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ARAŞTIRMA MAKALESİ | RESEARCH ARTICLE

HETEROGENEOUS DETERMINANTS OF INCOME DISTRIBUTION IN EU COUNTRIES: EVIDENCE FROM GWR

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Abstract

This study analyzes the main economic and structural factors affecting income inequality in the 27 member states of the EU for the period 2009-2022 using Geographically Weighted Regression (GWR). Unlike traditional regression methods, GWR makes it possible to reveal the regional and local variability of the determinants of income inequality by taking into account spatial heterogeneities. In this study, the effects of macroeconomic variables, including per capita income, financial development, public expenditure, inflation and trade openness on the Gini coefficient, which is widely used to measure income distribution, are analyzed. The findings emphasize that the determinants of income inequality vary significantly across countries. For instance, the assumed non-linear relationship of the Kuznets curve does not appear to be valid in all EU countries. Financial development and trade openness have been empirically confirmed to increase income inequality. Conversely, the effect of public expenditures on income inequality is lower than expected, raising important questions about the effectiveness of public policies in this area. The effects of inflation on income inequality are heterogeneous across countries. However, it has been revealed that low levels of inflation in the Euro area during the study period have a limiting function on income inequality. Results indicate that economic policies aiming to achieve income justice should be designed by taking into account the specific socio-cultural, institutional and economic structures of countries. Taking regional differences into account is considered to be a critical element for policymakers in targeting a sustainable and fair income distribution at both national and European levels.

Keywords: Income Distribution, Growth, Financial Development, Inflation, Geographically Weighted Regression.

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AB ÜLKELERİNDE GELİR DAĞILIMININ HETEROJEN BELİRLEYİCİLERİ: GWR DEN KANITLAR

Öz

Bu çalışma, 2009-2022 döneminde AB'nin 27 üye ülkesinde gelir dağılımını etkileyen temel ekonomik ve yapısal faktörleri coğrafi ağırlıklı regresyon (GWR) yöntemi ile incelemektedir. GWR, geleneksel regresyon yöntemlerinden farklı olarak mekânsal heterojenlikleri dikkate alarak, gelir eşitsizliği üzerindeki belirleyici faktörlerin bölgesel ve yerel düzeydeki değişkenliğini ortaya koymayı mümkün kılmaktadır. Araştırmada, kişi başına düşen gelir, finansal gelişme, kamu harcamaları, enflasyon ve ticari açıklık gibi makroekonomik değişkenlerin gelir dağılımını ölçmede yaygın kullanılan Gini katsayısı üzerindeki etkileri analiz edilmiştir. Araştırma bulguları, gelir eşitsizliğinin belirleyicilerinin ülkeler arasında önemli farklılıklar gösterdiğini vurgulamaktadır. Örneğin, Kuznets eğrisinin varsayılan doğrusal olmayan ilişkisinin tüm Avrupa Birliği ülkelerinde geçerliliğini korumadığı tespit edilmiştir. Finansal gelişmenin ve ticari açıklığın, gelir eşitsizliğini artırıcı etkiler yarattığı ampirik olarak doğrulanmıştır. Buna karşılık, kamu harcamalarının gelir dağılımı üzerindeki etkisi beklenenin altında kalmış ve kamu politikalarının bu alandaki etkinliği ile ilgili önemli soruları gündeme getirmiştir. Enflasyonun gelir eşitsizliği üzerindeki etkilerinin ise ülkeler arasında heterojen bir yapı sergilediği belirlenmiştir. Ancak, çalışma dönemi boyunca Euro bölgesinde düşük enflasyon seviyelerinin gelir eşitsizliğini sınırlandırıcı bir işlev gördüğü ortaya konulmuştur. Bu bulgular, gelir adaletini sağlamayı amaçlayan ekonomi politikalarının, ülkelerin kendine özgü sosyo-kültürel, kurumsal ve ekonomik yapıları göz önünde bulundurularak tasarlanması gerektiğini açıkça ortaya koymaktadır. Bölgesel farklılıkların dikkate alınması, politika yapıcılar için hem ulusal hem de Avrupa düzeyinde sürdürülebilir ve adil bir gelir dağılımı hedeflenmesinde kritik bir unsur olarak değerlendirilmektedir.

Anahtar Kelimeler: Gelir Dağılımı, Büyüme, Finansal Gelişme, Enflasyon, Coğrafi Ağırlıklı Regresyon.

Introduction

Income distribution is an important area of study for understanding and developing policies to address economic inequalities between individuals and regions. The spatial dimension of income inequality requires powerful analytical tools, especially to understand the impact of heterogeneous economic and demographic structures. In this context, methods such as spatial econometric analysis and Geographically Weighted Regression (GWR) offer important contributions at both theoretical and empirical levels.

Spatial econometric analysis is a discipline that studies the spatial patterns of economic activities and the interdependence relations between these activities. Spatial interdependence refers to how economic events occurring in a particular location affect neighboring regions and is explained by Tobler's "first law of geography", which states that "everything is related, but close things are more related" (Anselin, 2013; Rodríguez-Pose and Tselios, 2009). Proper modeling of spatial dependence prevents classical econometric methods from producing biased and inconsistent estimates (Kilgarriff and Charlton, 2020).

When traditional regression models do not account for spatial dependence and heterogeneity, results can often be biased or misleading. In this context, spatial regression models (e.g. spatial autoregressive and spatial error models) have been developed to more accurately quantify the impact of interregional interactions (Rodríguez-Pose and Tselios, 2009).

In addition, there are vulnerability factors that hinder economic growth. Fragility factors threaten the sustainability of economic growth and bring about economic and political discussions on the role of human capital investments in long-term development strategies (Taşar Yıldırım at. al., 2025).

Factors affecting income distribution are related to a variety of demographic and economic variables, such as the level of education, employment structure, age groups and the distribution of the industrial sector. For example, the level of education is one of the main determinants of income inequality and can play a role in reducing inequality through the process of "skills deepening" (Becker and Chiswick, 1966; Rodríguez-Pose and Tselios, 2009). However, the impact of this relationship often varies depending on geographical location. Methods such as GWR are a powerful tool to examine such spatial variation.

Geographically Weighted Regression is used to measure how the effects of independent variables on the dependent variable vary spatially. For example, Kilgarriff and Charlton (2020) found that the impact of local demographic factors on disposable income in Ireland varies from across regions and can be examined more accurately using this method. Similarly, studies in European Union (EU) regions show a strong positive relationship between income inequality and educational inequality (Rodríguez-Pose and Tselios, 2009).

Accurate modeling of spatial heterogeneity and interdependence allows for effective design of regional development policies. For example, these methods can be used to better understand how interventions such as social policies, education investments and employment strategies can reduce spatial inequalities. Furthermore, spatial analysis tools enable more precise resource allocation and the identification of regional policy priorities.

In conclusion, the study of spatial and heterogeneous determinants of income inequality makes it possible to seek answers to important questions at both theoretical and empirical levels. In this context, the use of methods such as GWR is an indispensable tool for understanding the impact of spatial dependence and heterogeneity.

1. Literature Review

Authors	Year	Name of Study	Method	Results
Kilgarriff, P. ve Charlton, M.	2020	A spatial analysis of disposable income in Ireland: A GWR approach	Geographically Weighted Regression (GWR)	The effects of demographic factors on income were found to vary regionally, for example, single-parent households had different effects in Dublin and Cork.
Khajepasha, A. N. ve Gkartzios, M.	2024	Spatial analysis of regional income inequality in EU countries	Theil, Gini, Coefficient of Variation (CV)	The slowing convergence of regional inequalities in the EU and the importance of neighborhood effects were highlighted.
Tselios, V. ve Roinioti, A.	2023	The geographical dimension of income inequality in Greece: Evolution and the 'turning point' after the economic crisis	Panel Data Analysis	It is found that income inequality in Greece shows a 'U' shaped relationship before the economic crisis and diverges after the crisis.
Ma, Z., Xue, Y. ve Hu, G.	2020	Geographically Weighted Regression analysis for spatial economics data: A Bayesian recourse	Bayesyen GWR	Bayesian GWR model is found to be superior to classical methods in terms of variable selection and prediction accuracy.

Çapar, U. ve Yayla, N.	2019	Regional Income Distribution Convergence in Turkey: A Spatial Econometric Analysis	Beta Convergence, Spatial Dependency	Level 2 regions in Turkey are found to converge at the level of deteriorating national income distribution.
Yakar, M.	2013	Geographically Weighted Regression Analysis of the Relationship between Interprovincial Net Migration and Socio-Economic Development in Turkey	Geographically Weighted Regression (GWR)	The level of development of provinces in Turkey has a strong impact on inter-provincial migration, with the Marmara Region being the most affected region.
Sakarya, A. ve İbişoğlu, Ç.	2015	Analysis of Socio-Economic Development Index of Provinces in Turkey with Geographically Weighted Regression Model	Geographically Weighted Regression (GWR)	Economic indicators were found to be stronger in developed provinces, while social indicators were found to be more effective in less developed provinces.
Abay, M. Ç. ve Sezgin, S.	2018	Poverty and Income Distribution in Turkey and Some EU Countries	Panel Data Analysis	In purchasing power parity terms, national income and education are found to reduce poverty, while inflation and working population ratio have no effect.
Mehrara, M. & Mohammadian, M.	2015	The determinants of Gini coefficient in Iran based on Bayesian Model Averaging	Bayesian Model Averaging (BMA)	GDP growth is the most important variable that positively affects the Gini coefficient. Moreover, the ratio of government expenditures to GDP and the ratio of oil revenues to GDP increase inequality. These results are consistent with the rentier state theory in the Iranian economy.
Luptáčik, M. & Nežinský, E.	2020	Measuring income inequalities beyond the Gini coefficient	Output-Oriented Data Envelopment Analysis (DEA) Model	A new approach is proposed to measure income distribution in a fairer way. This method, which prioritizes the welfare of low-income groups, yields different results compared to the Gini index. It is found that income distribution in Europe has worsened in the Rawlsian sense.
Awe, A. & Rufus, O. O.	2012	Determinants of income distribution in the Nigeria economy: 1977-2005	Co-integration Technique	The Gini coefficient is found to be quite high in Nigeria. Unemployment rate, inflation, GDP and social expenditures are the determinants of income distribution. While health expenditures and output growth rate reduce inequality, education expenditures and unemployment rate increase inequality.
Fabrizi, E. & Trivisano, C.	2016	Small area estimation of the Gini concentration coefficient	Small Area Estimation Method	A hierarchical Beta mixed regression model is proposed to reduce small sample bias in estimating the Gini coefficient for small areas. The applicability of the method is demonstrated with data from Italy.
Afandi, A., Rantung, V. P. & Marashdeh, H.	2017	Determinants of income inequality	Panel Data Analysis	While the increase in the share of agriculture and services sector decreases inequality, the change in the share of manufacturing sector is found to be ineffective. A decrease in the poverty rate is found to increase inequality. Although the higher education rate initially increases inequality, its effect may reverse at a turning point.
Nadal, J. R., Font, A. R. & Rossello, A. S.	2004	The economic determinants of seasonal patterns	Regression Analysis	Economic variables affecting the seasonality of tourism demand in the Balearic Islands are analyzed. Policy recommendations are developed for a more equal distribution of demand.
Perugini, C. & Martino, G.	2008	Income inequality within European regions: Determinants and effects on growth	Econometric Analysis	The study found that labor market and institutional arrangements play a central role in regional inequalities. The impact of inequality on growth is found to be positive.
Mahmood, S. & Noor, Z. M.	2014	Human Capital and Income Inequality in Developing Countries: New Evidence using the Gini Coefficient	Two-Stage GMM Dynamic Panel Data	A positive relationship was found between human capital inequality and income inequality. Globalization and population variables do not have a significant effect on income inequality.
Odedokun, M. O. & Round, J. I.	2001	Determinants of income inequality and its effects on economic growth: Evidence from African countries	Panel Data Analysis	Factors affecting income distribution include economic development, government spending, labor share in the agricultural sector and human capital. Inequality has been proven to reduce growth.

Hailemariam, A., Sakutukwa, T. & Dzhumashev, R.	2021	Long-term determinants of income inequality: evidence from panel data over 1870-2016	Panel VAR and Time Dependent Methods	Real interest rate and financial development are found to reduce inequality. An increase in GDP increases inequality. Education level is found to decrease inequality.
Afonso, A., Schuknecht, L. & Tanzi, V.	2010	Income distribution determinants and public spending efficiency	Data Envelopment Analysis (DEA)	Public expenditures are found to affect income distribution through social expenditures and the quality of education/human capital and economic institutions.
Walujadi, D., Indupurnahayu, I. & Endri, E.	2022	Determinants of income inequality among provinces: Panel data evidence from Indonesia	Panel Data Econometrics	Social factors such as HDI and population are found to reduce inequality, while GDP, government expenditures and labor force participation rate are found to increase inequality.
Mah, J. S.	2002	The impact of globalization on income distribution: the Korean experience	Johansen-Juselius Co-integration Test	Globalization and FDI inflows are found to increase the Gini coefficient. This suggests that globalization worsens income inequality in Korea.
Lopez, H. & Perry, G. E.	2008	Inequality in Latin America: determinants and consequences	Theoretical and Empirical Analysis	It is suggested that education and redistribution policies should be implemented together to reduce inequality. Inequality affects growth and economic fluctuations.
Strat, V. A. & Popovici, O. C.	2015	FDI Convergence versus Real and Structural Convergence at the EU Level. An Approach Based on the GINI Coefficient	Gini Coefficient Time Series Analysis	The increase in FDI and GDP in the new EU members was found to contribute to a reduction in inequalities.
Munir, K. & Sultan, M.	2017	Macroeconomic determinants of income inequality in India and Pakistan	Fix Effects Model (FEM)	Macroeconomic variables such as GDP per capita, government expenditures, fertility rate and urban population are found to be determinants of inequality.

In recent years, the determinants of income distribution have become a fundamental research area in understanding the relationships between economic development and social welfare. In this context, analyzing the heterogeneity of factors affecting income inequality makes it possible to develop unique policy recommendations for different countries and regions. Existing studies in the literature show that income inequality is closely related to economic, demographic and institutional variables. However, it has been increasingly emphasized in the literature that the effects of these variables vary according to spatial and contextual differences.

Studies on the economic determinants of income distribution generally focus on macroeconomic variables such as economic growth, unemployment rate and sectoral structures. In this context, the analysis by Forbes (2000) reveals that while economic growth reduces income inequality, high unemployment rates have the opposite effect. Similarly, Meros and Kiss (2021) emphasize that sectoral labor force distribution has significant effects on income inequality in their analysis of European Union countries.

Institutional and governance factors also play a decisive role in income distribution. Different indices used to measure institutional quality and the effects of variables such as corruption and rule of law on reducing income inequality have been supported by various studies in the literature (Chong and Calderon, 2000). Accordingly, strengthening the institutional structure and establishing an effective governance mechanism is an important policy instrument to make income distribution more equitable.

Demographic factors also have a significant impact on income distribution. Variables such as age structure, urbanization rate and education level directly shape individuals' income levels and

hence income inequality. Castello-Climent and Domenech (2014) show that increasing the level of education has a bidirectional effect by both increasing the income levels of individuals and reducing inequality in income distribution. In this context, the potential of education policies to improve the societal income distribution is an important point of emphasis in the literature.

2. Methodology and Empirical Results

This study analyzes the determinants of the Gini coefficient in the EU-27 countries for the period 2009-2022. In the empirical analysis, the following variables are used: gross domestic product in USD (lnGDP), the ratio of loans to the private sector to GDP (FD) as a proxy variable for financial development, the ratio of public expenditures to GDP (GOV), the inflation rate based on the consumer price index (CPI), and the ratio of trade volume to GDP (TRD) as an indicator of trade openness. Model as a simple regression;

$$lnGINI_{it} = \beta_0 + \beta_1 lnGDP_{it} + \quad \beta_2 FD_{it} + \beta_3 GOV_{it} + \beta_4 INF_{it} + \beta_5 TRD_{it} + \varepsilon_{it}$$

In this expression, i is country, t is time, β_0 is the constant term, ε_{it} is the error term with independent identical distribution. B_1 is the effect of lnGDP, β_2 FD, β_3 GOV, β_4 INF, β_5 TRD on lnGINI. GWR (Geographically Weighted Regression) differs from other parameter estimation methods in that it takes into account spatial differences (Görür and Yüzbaşı, 2024). Traditional GWR model;

$$y_i = \beta_0(u_i, v_i) + \sum_{k=1}^{p} \beta_k(u_i, v_i) x_{ik} + \varepsilon_i$$

In this regression, y_i is the dependent variable at position i in two-dimensional space, x_{ik} are the independent variables, β_0 (u_i,v_i)is the constant term at position i (Brunsdon et. al. 1996). B_k (u_i, v_i)is the local parameter for the kth independent variable at position i. The locally weighted β_k (u_i, v_i) is obtained using the least squares method (Lu et. al., 2014). To obtain these parameters, it is necessary to determine the weights corresponding to each location (Yüzbaşı and Görür, 2021).

Table 1. Leung's F-test

	F Value	SS OLS residuals	SS GWR residuals	SS GWR improvement
F(1) Test	2.0098 (0.014)**	0.03374	0.0331	-
F(2) Test	2.6459 (0.00)***	0.03377	-	0.00058
F(3) Test	F Value	probablity		
Intercept	6.1534e+07	0.00***		
lnGDP	6.2068e+07	0.00***		
FD	1.1451e+07	0.00***		
GOV	6.3172e+06	0.00***		
INF	1.6656e+06	0.00***		
TRD	6.1253e+07	0.00***		

p<0.05 **, p<0.01 ***

Table 1 presents Leung's F test statistics for the spatial differences of the model and variables. The alternative hypothesis that the GWR model is better than the GOLS model is accepted at the 5% significance level in the F(1) test and at the 1% significance level in the F(2) test. In the F(3) test, it is found that each variable in the model varies spatially.

Table 2. GWR and GOLS Results

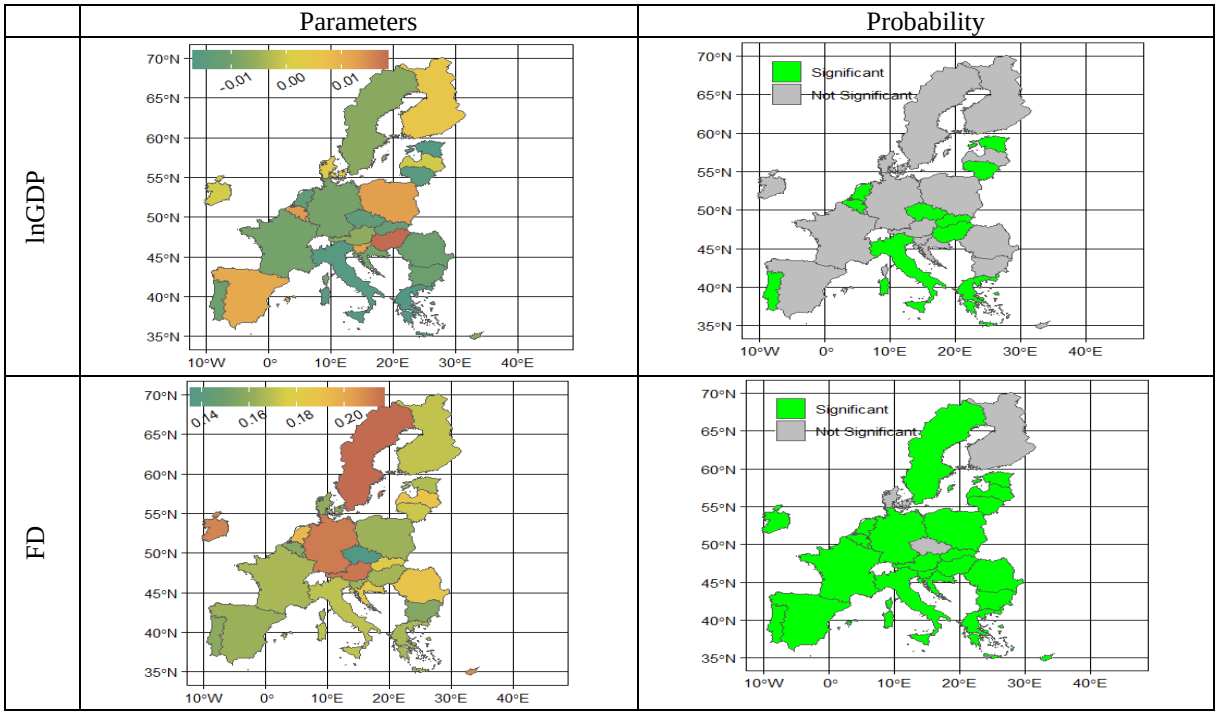
Independent Variable	Min	25%	Median	75%	Max	Global
Intercept	1.205	1.338	1.481	1.586	1.654	1.499 (0.00)***
lnGDP	-0.017	-0.012	-0.008	0.008	0.018	0.001 (0.015)**
FD	0.135	0.161	0.167	0.187	0.216	0.133 (0.064)*
GOV	-0.014	-0.013	-0.013	-0.012	-0.011	-0.013 (0.00)***
INF	0.008	0.015	0.025	0.026	0.027	0.019 (0.18)
TRD	-0.0006	-0.004	-0.0004	-0.0002	-0.0002	-0.0003 (0.024)**
AIC	-101.695					-89.865
AICc	-73.246					-83.970
BIC	-106.250					-84.723
RSS	0.025					0.033
Adj. R^2	0.395					0.358

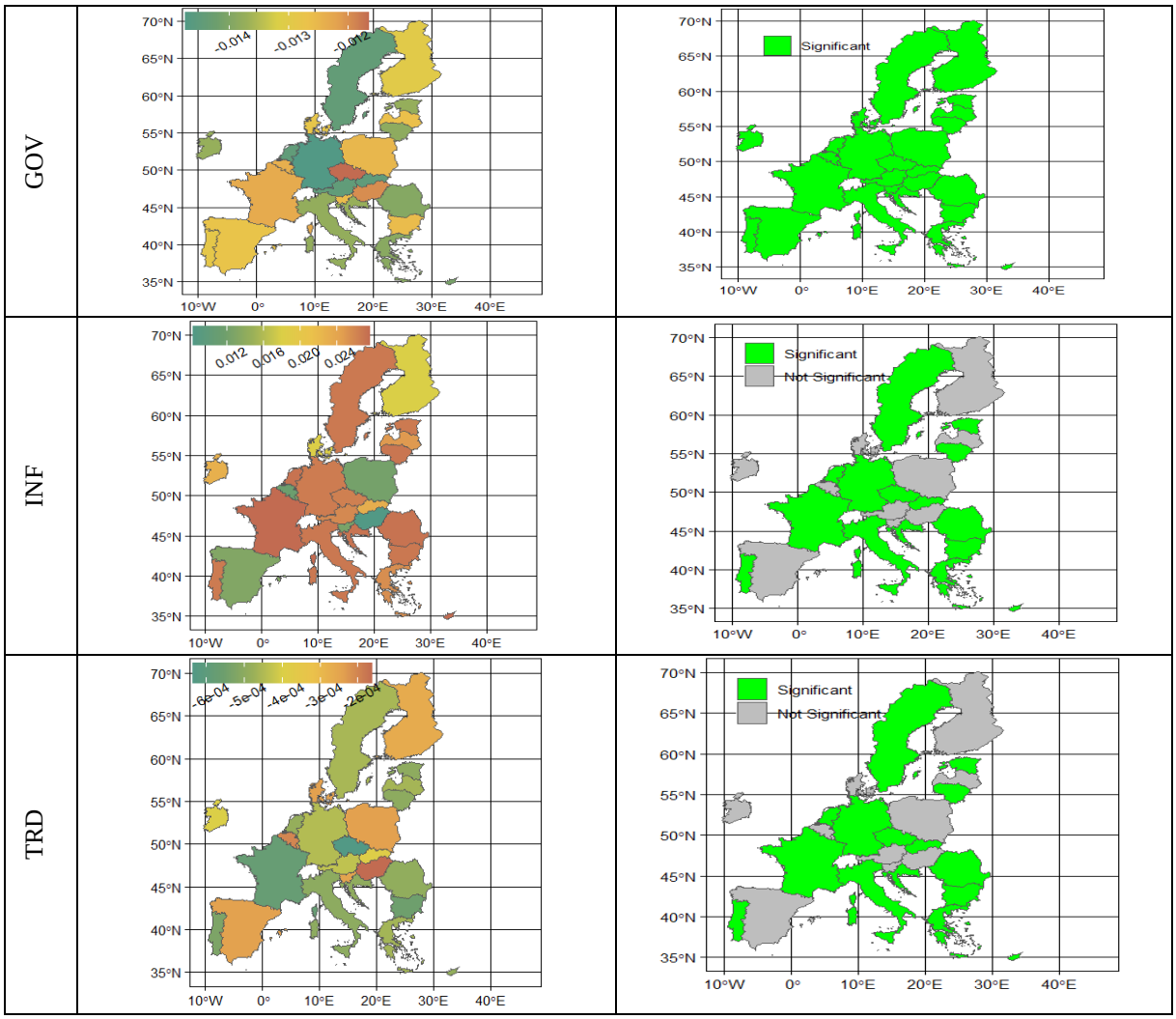
AIC Akaike Information, BIC Bayesian Information, AICc Corrected Akaike Information, RSS Residual Sum of Squares, Euclidean distance metric is used. Kernel function: bisquare p<0.1 *, p<0.05 **, p<0.01 ***

According to the results in Table 2, the GWR model has a smaller RSS, although the AIC and BIC of the GWR model are lower. On the other hand, the explanatory power of the GWR model is higher, albeit very low. According to the AICc criterion, the GOLS model is preferred. In the GOLS model, the constant term and GOV variable are statistically significant at the 1% significance level, lnGDP and TRD variables are statistically significant at the 5% significance level and FD variable is statistically significant at the 10% significance level. In the GOLS model, an increase in output has a positive effect on the Gini coefficient, albeit very slightly. A similar situation is also valid for FD. According to Beck (2003), regulations on financial markets have increased with the 2008 global crisis, and according to Rajan (2011), measures to prevent adverse selection and moral hazard in financial markets have increased. Instead of the expected effect of the EU social welfare model, the GOV does not contribute to ensuring equality in income distribution. Alesina and Ardagna (2010) and Acemoglu and Robinson (2012) explain this situation by the fact that the constant change in the institutional structure prevents economies from reaching a steady state and public expenditures are not efficient. In the empirical analysis period when anti-globalization sentiment increased and protectionist measures were taken in foreign trade, the TRD has a negative impact on income distribution. Autor et. al. (2013), Acemoglu and Restrepo (2018), Grossman and Helpman (1993) argue that the combination of tariffs/controls and trade is more important than the size of trade volume. According to the GOLS results, INF has a positive effect on income distribution, but this is not in line with the expectations of economic theory. According to Khan and Senhadji (2010), the impact of inflation on income distribution may differ across countries, depending on the type of inflation (demand-pull or supply-push), its duration and the social transfer expenditures of the public sector. On the other hand, the prolonged period of low

inflation in the euro area may not have led to the expected deterioration in income distribution. The GWR model reveals spatial differences compared to the GOLS model. The GWR model results show that the impact of FD on income inequality is explained by parameters such as regional differences in financial markets, technologicalization of financial access and financial literacy. Tuesta et. al. (2019) suggest that with financial development and technological progress in financial access, asset owners' exogenous income from alternative investment instruments may lead to income inequality. The GWR model yields similar results to the GOLS model on the impact of GOV on income distribution. Boschma et. al. (2015), Glaeser et. al. (2010) and Şahbaz et. al. (2014) argue that regional innovations, public support to the urbanization process and commodity revenues are given to local governments by the central government, and that the budget independence of local governments may lead to this situation. Moreover, as the volatility in commodity prices leads to a decline in public sector revenues, public support to the labor market may decrease (Erkan et. al., 2011). The negative impact of the TRD on income distribution can be attributed to the fact that invisible barriers in foreign trade and infrastructure investments may lead to a deterioration in income distribution despite their common monetary union (Duranton and Puga, 2004).

Grafik 1. GWR Parameter Estimates and Probability Values





p<0.1

The countries where the coefficients of lnGDP are significant are Belgium, Estonia, Lithuania, the Netherlands, Portugal, Italy, Malta, Greece, Czechia, Hungary, Hungary and Slovakia. Among these economies, lnGDP has a negative impact on income distribution in Portugal, Italy, Malta, Lithuania, Estonia, Czechia and Slovakia. While FD is statistically insignificant only in Finland, it has a positive effect on income distribution in all other EU economies. Public expenditures make a positive contribution to income equality in all EU countries. The effect of INF on income distribution is statistically insignificant in Ireland, Spain, Finland, Hungary, Austria, Poland, Latvia, Finland, Poland, Finland and Hungary. In other economies, the inflation rate has a distortive effect on income distribution. The effect of trade openness on income distribution is the same in countries where the inflation rate is statistically insignificant. However, contrary to economic theory, as the volume of trade increases with economic integration, the distortionary effect on income distribution emerges.

Conclusion and General Evaluation

This study examines the determinants of the Gini coefficient in the EU-27, one of the most valuable examples of economic integration, between 2009 and 2022 using Geographically Weighted Regression method. Traditional parameter estimation methods present a single coefficient for economies and ignore spatial differences. Income distribution is analyzed within the framework of the Kuznets curve within the framework of economic theory and states that there is an inverted U relationship between output growth and income distribution. The empirical findings of this study provide evidence that lnGDP distorts income distribution in some EU economies and corrects it in others. This result suggests that corporate fat and sectoral transformation processes are effective in income distribution and that income inequality increases in economies with capital-intensive production structure. The fact that FD increases income inequality can be explained by the fact that asset owners have easier access to financial instruments and individuals with low disposable personal income are excluded from financial markets. In addition, low levels of financial literacy and differences in access to commercial bank loans are also effective. According to Keynesian economic theory, the main purpose of public expenditures is to contribute to the social welfare of low-income individuals. According to the findings of this study, this expected effect of public expenditures is not realized. This is due to bureaucracy and ineffective use of resources allocated to local governments. The use of public expenditures to subsidize large firms operating in oligopolistic markets also leads to this result. Although the impact of the INF on income distribution varies across countries, in general, it has a distortive effect on income distribution. This is because, as Monetarist economics points out, a deterioration in the general level of prices has a devastating effect especially for individuals on fixed incomes. Low inflation rates in the Euro area during the period of empirical analysis may have limited this disruptive effect. The impact of TRD on income distribution reveals that the Stolper and Samuelson theory is not valid. This is explained by the shift of foreign trade of EU economies towards capital-intensive sectors and the concentration of foreign trade in certain economies. On the other hand, foreign trade within the framework of the free market mechanism may have distorted income distribution by suppressing the incomes of unskilled labor.

Important policy recommendations can be made with the results obtained from this study. (i) Empirical results reveal that income distribution varies across economies. Therefore, instead of implementing a single policy, country-specific policy designs should be made. (ii) Financial development shows signs of distorting income inequality. To this end, access to credit and financial markets should be increased for low-income individuals. (iii) Social welfare payments need to be increased as part of public expenditure. Who should make these payments (central government or local governments) is the subject of another study.

This study has some limitations. (i) The contribution of variables on the right-hand side of the regression to spatial variation can be explained more. (ii) The impact of public expenditures on income distribution does not conform to the expectations of economic theory and the reasons for this should be further analyzed. (iii) The question of how financial markets affect income distribution needs clarification. In this respect, has increased financial inclusion benefited low-income or wealthy individuals? (iv) Factors such as the structure of foreign trade, regional trade

and non-tariff barriers need to be taken into account in terms of the income inequality created by foreign trade.

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