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Equality and Income: Can Income Distribution Affect Country Income by Affects Competitiveness?

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Research

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Equality and Income: Can Income Distribution Affect Country Income by Affects Competitiveness?

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Abstract

This study argues that income distribution may cause country income. For the purpose of prove this argument a model established that suggests a positive relationship between income equality and the competitiveness of the country. Hypothesis tested to cover 42 countries and 2007-2018 with panel data analysis. Econometric analysis results support the study. According to these results, GCI value decreases as GINI value increases. In other words, as the income distribution becomes unequal, the competitiveness of the country decreases. In this context, the study is an important source in explaining the effect of income distribution on income.

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JEL Classification. D30, D63, 010

1. Introduction

Relationship between income inequality and economic growth largely is discussed issue. Income distribution and economic growth theories can be least David Ricardo (1817). In the Ricardian Theory analyses functional income distribution with increases agricultural product. Modern economic growth and income distribution theories start with Simon Kuznets (1955). Communities those theories are causality structure between income inequality and economic growth. Those theories were made income inequality as a dependent variable. But studies in recent decades asked that question; "may income distribution can effect economic growth?". There are four different answer of this question. 1- income equality negative effects on economic growth(Welch, 1999, s. 2), 2- income equality positive effects on economic growth(Brown & Pickett, 2017, ss. 24, 25), 3- equality doesn’t affect economic

growth(Banerjee & Duflo, 2003, s. 267; Günther Rehme, 2007, s. 507). And 4- some research suggests both fully income equality and inequality creates same negative effects on economy (Murphy vd., 1989, s. 553).

This study clearly defends income equality for increasing economic growth. Similar studies making the same suggestion in literature addressed economic growth within the framework of sustainability. The causality relationship between equality and economic growth in these studies established by linking the elements that provide educational and cultural progress.

But Daşdemir (2018) in Turkic literature shows that income distribution can effects economic growth by the effects competitiveness. According to this income distribution effects competitiveness of country by putting the consumption structure into a more similar structure. When consumption of individuals more similar shown these result increase competitiveness listed below(Daşdemir, 2018, ss. 467, 468);

1) External economies of scale: When individuals consume same or similar products economy become less product types more production quantity from more product types less production quantity. This transformation increase productivity by external economies of scale.

2) Bargaining power: Income equality provides import more specific goods and services with more quantity. That's gives the country monopsonist power in international trade. Similar thing valid in exports. Because of internal demand become more similar, domestic production focuses on similar products. That changes domestic production changes the export structure. Because of domestic production similar, export become more similar. That situation gives the country monopolies power in international trade.

3) Government expenditures: With income equality citizens' expectations from public services more similar. That provides government expenditures more efficient.

4) National awareness raising and migration prevention: When domestic revenue distributed equally citizens' national awareness can be increase. That's prevent citizens' immigration to another country or area. So that prevents regional income inequality(Daşdemir, 2017, s. 753).

5) Reduces conflict of interest between classes: More equal society means more integrated individuals and classes based on the social division of labour. That means less conflict of interest between classes in country than international and regional conflict of interest. Therefore, the country can achieve a more internationally competitive structure (Daşdemir, 2019, ss. 12, 13).

Income equality can positively affect regional sustainable competitiveness(Rizzi vd., 2015, s. 316). But in this study, equality affects the directly competitiveness with the dynamics listed above.

2. Model and Data

Theoretical argument in study tested with panel data analysis. Scale of the analysis is 42 countries and 2007-2018. Information about variables using in model gives below.

Variable Name	Definition	Source
GCI	Global Competitiveness Index	World Economic Forum
GINI	GINI index	World Bank
GDS	Gross domestic savings (% of GDP)	World Bank

In the predicted model, the existence of unit and time effects were tested. And it is understood that the unit effect is valid. Depending on the relationship between unit effects and explanatory variables, one of the fixed or random effects methods should be chosen. For this purpose, Hausman (1978) test was carried out. Robust Hausman test results, which should be used in case of deviations from the assumption, were used to decide. According to the Robust Hausman test results, the null hypothesis could not be rejected. Therefore, both fixed and random effects models are valid, but random effects models are effective. These tests and their results are shown in the table. All estimations and tests were carried out using the STATA 16 Package program.

Test		P Value	Result
Unit Effect	F Test	0.000	Null Hypothesis Reject: Unit Effect Exist
	LM Test	0.000	
	LR Test	0.000	
Time Effect	F Test	0.922	Null Hypothesis Can't Reject: Time Effect Doesn't Exist
	LM Test	1.000	

LR Test	1.000	
Hausman Test	0.001	Null Hypothesis Reject: Random Effect Doesn't Valid
Robust Hausman Test	0.103	Null Hypothesis Can't Reject: Random Effect Does Valid

The model where the unit effects are valid is as follows.

$$LGCI_{it} = \beta_0 + \beta_1 LGINI_{it} + \beta_2 GDS_{it} + M_i + \mu_{it}$$

The "L" sign in front of the variables indicates that the logarithms of the variables are taken. Logarithmic values of GCI and GINI variables were used in all analyses. "t" time, "i" unit, "M_i" unit effects, "μ_{it}" error terms, "β_0" constant, and symbols given before the variables represents the coefficient of that variable.

Based on the theory, the expected LGINI value is negative. And the coefficient of the GDS variable used as the control variable is expected to be positive.

Since the effective method is random effects, deviations from the assumption in the model are tested accordingly. Results are given in the table below.

	Test	P Value (Stat)	Result
Normality	Skewness and Kurtosis (Unit Effect)	0.310	Null Hypothesis Can't Reject: Error Terms and Unit Effect are Normal
	Skewness and Kurtosis (Error Term)	0.770	
Heteroscedasticity	Levene	0.000	Null Hypothesis Rejected: Error Terms are Heteroscedastic
	Brown	0.000	
	Forsythe	0.000	
Autocorrelation	Durbin-Watson	(0.615)	Null Hypothesis Rejected: Autocorrelation Does Exists
	Baltagi-Wu LBI	(0.994)	
Intertemporal Correlation	Pesaran	0.000	Null Hypothesis Rejected: Intertemporal Correlation Does Exists
	Friedman	0.000	

	Frees	(5.757)	
Multiple Regression (Mean Variance Inflation Factor)		1.05	No Multiple Linear Connections

The results in the table show that the model includes deviation from three assumptions. Therefore, it is the standard errors model proposed by Driscoll and Kraay, (1998) must be considered for interpretation.

3. Results

The outputs of estimating the model with various methods are given in the table below.

Regression Method		**LGINI**	**GDS**	**Constant**	**R-Squared**
Pooled OLS		-0.241*	0.005*	2.229*	0.470*
Robust Pooled OLS		-0.241*	0.005*	2.229*	0.470*
Between Regression		-0.244*	0.005*	2.232*	0.504*
Fixed Effect	Least Squares Shadowing sensitivity	-0.103*	0.002*	1.704*	0.947*
	Robust Least Squares Shadowing sensitivity	-0.103*	0.002*	1.704*	0.947*
	Within Regression	-0.103*	0.002*	1.704*	0.052*
	Robust Within Regression	-0.103	0.002***	1.704*	0.052***
Random Effect	Within Regression	-0.137*	0.002*	1.928*	0.466*
	Robust Within Regression	-0.137**	0.002*	1.928*	0.466*
	Generalized Least Squares	-0.241*	0.005*	2.229*	---*
	Maximum Likelihood Estimator	-0.133*	0.002*	1.913*	---*
	Population-Averaged	-0.133*	0.002*	1.913*	---*
	Robust Population-Averaged	-0.133**	0.002*	1.913*	---*
Driscoll-Kraay Standard	Pooled OLS	-0.241*	0.005*	2.229*	0.470*
	Fixed Effect	-0.103**	0.002*	1.816*	0.052*
	Random Effect	-0.137**	0.002*	1.928*	0.466*

*: %1, **: %5 and ***: %10 tolerance level

In all estimation methods, there is an inverse relationship between GINI and GCI and a positive relationship between DGS and GCI. However, the model that should be interpreted due to deviations from the assumption is the Driscoll-Kraay Standard

Errors model in the random effects method. According to this, 1% increase in GINI causes a decrease of about 0.14% in GCI. In other words, competitiveness decreases as income distribution becomes unequal. The R-square found about 47%. Coefficients are meaningful in 5% tolerance level for GINI and 1% for constant, GDS and R-square.

4. A Concluding Remark

This study revealed income distribution is an important determinant of competitiveness. Competitiveness of countries increases as income equality among citizens' increases. In this context, studies in the literature based on the hypothesis that the economic income is the cause of the economic distribution criticized. The income distribution that affects competitiveness also affects the income. Therefore, income equality is not a result but a cause. Countries wishing to increase their economic income should focus on policies that equalize the income distribution.

References

Banerjee, A. V., & Duflo, E. (2003). Inequality and Growth: What Can the Data Say? *Journal of Economic Growth*, *8*(3), 267-299. JSTOR.

Brown, R., & Pickett, K. (2017). Inequality: For and Against. Içinde *The inequality crisis* (1. bs, ss. 19-48). Bristol University Press; JSTOR. https://doi.org/10.2307/j.ctt22p7kb5.7

Daşdemir, E. (2019). *Asya Türk Cumhuriyetlerinin Ekonomik Bütünleşmesi* [Yüksek Lisans Tezi, Marmara Üniversitesi]. http://dspace.marmara.edu.tr/xmlui/handle/11424/55127

Daşdemir, E. N. (2017). Göçün Piyasalara Etkisi ve Faktör Hareketliliğini Açıklama Gücü: Emek Piyasalarının Küreselleşmesi ve Maliyetleri. *Gazi Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, *19*(2), 676-700. https://doi.org/10.26745/gaziuiibfd.418588

Daşdemir, E. N. (2018). Bölüşüm Üzerine: Ülkelerarası Rekabet Gücü İle Yurtiçi Bölüşüm İlişkisi. *Ankara Hacı Bayram Veli Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, *20*(2), 456-469.

De Nardi, M., & Fella, G. (2017). Saving and wealth inequality. *Review of Economic Dynamics*, *26*, 280-300. https://doi.org/10.1016/j.red.2017.06.002

Driscoll, J. C., & Kraay, A. C. (1998). Consistent Covariance Matrix Estimation with Spatially Dependent Panel Data. *The Review of Economics and Statistics*, *80*(4), 549-560. JSTOR.

Günther Rehme. (2007). Education, Economic Growth and Measured Income Inequality. *Economica*, *74*(295), 493-514. JSTOR.

Hausman, J. A. (1978). Specification Tests in Econometrics. *Econometrica*, *46*(6), 1251-1271. JSTOR. https://doi.org/10.2307/1913827

Kuznets, S. (1955). Economic Growth and Income Inequality. *The American Economic Review*, *45*(1), 1-28. JSTOR.

Mo, P. H. (2000). Income Inequality and Economic Growth. *Kyklos*, *53*(3), 293-315. https://doi.org/10.1111/1467-6435.00122

Murphy, K. M., Shleifer, A., & Vishny, R. (1989). Income Distribution, Market Size, and Industrialization. *The Quarterly Journal of Economics*, *104*(3), 537-564. JSTOR. https://doi.org/10.2307/2937810

Ricardo, D. (1817). *On the Principles of Political Economy and Taxation* (R. M. Hartwell, Ed.). Penguin Books.

Rizzi, P., Graziano, P., & Dallara, A. (2015). THE REGIONAL COMPETITIVENESS: AN ALTERNATIVE APPROACH. *Rivista Internazionale di Scienze Sociali*, *123*(3), 307-335. JSTOR.

Welch, F. (1999). In Defense of Inequality. *The American Economic Review*, *89*(2), 1-17. JSTOR.

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