūra ir apimtis. Disertaciją sudaro įvadas, trys skyriai, išvados, literatūros sąrašas ir 7 priedai. Darbo apimtis – 185 puslapiai; pateikti 19 paveikslų, 31 lentelė. Disertacijoje panaudoti 165 literatūros šaltiniai.



1 pav. Disertacijos loginė struktūra

Šaltinis: sudaryta darbo autorės

Disertacijos loginė struktūra pateikta 1 paveiksle. Pirmame skyriuje sprendžiami pirmas ir antras uždaviniai. Šiame skyriuje atskleidžiamas pajamų nelygybės turinys ir pagrindiniai teoriniai aspektai; plėtojamos pajamų nelygybės sąsajos su galimomis pajamų nelygybės priežastimis; apibendrinami globalizacijos, technologinės pažangos, finansializacijos, darbo rinkos institucijų ir fiskalinės politikos teoriniai aspektai ir atliktų empirinių tyrimų rezultatai. Antrame skyriuje sprendžiami trečias ir ketvirtas uždaviniai. Šiame skyriuje sudaromas pajamų nelygybę lemiančių veiksnių poveikio vertinimo modelis, kuriuo siekiama atskleisti veiksnių poveikį pajamų nelygybei, ar veiksnių poveikis skiriasi skirtingų gerovės režimų šalių grupėse. Taip pat sudaroma tyrimo metodika, kurioje pagrindžiami naudojami rodikliai, metodai, šalių skirstymas į gerovės režimus, formuluojamos hipotezės, atskleidžiami tyrimo ribotumai. Trečias skyrius skirtas penktam uždaviniui spręsti. Atliekamas empirinis tyrimas, kuriame vertinamas globalizacijos, technologinės pažangos, finansializacijos, darbo rinkos institucijų ir fiskalinės politikos poveikis pajamų nelygybei skirtingų gerovės režimų ES šalių grupėse.

IŠVADOS

Sprendžiant veiksnių įtakos pajamų nelygybei skirtingų gerovės režimų šalių grupėse problemą, atsižvelgiant į disertacijos tikslą ir išsikeltus uždavinius, gauti šie teoriniai ir empiriniai tyrimo rezultatai:

1. Išanalizavus teorinius pajamų nelygybės aspektus, išskirta pajamų nelygybė tarp gamybos veiksnių, tarp asmenų/namų ūkių, tarp skirtingų šalių pajamų. Teoriniu aspektu pajamų nelygybės priežastys siejasi su funkcinio pajamų pasiskirstymo teorijomis ir gali būti aiškinamos: 1) darbo užmokesčio dispersijos aspektu, kuris gali būti aiškinamas pasiūla ir paklausa įgūdžiams (sąsaja su globalizacijos ir technologinės pažangos procesais per Stolperio–Samuelsono ir neoklasikinę teorijas), sociologiniu požiūriu (sąsaja su kolektyvinėmis derybomis ir vyriausybės vaidmeniu per Kalecki ir politinės ekonomijos teorijas), socialiniais papročiais ir normomis; 2) kapitalo pajamų aspektu (sąsaja su finansinių institucijų vaidmeniu per Kaldoro teoriją); 3) lėšų pervedimų aspektu (sąsaja su vyriausybės vaidmeniu per Kalecki ir politinės ekonomijos teorijas).

2. Identifikuoti pagrindiniai pajamų nelygybę lemiantys veiksniai. Rinkos veiksniai apima globalizaciją, technologinę pažangą, finansializaciją, o instituciniai veiksniai apima darbo rinkos institucijas, fiskalinę politiką. Remiantis išanalizuotais empirinių tyrimų rezultatais, nustatyta, kad globalizacijos poveikis dažniausiai įvardijamas kaip didinantis pajamų nelygybę, tačiau vienuose tyrimuose buvo nustatyta, kad globalizacija didina pajamų nelygybę tiek išsivysčiusiose šalyse, tiek besivystančiose šalyse, kituose tyrimuose – mažina pajamų nelygybę besivystančiose šalyse. Suskaidžius globalizaciją į ją atspindinčius rodiklius, nustatyta, kad: 1) prekybos globalizacijos poveikis pajamų nelygybei yra nevienareikšmis – vienuose tyrimuose mažina pajamų nelygybę, kituose didina arba yra nereikšmingas; 2) finansinės globalizacijos poveikis pajamų nelygybei dažniausiai yra didinantis pajamų nelygybę. Technologinė pažanga įvardijama kaip didinanti pajamų

nelygybę, tačiau informacinių ir komunikacinių technologijų (interneto ir mobiliojo ryšio) naudojimas mažina pajamų nelygybę. Finansializacijos veiksnių grupės poveikis pajamų nelygybei taip pat yra nevienareikšmis: 1) finansinis gilinimas didina pajamų nelygybę, tačiau mažina išsivysčiusiose šalyse; 2) nustatyta, kad finansinio vystymosi vieni rodikliai yra nereikšmingi, o banko kreditų santykis su BVP didina pajamų nelygybę; 3) finansinė liberalizacija didina pajamų nelygybę; 4) bankinės krizės didina pajamų nelygybę; 5) mikrofinansų intensyvumas mažina pajamų nelygybę. Vienas iš darbo rinkos institucijų rodiklių (priklausymas profesinėms sąjungoms) tyrimuose minimas tiek kaip mažinantis, tiek kaip didinantis (per darbo užmokesčio skirtumų ir nedarbo lygio kanalus) pajamų nelygybę. Pajamų nelygybę mažina darbo apsaugos įstatymai, darbo užmokesčio nustatymo derybinė galia, o didina darbo rinkos lankstumas, kapitalas vienam darbuotojui (per darbo dalies ir nedarbo lygio kanalus) bei minimaliojo ir vidutinio darbo užmokesčio santykis (per darbo užmokesčio skirtumų ir nedarbo lygio kanalus). Atlikta empirinių tyrimų analizė parodė, kad fiskalinės politikos veiksnių poveikis pajamų nelygybei yra dažniausiai mažinantis pajamų nelygybę.

3. Remiantis mokslinės literatūros šaltinių analize, sukurtas veiksnių poveikio pajamų nelygybei vertinimo modelis, kuriame išskirtos globalizacijos (susijusi su gamybos internacionalizacijos požiūriu), technologinės pažangos (susijusi su įgūdžiais paremtos technologinės pažangos poveikio požiūriu), finansializacijos (susijusi su finansų rinkų vaidmens padidėjimu), darbo rinkos institucijų (susijusi su darbo rinkos institucijų požiūriu), fiskalinės politikos (susijusi su gerovės valstybės vaidmens požiūriu) veiksniai. Šiuo modeliu vertinamas šių penkių veiksnių poveikis pajamų nelygybei skirtingų gerovės režimų šalių grupėse ir ar yra poveikio krypties skirtumų tarp šių grupių.

4. Parengta veiksnių poveikio pajamų nelygybei vertinimo metodika, kurioje nepriklausomais kintamaisiais pasirinkti penki teorinėje dalyje išskirti veiksniai, o pajamų nelygybei išreikšti tyrime

buvo naudotas vienas iš priklausomų kintamųjų (rinkos Gini koeficientas, Gini koeficientas, Palmos santykis arba kvintilinis diferenciacijos koeficientas); ES šalys buvo sugrupuotos pagal gerovės režimus (konservatyvusis-korporatyvinis, socialdemokratinis, liberalusis, Viduržemio, Vidurio ir Rytų Europos). Sudaryti penki ekonometriniai modeliai: 1) globalizacijos poveikis pajamų nelygybei skirtingų gerovės režimų šalių grupėse; 2) technologinės pažangos poveikis pajamų nelygybei skirtingų gerovės režimų šalių grupėse; 3) finansializacijos poveikis pajamų nelygybei skirtingų gerovės režimų šalių grupėse; 4) darbo rinkos institucijų poveikis pajamų nelygybei skirtingų gerovės režimų šalių grupėse; 5) fiskalinės politikos poveikis pajamų nelygybei skirtingų gerovės režimų šalių grupėse.

5. Pagal sudarytą modelį ir metodiką, įvertinus veiksnių poveikį pajamų nelygybei skirtingų gerovės režimų ES šalių grupėse, gauti šie pagrindiniai rezultatai: 1) nustatyta, kad liberaliojo, Viduržemio bei Vidurio ir Rytų Europos gerovės režimų šalių grupėms būdingas aukštas pajamų nelygybės lygis; socialdemokratinio gerovės režimo šalių grupėje, pasižyminčioje žemesniu pajamų nelygybės lygiu, pajamų nelygybė didėja, o konservatyviojo-korporatyvinio gerovės režimo šalių grupėje, pasižyminčioje žemesniu pajamų nelygybės lygiu, pajamų nelygybė mažėja; Vidurio ir Rytų Europos gerovės režimo šalių grupėje, pasižyminčioje aukštesniu pajamų nelygybės lygiu, pajamų nelygybė didėja; 2) nustatyta, kad visose šalių grupėse prekybos atvirumo poveikio krypties skirtumų pajamų nelygybei nėra ir, lyginant su Vidurio ir Rytų Europos šalių grupe, prekybos atvirumas mažina pajamų nelygybę; taip pat nėra finansinio atvirumo poveikio krypties skirtumų tarp šalių grupių, t. y. poveikis sutampa su socialdemokratinio gerovės režimo šalių grupe, kur nustatyta, kad finansinis atvirumas didina pajamų nelygybę. Gauti rezultatai atskleidė, kad nepasitvirtino ***pirmoji hipotezė***, kad prekybos globalizacija mažina pajamų nelygybę Vidurio ir Rytų Europos gerovės režimo šalių grupėje, o kitose šalių grupėse poveikio kryptis skiriasi. Tačiau pasitvirtino ***antroji hipotezė***, kad finansinė

globalizacija didina pajamų nelygybę visų gerovės režimų šalių grupėse; 3) gauti rezultatai parodė, kad išlaidos MTTP didina pajamų nelygybę socialdemokratinio gerovės režimo šalių grupėje ir kitose šalių grupėse poveikio krypties skirtumo nėra, tačiau dalyvavimo švietimo ir mokymo programose poveikis pajamų nelygybei skiriasi tarp socialdemokratinio ir konservatyviojo-korporatyvinio gerovės režimų šalių grupių: pirmojoje šalių grupėje didina pajamų nelygybę, o antrojoje – mažina. Gauti rezultatai parodė, kad ***trečioji hipotezė***, kad technologinė pažanga didina pajamų nelygybę visų gerovės režimų šalių grupėse, atmesta; 4) remiantis gautais rezultatais galima teigti, kad finansializacijos veiksniai didina pajamų nelygybę ir poveikio skirtumų tarp šalių grupių nenustatyta, todėl ***ketvirtoji hipotezė***, kad finansializacija didina pajamų nelygybę visų gerovės režimų šalių grupėse, pasitvirtino; 5) remiantis gautais rezultatais galima teigti, kad priklausymas profesinėms sąjungoms mažina pajamų nelygybę konservatyviojo-korporatyvinio gerovės režimo šalių grupėje, o poveikis skiriasi Vidurio ir Rytų Europos gerovės režimo šalių grupėje (didina pajamų nelygybę); centralizuotos kolektyvinės derybos mažina pajamų nelygybę liberaliojo gerovės režimo šalių grupėje, o poveikis skiriasi socialdemokratinio gerovės režimo šalių grupėje (didina pajamų nelygybę). Gauti rezultatai parodė, kad ***penktoji hipotezė***, kad darbo rinkos institucijos mažina pajamų nelygybę visų gerovės režimų šalių grupėse, nepasitvirtino; 6) išlaidos socialinei apsaugai mažina pajamų nelygybę konservatyviojo-korporatyvinio gerovės režimo šalių grupėje, o kitose šalių grupėse poveikis sutampa, todėl ***šeštoji hipotezė***, kad fiskalinė politika mažina pajamų nelygybę visų gerovės režimų šalių grupėse, pasitvirtino.

6. Pajamų nelygybę lemiančių veiksnių poveikio skirtingų gerovės režimų ES šalių grupėse tyrimo rezultatai rodo, kad visose šalių grupėse pajamų nelygybę didina finansinis atvirumas, išlaidos MTTP, finansinis išsivystymas, vidaus kreditai privačiam sektoriui, o mažina prekybos atvirumas, išlaidos socialinei apsaugai. Pagrindiniai veiksnių poveikio pajamų nelygybei skirtumai: konservatyviojo-

korporatyvinio gerovės režimo šalių grupėje pajamų nelygybę mažina dalyvavimas švietimo ir mokymo programose (kitose šalių grupėse didina); Vidurio ir Rytų Europos gerovės režimo šalių grupėje pajamų nelygybę didina priklausymas profesinėms sąjungoms (kitose grupėse mažina); socialdemokratinio gerovės režimo šalių grupėje pajamų nelygybę didina centralizuotų kolektyvinių derybų indeksas. Taigi pagrindinės pajamų nelygybės mažinimo rekomendacijos: visoms šalių grupėms (ypač toms, kurių pajamų nelygybė yra santykinai didesnė, t. y. liberaliojo, Viduržemio, Vidurio ir Rytų Europos gerovės režimų šalių grupėms) skatinti prekybos atvirumą ir didinti išlaidas socialinei apsaugai; konservatyviojo-korporatyvinio gerovės režimo šalių grupei skatinti dalyvavimą švietimo ir mokymo programose; socialdemokratinio gerovės režimo šalių grupei skatinti darbo užmokesčio nustatymą centralizuotų kolektyvinių derybų metu; Vidurio ir Rytų Europos gerovės režimo šalių grupei skatinti efektyviau veikti profesines sąjungas, nes priklausymo profesinėms sąjungoms įtaka pajamų nelygybei yra maža ir didinanti pajamų nelygybę.

7. Apibendrinant disertacijos indėlį į sprendžiamą mokslinę problemą, galima teigti, kad sudarytas pajamų nelygybę lemiančių veiksnių vertinimo modelis sprendžia šias mokslines ir praktines problemas: atsižvelgiant į pajamų nelygybės teorines sąsajas su funkcinio pajamų pasiskirstymo teorijomis bei 3 pajamų šaltiniais (darbo užmokesčiu, kapitalo pajamomis ir lėšų pervedimais), identifikuojami pagrindiniai veiksniai, galintys turėti įtakos pajamų nelygybei; vertinamas veiksnių poveikis ir jo skirtumai pajamų nelygybei skirtingų gerovės režimų šalių grupėse.

Galimos tolesnių tyrimų kryptys:

- Sudarytas modelis gali būti taikomas ne tik vertinant pajamų nelygybės kitimo priežastis skirtingų gerovės režimų šalių grupėse, bet ir atskirose šalyse (naudojant laiko eilučių duomenis), arba pritaikytas kitoms pasaulio šalių grupėms.

- Teoriniai pajamų nelygybės priežasčių aspektai siejasi su darbo užmokesčiu, kapitalo pajamomis ir lėšų pervedimais. Galima išplėtoti esamą modelį, įtraukiant šiuos pajamų šaltinius, ir vertinti šių atskirų pajamų šaltinių poveikį pajamų nelygybei. Taip pat galima vertinti, kaip šiuos pajamų šaltinius paveikia globalizacija, technologinė pažanga, finansializacija, darbo rinkos institucijos ir fiskalinė politika.
- Grupuojant šalis pagal gerovės režimus, galima pasirinkti pagrindinius ekonominės, socialinės, institucinės sričių rodiklius ir atlikti klasterinę analizę. Tada būtų galima vertinti veiksnių poveikį pajamų nelygybei skaidant šalis į grupes pagal gautus klasterinės analizės rezultatus.

APPROVAL AND DISSEMINATION OF RESULTS OF THE DISSERTATION / DISERTACIJOS REZULTATŲ APROBAVIMAS IR SKLAIDA

Papers in peer-reviewed scientific publications / Darbo rezultatai, pateikti recenzuojamuose moksliniuose leidiniuose:

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NOTES

Vilnius University Press
9 Saulėtekio Ave., Building III, LT-10222 Vilnius
Email: info@leidykla.vu.lt, www.leidykla.vu.lt
Print run 20