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Determinants of Economic Inequality Reduction in the EU During the Fourth Industrial Revolution

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ABSTRACT

Economic inequality is one of the major global challenges in the 21st century causing the possibility of different social and economic disruptions. The Fourth Industrial Revolution caused by the rapid digital transformation affected different segments of the society and economy. Subject of this paper is the analysis of possibilities to reduce the economic inequality in the EU during the Fourth Industrial Revolution. The most important objective of this research is to identify the determinants of reducing the economic inequality in the EU countries during the period of the Fourth Industrial Revolution. The study is based on three central hypotheses: (1) Technological development has a negative and statistically significant effect on inequality in the EU, (2) Investment in health has a negative and statistically significant effect on inequality in the EU and (3) Trade liberalization has a negative and statistically significant effect on inequality in the EU. The study uses the two-stage dynamic panel Generalized Method of Moments (GMM) estimator applied to data from 27 EU countries. The results show that technological development, expressed in two indicators related to the Fourth Industrial Revolution, i.e., competitive industrial performance index and investments in research and development, healthcare spending and trade liberalization play an important role in reducing inequality during the Fourth Industrial Revolution. Based on these results, the paper recommends that the EU prioritize technological progress, increase investment in research and development — especially by the private sector — expand public and private health spending and reduce trade barriers to remain the global leader in facing inequality and reaching sustainable development goals.

INTRODUCTION

Economic inequality, also known as income or wealth inequality, has long been a problem. As the OECD (2015) and the European Parliament (2016) have noted, it leads to major social and economic injustices. Throughout history, inequality has contributed to the rise of radical movements and violent events, including uprisings, revolutions, terrorism and wars. It refers to the unequal distribution of wealth between individuals and countries. The Gini index is the most commonly used measure of this phenomenon, as reported by the World Bank (2024), Our World in Data (2023) and the United Nations (2024).

This study focuses on increasing inequality within the EU. According to the European Commission (2024) and the IMF (2022), inequality is increasing both in Europe and globally. It is one of the most pressing global challenges today. Inequality is not only a Sustainable Development Goal (SDG) in its own right, but also impacts other goals, including poverty reduction, access to education, food security, healthcare and general well-being. Maning (2017) emphasizes that inequality remains a global problem. It requires constant research in the social and natural sciences.

The Fourth Industrial Revolution (4IR) has had a decisive impact on the economy and society. Despite its impact, its social and economic consequences have not yet been sufficiently researched. Kipper et al. (2020) point out the lack of in-depth research on this topic. Philbeck and Davis (2018) describe the 4IR as a major change with political, social and economic consequences. It began in Germany in 2011 and, according to Garcia (2021), ended in 2020 due to the COVID-19 pandemic and the rapid digital transformation. The European Parliament (2019) considers the 4IR to be a central EU strategy. It aims to close the development gap with global competitors.

This paper attempts to answer three research questions:

1) What is the impact of technological development on inequality?
2) What impact does trade liberalization have on inequality?
3) What impact does investment in health have on inequality?

The paper begins with the introduction, followed by the literature review. Then the data and methodology are presented. Then the results and discussion are presented. The final section contains conclusions and policy implications.

1. LITERATURE REVIEW

This section examines the relationship between economic inequality and three key factors: technological and economic development, trade liberalization and investment in health.

The European Parliament (2016) defines economic inequality as the unequal distribution of income and wealth, usually measured by the Gini coefficient. This form of inequality is a persistent problem in the EU, where it has increased in recent decades, leading to social and economic consequences such as higher mortality rates, a decline in public health, weakened confidence and slower long-term growth. Smiesova et al. (2019) emphasize that reducing inequality is an important economic goal. Similarly, Thorbecke and Charumilind (2002) argue that inequality undermines social mobility, increases crime, impairs health and educational outcomes and weakens human capital. Halaskova and Bednar (2020) find that in the EU-27 countries, social spending, especially on healthcare, reduces inequality and poverty while improving human capital. Tahlova and Banociova (2020) add that economic growth and tax systems reduce inequality, while unemployment increases it.

The impact of the Fourth Industrial Revolution (4IR) on inequality is controversial and a subject of the scientific discussion. Although it brings opportunities for development, it can also exacerbate inequality. Kuzmenko and Roienko (2017) and Guoping, Yun and Aizhi (2017) point out that technological change can increase inequality if it is not mitigated by education and supportive public policies. Milanović (2024) and the World Inequality Report (2020) trace inequality over time, noting a sharp rise during the first industrial revolution and a persistently high level thereafter. Setyadi, Indriyani and Syaifudin (2023) argue that technological development tends to reduce inequality. Dafermos and Papatheodorou (2013) find that GDP per capita, social security and labor protection can reduce inequality in the EU, but labor force participation alone cannot. According to Our World in Data (2024), technological innovation and industrial transformation — often driven by research and development — have contributed to reducing inequality in the past.

Bogliacino (2014) emphasizes that the relationship between technology and inequality is one of the most controversial and discussed topics in current economic research. Knell (2016) puts forward the theory of the Kuznets curve, according to which inequality increases in early stages of development but decreases later due to broader access to opportunities. Trofymenko et al. (2023) argue that inequality itself

can limit access to new technologies, creating a feedback loop. They see Europe as a pioneer in reducing inequality through innovation. Stiglitz (2019) notes that the impact of 4IR technologies depends on the policy framework and adoption by the private sector. Nguyen (2023) finds that both technological development and trade liberalization reduce inequality. Kang, Kim and Seol (2019), together with Lee et al. (2018), identify R&D as an important driver of 4IR. Schäfer (2018) sees R&D not only key driver of the 4IR in the EU but also as central to the EU's global competitiveness in the digital age.

Roser, Ritchie and Mathieu (2024) show that past waves of innovation have improved access to vital resources such as clean water, sanitation, energy, education and healthcare, thereby reducing poverty and inequality. Aghion and Griffit (2024) emphasize that innovations, especially those resulting from private sector R&D, promote inclusive development by increasing productivity and mobility and consequently reduce inequality. Risso and Sánchez-Carrera (2018) find that R&D reduces inequality in 74 countries, including EU members, but emphasize the importance of political and institutional support. Gardiner and Hayek (2024) emphasize that R&D has been crucial not only for reducing inequality, but also for increasing growth and reducing poverty in the EU. Biurrun (2020) also finds that innovativeness, as measured by spending on R&D and skilled labor, plays a key role in reducing inequality in EU countries.

There are also mixed results on the relationship between trade liberalization and inequality. Jae-Hwa and Jong-Sung (2016) and Akyuz, Gueye and Karul (2022) find that there is a lack of targeted research in this area. While trade in goods tends to reduce inequality, the liberalization of services can have the opposite effect. Anser et al. (2020) report that trade liberalization lowers inequality, although they find that spending on healthcare increases inequality. Kandogan and Johnson (2024) argue that trade freedom, a measure of economic openness, helps to reduce inequality in different economies, although the effects vary across groups of countries. Pérez-Moreno and Angulo-Guerrero (2016) also associate economic freedom with lower inequality, but find that trade freedom has different effects in different EU countries. Asteriou, Dimelis and Moudatsou (2014) conclude that trade liberalization in the EU generally reduces inequality, while FDI tends to increase it. However, the impact of technology and innovation remains uncertain and context-dependent.

The role of investment in healthcare in reducing inequality has been less studied. Francis et al. (2023) argue that health spending improves equality in income, gender and access. Wang and Nguyen (2021) find a negative correlation between inequality and health spending in developed economies. Gamlath and Lahiri (2019) emphasize the role of public and private health investments and note that institutions influence outcomes. The European Commission (2014) emphasizes the importance of healthcare financing in reducing inequalities and achieving the goals of the Lisbon Strategy. Sánchez and Pérez-Corral (2018), like Cammerat (2020), note that social spending — especially on health — reduces inequality in the EU. Finally, Jianu (2018) points out that economic inequality remains an important research priority and that public policies in the areas of health and education are essential tools for reducing the Gini index.

2. METHODS AND CONCEPTION OF ANALYSIS

Income inequality represents one of the crucial societal issues as mentioned in the relevant literature such as OECD (2015) and EP (2016). The EU is oriented toward reduction of inequalities and it is set as one of the key strategic priorities, especially through cohesion policy that has the biggest share in the EU budget. Inequality is determined by variety of factors and it is the topic of huge research interest and scientific discussion, while its correlation with certain factors represents subject of extensive scientific discussion This is the reason why we decided to choose variables represented in the equation 1.

$$\mathrm{Gini} = \mathrm{f}\left(\mathrm{CIP}_{i,t};\ \mathrm{health}_{i,t};\ \mathrm{R\&D}_{i,t};\ \mathrm{trade}_{i,t}\right) \qquad (1)$$

We used the GMM as the primary estimation technique, which has been applied in previous studies such as Asteriou, Dimelis and Moudatsou (2014), Anser et al. (2020), Biurrun (2020) and Nguyen (2023). GMM is particularly well suited for dealing with endogeneity, a major problem in dynamic panel data models.

Roodman (2009) and Wooldridge (2012) emphasize that GMM eliminates unobserved fixed effects and reduces bias by differencing raw non-stationary data. By using lagged values of the dependent variable, GMM also efficiently captures dynamic relationships and helps account for possible reverse causality. It also minimizes data loss and is therefore ideal for panels having the cross-sections larger than the time-series. Ullah, Akhtar, and Zaefarian (2018) emphasize the value of diagnostic instruments such as the Sargan test and Arellano-Bond test, which GMM supports for checking the validity of instruments and detecting autocorrelation. Wintoki, Linck, and Netter (2012) also support the ability of GMM to produce consistent and unbiased estimates, especially when first differences are used to eliminate bias from omitted variables. Abrevaya and Donald (2017) describe GMM as one of the most effective methods for dealing with missing data and unobserved heterogeneity. Similarly, Brañas-Garza, Bucheli and García-Muñoz (2011) explain that GMM is widely used in economics because of these advantages. Hsiao (1985, 2020) also emphasizes the strength of the method in dealing with omitted variables, which increases the robustness and relevance of the empirical results.

In our study, the main goal was to identify the main determinants of inequality reduction during the Fourth Industrial Revolution. We focused on the years 2012 to 2019, reflecting the core phase of this period. According to Philbeck and Davis (2018), the Fourth Industrial Revolution began in 2011, while Garcia (2021) finds that 2020 is the beginning of the Fifth Industrial Revolution. Our balanced panel includes 129 observations across all EU Member States and allows for a reliable estimate of the relationships between inequality and its structural drivers.

$$y_{it} = \beta y_{it-1} + u_i + v_{it}, \quad |\beta| < 1 \qquad (2)$$

Equation 2 provides a dynamic model with one time-shifted lagged variable. In this model y_{it} is the dependent variable in period t, while y_{it-1} represents the dependent variable with one period lag from t and u_i is particular time-invariant effects and v_{it} represents the error term. Individual effects are treated as stochastic. Additional necessary assumptions related to the invariance of the model are errors v_{it} that are serially uncorrelated. Individual time-invariant impacts usually relate to past impacts of the dependent variable in used model, which points out endogeneity issue. In addition, in the Equation 3 we provide the test of our model.

$$\text{Gini}_{i,t} = \beta_0 + \beta_1 \text{CIP}_{i,t} + \beta_2 \text{health}_{i,t} + \beta_3 \text{R\&D}_{i,t} + \beta_4 \text{trade}_{i,t} + u_{i,t} + v_{i,t} \qquad (3)$$

3. EMPIRICAL DATA AND ANALYSIS

In this research we examine impact of technological development, investments in health and trade liberalization on inequality in the EU. Variable are shown in the Table 1.

Table 1: Variables

Symbol	Variable	Explanation	Database
Gini	Inequality	Gini index	World Bank (2024)
CIP	Technological development	Competitive industrial performance index	UNIDO (2024)
health	Investments in health	Current health expenditure per capita	World Bank (2024)
R&D	Technological development	R&D financed by business	World Intellectual Property Organization – Global innovation index (2024)
trade	Trade liberalization	Trade freedom	Heritage (2024)

Source: own

Figure 1 shows the variables used in the model. The dependent variable is the Gini index, which measures income inequality. This index indicates how income is distributed in a population and shows the degree of deviation from perfect equality. It ranges from 0 (perfect equality) to 100 (perfect inequality). As highlighted by Jianu (2018) and Smiesova et al. (2019), inequality remains a topic of great academic and

political interest. According to Tahlova and Banociova (2020) and major institutions such as the World Bank (2024), Our World in Data (2023) and the United Nations (2024), the Gini index is the most widely used metric to analyze inequality.

The main objective of this study is to identify the factors that contribute to reducing inequality in the European Union. This objective is based on the fact that both the European Commission (2024) and the IMF (2022) recognize inequality as a key societal challenge. Reducing inequality is seen as a strategic priority not only for the EU, but also globally. As Thorbecke and Charumilind (2002) explain, inequality remains a central topic of economic research due to its far-reaching social and developmental consequences. Jianu (2018) also emphasizes the relevance of this topic for scientific research.

To capture the impact of technological development, we use two indicators related to the Fourth Industrial revolution: d_CIP (Competitive Industrial Performance Index) and d_R&D (private sector investment in research and development). The CIP index, published by UNIDO (2024), reflects the degree of industrial transformation and technological development and export competitiveness of a country, especially in the manufacturing sector. This indicator is especially important in the context of the Fourth Industrial Revolution, which focuses on reindustrialization (Philbeck & Davis, 2019; McKinsey, 2022). The index ranges from 0 to 1, with higher values indicating greater industrial competitiveness and technological progress. It provides a broader picture than narrower industrial indicators as it includes production capacity, technological performance and export competitiveness.

The second indicator, private sector funded R&D, is also widely recognized in the literature. Scholars such as Aghion and Griffit (2024) and Biurrun (2020) note that R&D is closely linked to inequality outcomes, although the relationship is complex. Lee et al. (2018) and Schäfer (2018) identify private R&D as a fundamental driver of the Fourth Industrial Revolution and an essential element of the EU's economic strategy (EP, 2019). Given the EU's focus on innovation and the leading role of the private sector in R&D investment (EC, 2024; World Economic Forum, 2018), this variable is of great importance. The values range from minimum 0 to maximum 100, depending on the level of investment.

We have chosen both indicators because they reflect key dimensions of the Fourth Industrial Revolution. As Stiglitz (2019) argues, measuring inequality in this period is crucial to prevent the digital divide from deepening. The relationship between technology and inequality is an ongoing subject of academic debate (Bogliacino, 2014; Knell, 2016), to which this study aims to contribute. Another reason why we have chosen two indicators related to the Fourth Industrial Revolution is because according to Kipper et al. (2020), it is an understudied topic and requires more research, especially having in mind that relevant literature such as Garcia (2021) state that since 2020 world entered into the Fifth Industrial Revolution that is a continuation of the previous one.

For health investment, we use d_health, defined as current health expenditure per capita in USD, taken from the World Bank (2024). This indicator includes both public and private health expenditure. It is widely used and is considered a comprehensive measure of national investment in healthcare (EC, 2024; WHO, 2024). The choice of this variable is supported by the European Commission (2014), Gamlath and Lahiri (2019) and Francis et al. (2023), who all emphasize health expenditure as a key factor in reducing various forms of inequality. Despite its importance, the relationship between health spending and income inequality is still relatively under-researched.

To represent trade liberalization, we use d_trade as measured by the index of Trade Freedom from the Heritage Foundation's Index of Economic Freedom. This index captures both tariff and non-tariff barriers, government intervention and regulatory frameworks. It is more comprehensive than the standard indicators of trade openness. The values range from 0 to 100, with higher values indicating fewer trade barriers. Its use is supported by studies such as Anser et al. (2020) and Asteriou, Dimelis and Moudatsou (2014). Other scholars, including Jae-Hwa and Jong-Sung (2016) and Akyuz, Gueye and Karul (2022), have noted that there is relatively little focused research on the relationship between trade liberalization and inequality, making this variable particularly relevant.

Correlation matrix that tests multicollinearity can be found in the Table 2.

Table 2: Correlation matrix

d_Gini	d_CIP	d_trade	d_R&D	d_health	
1,0000	-0,1172	-0,1409	-0,0231	-0,0380	d_Gini
	1,0000	-0,0614	0,1040	0,2908	d_CIP
		1,0000	0,0519	-0,1885	d_trade
			1,0000	0,4033	d_R&D
				1,0000	d_health

Source: own

Results confirm that there is no multicollinearity among variables since all coefficients are below the critical value of 0.5. There are certain indicators with the negative sign but they are small in magnitude and close to zero. Negative signs are among Gini and all indicators, among trade and competitive industrial performance index and health.

To cope with the issue of non-stationarity we used first differences of chosen variables. To confirm stationarity of the variables we used KPSS test. According to Arltova and Fedorova (2016) and Lee and Schmidt (1996) this test provides more accurate and valid results than other tests and is the most suitable for shorter time periods such as the one we observe (2012-2019). Results of unit root test can be found in the Table 3.

Table 3: Results of unit root test

Variable	P-value
d_Gini	0,7931
d_CIP	0,5419
d_health	0,8620
d_R&D	0,8239
d_trade	0,1989

Source: own

Results confirm the hypothesis of KPSS test that data are stationary since for each variable p values is higher than the critical value of 0.05

4. RESULTS

Before providing results of the model, we aimed to test the robustness of the model. Results of robustness tests can be found in the table 4. The P-values marked *** indicate the significance level up to 1%. The P-values with the label ** indicate the significance level up to 5%. Results confirm that indicator CIP has the biggest impact on inequality, while investments in health mark the lowest impact. All results can be confirmed with the level of 1% significance.

Table 4: Building the model

d_Gini	d_CIP	d_trade	d_R&D	d_health
d_Gini	−12,3972***			
d_Gini	−9,86957***	−0,434966***		
d_Gini	−13,7109***	−0,396621***	−0,0145505***	
d_Gini	−11,6983***	−0,377161***	0,0116702***	−0,000278966**

Source: own

Table 4 shows the results of the sequential regressions in which the independent variables were included in the model one after the other. Across all model specifications, the ranking of the impact of the variables remains consistent. The Competitive Industrial Performance Index (CIP) shows the strongest negative effect on inequality. Trade freedom proves to be the second most important variable, followed by

R&D investment, while health expenditure continues to show the weakest impact. This consistency speaks for the robustness of the model. Diagnostic tests — including the Arellano-Bond test, the Sargan test and the chi-square test — confirm the validity of the instruments, the absence of autocorrelation and the overall robustness of the model in all specifications. The last column in Table 4 shows the full model, the coefficients of which are analyzed in more detail in the "Discussion" section. We test the following econometric model:

$$\text{d\_Gini}_{it} = \beta_0 + \beta_1 d_{Gini(-1)_{i(t-1)}} - \beta_2 d_{CIP\,it} - \beta_3 d_{trade\,it} + \beta_4 d_R\&D_{it} + \beta_5 d_{health_{it}} + \sum_{t=2014}^{2018} year_t + u_{it} + v_{it} \qquad (4)$$

Results of the model can be found in the table 5.

Table 5: Results of the model

	Coefficient	*Std. Error*	*z*	*p-value*	
d_Gini (-1)	−0,225319	0,0358110	−6,292	<0,0001	***
d_CIP	−11,6983	2,88097	−4,061	<0,0001	***
d_health~	−0,00027897	0,00011157	−2,500	0,0124	**
d_R&D	−0,0116702	0,00240766	−4,847	<0,0001	***
d_trade	−0,377161	0,0328376	−11,49	<0,0001	***
T3	0,227296	0,0694898	3,271	0,0011	***
T4	−0,339901	0,0993280	−3,422	0,0006	***
T5	−0,237308	0,0772262	−3,073	0,0021	***
T6	−0,724845	0,0685290	−10,58	<0,0001	***
T7	−0,142366	0,101209	−1,407	0,1595	
Sum squared resid	89,45180		S.E. of regr.	0,867004	
Observations			129		
Number of instruments			23		
Test for AR(1) errors (z)			-2,72988 [0,0063]		
Test for AR(2) errors (z)			0,341659 [0,7326]		
Sargan over-identification test: Chi-square(19)			11,1592 [0,5975]		
Wald (joint) test: Chi-square(6)			494,44 [0,0000]		
Wald (time dummies): Chi-square(5)			155,537 [0,0000]		

Source: own

5. DISCUSSION

The results show a negative and statistically significant effect of both the lagged dependent variable and all independent variables on the Gini coefficient. In particular, an increase in the Gini index in the previous year correlates with a decrease of 0.22 points in the current year, which is consistent with the Kuznets hypothesis that inequality decreases with increasing living standards — an effect that has been observed in the EU context (World Bank, 2024). This result is in line with Muszyńska, Oczki and Wędrowska (2018), who argue that higher levels of inequality in the past can lead to corrective policy changes and better socio-economic outcomes.

Among the independent variables, the strongest effect is observed for the Competitive Industrial Performance Index (d_CIP), which serves as a proxy for technological development and industrial change associated with the fourth industrial revolution. A 1% increase in this indicator leads to a significant decrease in the Gini index by 11.69 points. This result supports the findings of Trofymenko et al. (2023) and Nguyen (2023), although it contrasts somewhat with Milanović (2024) and the World Inequality Report (2020) and highlights the ongoing debates about the dual role of technology in mitigating or exacerbating inequality.

The second technological variable, private sector-funded R&D investment (d_R&D), also shows a negative and significant correlation with inequality. A 1% increase in this indicator corresponds to a 0.37% decrease in the Gini index, underpinning the arguments of Gardiner and Hayek (2024) and Biurrun (2020) about the inclusive impact of innovation when it is adequately supported.

Trade liberalization (d_trade) turns out to be the second most important factor after d_CIP, with a 1% increase in trade freedom being associated with a 0.37% reduction in inequality. This result supports earlier findings by Kandogan and Johnson (2024) and Asteriou et al. (2014), who note the redistributive effects of open trade regimes, particularly in the European context.

The weakest effect is found in per capita health expenditure (d_health), where a 1% increase leads to a 0.00027% reduction in the Gini index. The result is modest but statistically significant (at the 5% level) and is in line with Sánchez and Pérez-Corral (2018), Cammerat (2020) and Jianu (2018), who emphasize the long-term benefits of sustained investment in healthcare for the development of human capital and the reduction of inequality.

All variables, with the exception of d_health, are significant at the 1% level. The time dummies are also significant, with the exception of T7. These results are consistent with theoretical expectations, although the direction and strength of the relationships — particularly between technology and inequality — remain controversial in the literature. The results contribute to these ongoing debates by providing specific evidence for the EU in a crucial phase of industrial transformation.

Diagnostic checks confirm the reliability of the model. The AR(2) test confirms that there is no second-order autocorrelation, while the Sargan test validates the instrument. The Wald tests confirm the joint significance of the explanatory variables and the time dummies. Together with the tests for robustness and stationarity, these diagnostics support the validity of the model and the reliability of the estimated effects.

The main contribution of this study lies in the identification of the main determinants of inequality reduction in the EU during the Fourth Industrial Revolution — a period characterized by rapid technological change but relatively little empirical research (Kipper et al., 2020). By examining the interplay between technology, trade and investment in healthcare, this paper fills a gap in the literature and contributes to an ongoing debate on the socio-economic impact of the digital transformation (Bogliacino, 2014).

The findings have clear policy implications. To reduce inequality, EU policy makers should support the modernization of industry and encourage investment in research and development, especially in the private sector. Public support for innovation can improve productivity and socio-economic mobility. A continued commitment to trade openness is also essential, especially in light of emerging global protectionist trends. Finally, while investment in health has a comparatively smaller impact, its importance for the long-term development of human capital justifies prioritizing efficient health spending.

Despite its contributions, the study also has its limitations. The relatively short time frame (2012–2019) is a limitation, although it is acceptable for GMM estimation. The focus on this period reflects its categorization as the core phase of the fourth industrial revolution (Garcia, 2021). While the exclusion of the UK is methodologically intentional due to Brexit, it limits comparability with broader EU trends in the same years. Finally, while a variety of determinants influence inequality, the chosen GMM methodology helps to mitigate the bias from omitted variables, yet further research including institutional and labor market variables is warranted.

CONCLUSION

In this paper we aimed to identify determinants of inequality reduction because it is a topic that is never studied enough, crucial research interest and one of the key global societal issues. Our main motivation was to contribute to scientific discussion about understudied topics, such as the Fourth Industrial

Revolution and address real socio-economic issues and to provide new cognitions and knowledge about these topics.

Through introduction and literature review we provided theoretical framework related to the topic and explained why it is necessary to research it. Econometric model was used to test hypotheses that are confirmed and it provided the most important findings that technological development expresses with two variables related to the Fourth Industrial Revolution, investments in health and trade liberalization have statistically significant impact on lowering inequality.

It provided foundations to create theoretical and applicative contributions that are explained in the previous discussion section. The most important contributions are providing new knowledge about inequality that is key societal issue and research interest, such as the understudied topic of the Fourth Industrial Revolution and contribution to scientific discussion about correlation among technological development and trade with inequality. Applicative contribution is related to policy guidelines.

However, this research provides possibilities for the further research. Since inequality represents crucial societal issue, especially after Covid-19 pandemic, it will be very important to research it in the period of the Fifth Industrial Revolution that represents continuation of the previous one and is caused by rapid digital transformation. Areas for the further research are focusing on the direct impact of institutional variables, since as mentioned public policies are very important in reduction of inequality and mitigating possible negative impact of technological development on inequality. Another area for the further research is also role of overall globalization in reduction of inequality especially due to possible global trade war. The last are for the further research is examining consequences of inequality and its impacts on others socio-economic indicators, such as economic growth, living standard, human capital, educational and health outcomes, security aspects, democracy, human and economic freedom, focusing on the period of digital transformation in the 21st century.

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