

Empirical Investigation on Globalization and Social Polarization: Cross Country Analysis

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ABSTRACT: It is considered that the integration process of both developed and developing countries with the global world affects the aspect of social polarization in these countries. Two main approaches which are different from each other exist in the related literature about the effects of globalization on the social polarization. The first approach, which is mostly supported by neo-liberal economists, claims that the globalization influences the social polarization positively. The other approach suggests that the social polarization increases in the economies together with the globalization process. With this study which was prepared in this scope, the effect of globalization process on the social polarization was tried to be tested by cross-sectional analysis of the data of 2008 of twenty-seven EU member countries. As a result of the findings obtained in this study, it was concluded that the globalization process has a decreasing effect on the social polarization in these countries.

Keywords: Social Polarization; Globalization; Income Inequality

JEL Classifications: D02; D40; D72; D73; D82

1. Introduction

Globalization is a concept and process which is always discussed in many disciplines about its positive and negative effects on the economies of countries nowadays. This concept that means the free circulation of products, services, capital, people, information and technology is also the extension of the liberal economy in the world. The integration process in the world has become faster and faster by the help of technology since the 1980s and the restrictions which prevented the circulation of trade, production, service and labor among the countries.

It is expressed by the concept of social polarization that the inequality between the social castes which constitute the society by the effect of transition in the economical structure has reached to extreme points (Andersen, 2004:146). Social polarization is also used to state the change which emerges in the economical and social structure in addition to being an extension of the inequality in the income distribution. In this context, there are plenty of economical and social cases which explain the level of polarization: in addition to the income distribution, dual economical structure, distribution of wealth and stratification of labour market are also used to explain the concept of social polarization.

The point which needs to be considered about the globalization is how economical and social inequality is affected by this process. Accepted opinion is that the globalization and technological change result in a transition in the economical structure and a professional polarization and this situation affects the inequality between the social castes that constitute the society. Therefore, the importance of the studies which examine if there is a significant relationship between the globalization and social polarization and the direction of the influence of the globalization on the social polarization increases gradually. Even though there is a broad literature about the effects of the globalization on the

social polarization or its parameters, it can not be said that there is an agreement about the direction of these effects. Generally, there are two main ideas about this issue: according to the first of them, the globalization makes the social polarization go up and causes the inequality of income distribution. Hereunder, the needs for unskilled labour decreases together with the globalization process while the demand for skilled labour increases together with the growth in the service industry. This ambiguity, on one hand, causes the impoverishment of the workers that used to constitute the middle class in the past, it, on the other hand, causes the emergence of a class which the rich constitutes and is caused by service industry. According to the other idea, the economic growth increases and the social polarization and the income distribution are affected positively as a result of the globalization process.

The main point emphasized in the study is to find out the effect of the globalization on the social polarization. The social polarization will be expressed by Gini coefficient which shows the inequality of income distribution. This is because the inequality of income distribution constitutes the economical foot of the social polarization and using the Gini coefficient as the quantitative indicator of the social polarization is the most common situation in the literature. The main purpose of the study is to see how the globalization process affects the income distribution in the countries, therefore, the social polarization. In this context, the effect of globalization on the social polarization will be tried to be tested by using the data of 2008 of 27 EU member countries through cross-sectional analysis. The study consists of two main parts. Conceptual and theoretical knowledge about the issue is presented in the first part. Analytical examination about the issue is done in the second part.

2. The Relationship of the Globalization and Social Polarization

2.1 Theoretical Framework

It is considered that the integration process of both developed and developing countries with the global world affects the aspect of social polarization in these countries. Two main approaches which are different from each other exist in the related literature about the effects of globalization on the social polarization.

The positive change that is emerged in poverty and social polarization as a result of globalization is expressed with the *first approach*. Accordingly, the economic growth accelerates by means of international expansion and liberal policies throughout the globalization process and in parallel with this, new job opportunities appear and it affects the poverty and polarization positively. The economic growth facilitates the financing of the programs to fight with poverty and injustice of income distribution by increasing the tax incomes in addition to decreasing the poverty and polarization by providing new job opportunities (Yanar and Sahbaz, 2011: 306).

Similarly, it is stated that the increase in the integration between the economies and then countries and regions specialization according to their comparative degrees enable the more effective usage of the resources in the world. International trade might result in a consistent income distribution in the world by decreasing poverty. It is expressed that specialization and trade will contribute to the capital stock in the country (this is why decreasing returns will be the subject when the capital stock increases, according to the neo-liberal view) and the world's income distribution will take shape depending on the freedom and specialization in international trade. All countries can grow at the same rate in different income levels which were formed according to different technologies by the effect of terms of trade (Bas, 2009: 57).

Besides, the development of international trade might decrease poverty, inequality of income distribution and social polarization by accelerating the economic growth (World Bank, 2002 Report). According to Kuznets's inverted U-shaped hypothesis, income distribution is relatively equitable at low income levels at the beginning of the economic growth. However, inequality of income starts to increase while income increases. When the per capita income reaches to the level of industrialized countries, the income distribution will regenerate and the inequality might be lowered. Briefly, this hypothesis suggests that the process of globalization will forge a positive effect on the growth and results in a negative effect on the polarization and the income distribution in the first step. However, it might create a positive effect on polarization and the income distribution in developed economies in the long term. (BaS, 2009: 58; Yanar and Sahbaz, 2011:308). Likewise, Stolper-Samuelson theory (the effect of international expansion process) and Mundell hypothesis (the effect of foreign direct investment) explain the effect of globalization on the income distribution especially in relative factor demand during the redistribution of the resources process and therefore, the change in the incomes of

factor owners. The theoretical background which takes both of these views as references draws attention to the countries' realizing the regulations which will correspond to the globalization process with international expansion and foreign direct investment will have a decreasing effect on the inequality of income distribution and polarization (Dagdemir, 2008:117).

According to the *second approach*; the globalization causes a big inequality between the countries and results in social and political polarization (Dollar, 2005:159).

Together with the globalization process, the change that has been experienced in the capitalist production manner since the 1970s became a determiner in the inequality of income distribution (Bas, 2009: 51). While the economy is reconstructed by the effects of globalization, qualified labour demand increases and this causes a polarization in the wage and working conditions (Hansen et al., 2001:859). It is claimed that occupational polarization in the labour market results in a social and economical polarization in the global world (Hansen et al., 2001:864). Hereunder, the globalization might cause an increase in the inequality of income distribution, impoverishment and social polarization by generating unemployment of the qualified and semi-qualified labour (Acıkalın, 2007:49-50).

It is emphasized in the studies about the social polarization that social and spatial separations are the dramatic results of the economical structure and the globalization. This is closely related with especially the growth in finance and service sector and the decrease in production sector. It is supported that the occupations in the service sector and the distribution of earnings increases the polarization between the people who have high-wage jobs and the unqualified people who have low-wage jobs (Hamnett and Cross, 1998:39). The raise in the rate of the service sector within the global employment and the decrease in the rate of agriculture and manufacturing sector are evaluated as one of the reasons that reveal the social polarization (Tai, 2010:745).

The theory of globalization envisages the decrease in the role of the state in making the social regulations and its responsibilities and accordingly, leaving the economy to the free market conditions. The free market conditions carry vital importance in maintaining the continuity of the globalization. The free market conditions cause an increase in the competition. The ones who can not keep up with the conditions of the free market are pushed out of the economy. As a result of this, not being able to distribute the social welfare equally and the social polarization arises. (Kantor, 2007:52). In addition to this information, the globalization process might have an increasing function on the social polarization and the inequality of income distribution because the global markets cause an increase more in the earnings of countries and individuals that have the most productive assets or resources, negative exogeneities result in new incremental costs for poor economies in global economies and existing rules in global economies work in favour of countries and individuals that have more economic power more (Bas, 2009: 51).

Consequently, the globalization process may have various effects on countries' economies, the social polarization and the inequality of income distribution which is believed to be an indicator of the social polarization. According to the view that takes the neo-liberal approach as the basis, *the globalization process might affect polarization and income distribution positively*. According to the other view, *the globalization process might affect the polarization and income distribution negatively*.

2.2 Literature Review

The cross-sectional and panel data of the countries are mostly used in empirical studies about the globalization and its process on the social polarization (Ravallion, 2003: 749). Three different findings were obtained in the empirical studies which were carried out on this issue. According to the finding obtained from some studies, the globalization process might have a negative affect on the social polarization and the income distribution. According to some other studies, the globalization process has a corrective effect on the social polarization and the income distribution. Although the direction of the effect can be different, the results of the studies which were carried out on this issue showed that there is an interaction between the globalization and the social polarization (Hansen et al., 2001:864). Moreover, in some of the studies which were done about this issue, it was concluded that there is not an interaction between the globalization and the social polarization.

Some of the studies which reveal that the globalization has a corrective effect on the social polarization and the inequality of income distribution are as follows:

Andersen (2004) stated in the study which contains the years of 1980 and 1990 that the local results of the globalization and the reconstruction of the economy did not result in polarization and even it caused a little inequality between the years 1980 and 2000. He suggested that there was not a

radical difference between the income earned from manufacturing and the income earned from service sector. The author stated that the most remarkable change in this period was the growth in the group which comprised of employees who had high earnings.

Neutel and Heshmati (2006) tested the effect of the globalization on the income distribution in 65 developing countries with cross-sectional analysis method. The authors found in the result of their study that the globalization decreased the inequality of income distribution and poverty.

Similarly, Yanar and Sahbaz (2011) concluded in their study which analysed the data of 2007 of 174 countries with cross-sectional analysis method that the globalization has a decreasing effect on poverty and income distribution.

Milanovic (2005) obtained the following findings in his study in which he used the 1988 household data of 95 countries and 1993 and 1998 household data of 113 countries: The effects of globalization on the income distribution change according to the income levels of the countries. While the globalization makes the inequality of income distribution in countries with low-income increase more, it decreases the inequality of income distribution in countries with high-income. In parallel with this, Figini and Gorg (1999) investigated the relationship between foreign direct investment and the inequality of income and obtained a finding which supports the Kuznets's inverted U-shaped hypothesis between these two variables.

Some of the studies which reveal that the globalization contributes to the social polarization and the inequality of income distribution negatively are as follows:

In their studies comprising the years from 1987 to 2001, Wan et al. (2006) dealt with the process of globalization in China in the scope of wage-earning procedures such as foreign direct investment and trade. As a result of the findings they obtained from this study, the authors revealed that the globalization has an important effect on the regional inequalities in China.

The findings of the empirical study which was conducted by Dreher and Gaston (2006) showed that the income inequality increased in OECD countries together with the globalization. However, the results of the same study revealed that the globalization does not have a significant effect on the income inequality in countries other than OECD countries.

Norgaard (2003) analyzed the distribution of wages of the employed population in New York in his study of the years between 1970 and 1990. According to the result of the empirical study, the inequality of income in New York showed an increase between the years 1970 and 1990 as a result of the globalization process in economy.

Savvides (1998) found out that more outward-oriented economies among the underdeveloped countries are represented with increasing inequality of income. Similarly, Barro (2000) concluded that outward-oriented economies have a positive and significant effect on the inequality of income in developing countries. Feenstra and Hanson (1997) confirmed that the inequality of income goes up together with the globalization process starting in the developing countries.

On the other hand, some empirical studies suggest that the globalization does not have an important effect on the income distribution (Lundberg and Squire, 2003). Dollar and Kraay (2002) claimed that the globalization does not have a systematic and significant effect on the inequality. Besides, there is a positive relationship between the globalization and the increase of per capita income. In the same way, Heshmati (2004) could not find a significant relationship between the globalization and the income distribution in 37 countries.

After all, a consensus was not achieved about the type and the direction of the interaction between the globalization and the social polarization although many studies had been carried out on this issue. The studies about this issue and the direction of the interaction obtained from these studies are presented in Table 1 briefly.

3. The Empirical Model and Data

The model used in the analysis was composed by taking the study of Wan, Lu and Chen (2006) as the reference (Wan et al., 2006:45). An econometric model in which Gini co-efficient is the dependent variable will be used in the study. This is because the inequality of income distribution is the most important indicator of the social polarization and the value that shows the the inequality of income distribution is the Gini coefficient. The independent variables in the econometric model which was composed in this framework are the globalization trend showing the economical, social and

political aspect of the globalization, crime rates, the trend of education, per capita income and government expenses.

Table 1. Empirical Studies about the relationship between the globalization and the social polarization

	Andersen (2004)	Neutel and Heshmati (2006)	Milanovic (2005)	Wan et al. (2006)	Dreher and Gaston (2006)	Barro (2000)	Savvides (1998)	Dollar and Kraay (2002)	Heshmati (2004)
SOCIAL POLARIZATION (THE INCOME DISTRIBUTION-DEPENDENT VARIABLE)									
GLOBALIZATION (INDEPENDENT VARIABLE)	+	+	+	-	-	-	-	∅*	∅*

* Statistically of no significance

3.1. The Econometric Model used in the Research

The dependent variable in the model is the Gini Coefficient that shows the inequality of income distribution. The independent variables are Per Capita Income, the Trend of Education, Crime Rates, the Rate of Government Expenses to National Income and the Trend of Globalization.

$$\text{GINI} = f(\text{PCI}, \text{IE}, \text{CR}, \text{RGENI}, \text{IG})$$

GINI represents the inequality of income distribution.

PCI represents the per capita income.

TE represents the trend of education.

CR represents the rate of criminal population to the total population.

RGENI represents the rate of government expenses to the national income.

TG represents the trend of globalization.

The How Expression of the model is shown below mathematically.

$$\text{GINI} = c + [\beta_1 \text{PCI} + \beta_2 \text{GINI} + \beta_3 \text{TE} + \beta_4 \text{CR} + \beta_5 \text{RGENI} + \beta_6 \text{TG}] + \varepsilon$$

Here; (c) represents the fixed term while (ε) represents the error term.

3.2. The Set of Data and Resources Used in the Research

There are 6 variables in the study. One of them is dependent and remaining five of them are independent variables. The explanations and the resources of dependent and independent variables used in the model were given below.

The inequality of income: The Gini index was used as the indicator of the inequalities of income in the countries. The index consists of values between 0 and 1. When the index is 0, it shows that the inequality of income is low. When the index is 1, it shows that the inequality of income is the highest. The data about the Gini index was obtained from Human Development Reports for the year of 2008.

Globalization Index: KOF Index of globalization was used as the data about the level of economical, social and political globalization in the countries. KOF index of globalization represents the index which was composed by Switzerland Institute of Economy by developing some indicators in order to measure the globalization in countries. By the help KOF Index of Globalization, the level of globalization is investigated in three different parts as economical, social and political. The index consists of values between 1 and 100. When the index is 1, it shows that the level of globalization is low. When the index is 100, it shows that the level of globalization is high. The data was obtained from the official web-site in which KOF Index of Globalization is published for the year of 2008 (globalization.kof.ethz.ch).

Per capita income: It represents the per capita income in European countries. The data was obtained from Eurostat for the year of 2008.

Index of Education: It is one of the three indexes which constitute the human development index. It shows the situation of education in the country and it is a measurement which was arranged so as to find out the lifetime, the rate of literacy and the level of education and life. The Index of Education consists of values between 0 and 1. When the value approaches to 1, it means that the level

of education in that country is high. The data was obtained from the official web-site of UN for the year of 2008 (www.undp.org.tr).

The rate of Criminal Population: This is obtained by proportioning the criminal population to the total population in the countries. The data was obtained from Eurostat for the year of 2008.

The rate of Government Expenses: This is obtained by proportioning the government expenses to the national income of the countries. The data was obtained from Eurostat for the year of 2008.

The resources and the expected effects of the variables which were defined above and the possible effects of which on the social polarization were explained were shown in Table 2 collectively.

Table 2. Independent Variables and Expected Signs

Display of the variable	The definition of the variable	The resource of the variable	The expected sign of the variable
KOF	Index of Globalization	KOF Globalization Index	+/-
PCI	Per capita income	Eurostat	+/-
CR	Crime Rate	Eurostat	+
RGENI	Government Expenses	Eurostat	+/-
TE	Index of Education (HDI)	UNDP	-

3.3. The prediction results of the empirical model and interpretation

The prediction results of the method by the least squares method are shown in Table 3. The R² value belonging to the predicted economical model was found as 0,65. This value shows that the established model is statistically significant. The most common problem seen in the econometric studies that use the cross-sectional data is the changing variance. Therefore, the predictions must be made by removing the variance problem. In this context, the model was predicted by using “White standard errors approach” (Wooldridge, 2001: 55) which is the most common and the most preferred method among “Heteroskedasticity-Robust standard error approaches” in order to remove the variance problem. The obtained prediction results are presented in Table 3.

Table 3. The Prediction results of the model

Variable	B Coefficient	t-statistics***	p-value
Fixed Term	9.89	6.377185	0,0000*
KOF	-1.207002	-2.887823	0.0094*
PCI	-0.125924	-2.058641	0.0535**
TE	-1.145298	-3.128268	0.0055*
CR	0.125833	2.945062	0.0083*
RGENI	-0.150647	-0.929232	0.3644
N	27		
R ²	0.658504		
F	7.32		

* 1% shows the significance level.

** 10 % shows the significance levels.

*** calculated by using White Standar Error according to the changing variance.

According to the obtained results, there was a statistically significant relationship between per capita income, crime rate, the index of education, the index of globalization and Gini coefficient. On the other hand, no statistically significant relationship was found between the government expenses and Gini coefficient.

As it is seen in Table 3, there is a statistically significant at 1 % significance level and a negative relationship between the index of globalization and the inequality of income distribution. When the index of globalization increases one point while the other independent variables are fixed, the inequality of income distribution decreases 1.1207 point.

There is a statistically significant at 10 % significance level and a reverse relationship between the per capita income and the inequality of income distribution. When the per capita income increases one point while the other independent variables are fixed, the inequality of income distribution decreases 0,125924 points.

There is a statistically significant at 1 % significance level and a reverse relationship between the index of education and the inequality of income distribution. When the index of education increases one point while the other independent variables are fixed, the inequality of income distribution decreases 1,145298 points.

There is a statistically significant at 1 % significance level and a positive relationship between the crime rate and the inequality of income distribution. When the crime rate increases one point while the other independent variables are fixed, the inequality of income distribution increases by 0,125833 points. In addition to these, no statistically significant relationship was observed between the government expenses and the inequality of income distribution.

4. Conclusion

The relationship between the globalization and the social polarization has a rather complex and changeable according to the conditions structure. The common belief about this issue is that a change in the economic structure and an occupational polarization emerges by the effect of the globalization and technological change and this affects the inequality among the castes that form the society. Moreover, neo-liberal economists state that the globalization will have positive effects on the income distribution and the social polarization in the economies on the contrary to this common belief.

In this context, it can be said that there are two basic approaches different from each other about the globalization process and the effects of this process on the social polarization and income distribution. According to the first approach, the changing manufacturing structure together with the globalization affects the working conditions, the employment of the workers in the manufacturing sector and their living conditions. As a result of this, the inequality of income distribution in the economies increases and social polarization might appear. According to neo-liberal point of view, on the other hand, the economies might turn into structures in which less poverty, a more balanced income distribution and less social polarization are experienced by reaching a higher growth level with the effect of international expansion and liberalization in the process of globalization.

In this study which was designed in the framework of these two approaches different from each other, the effect of globalization on the economies was also dealt with on the social polarization case. In the study, the case of social polarization was expressed with Gini coefficient which showed the inequality of income distribution in many academic studies. The main purpose of the research is to be able to see how the globalization process affects the income distribution and so the social polarization in the economies. In this context, this relationship was tested by cross-sectional analysis method and the 2008 data of 27 EU member countries. According to the findings obtained, an increase in the index of globalization decreases the inequality of income distribution. This suggests that the globalization process affects the social polarization in developed countries which are among the EU member countries. This result verifies the Kuznets's inverted U-shaped hypothesis which says "the income distribution is more balanced in the economies in which the economic growth is high". Furthermore, the other findings obtained in this research can be summarized as follows: the increase in per capita income in the EU member countries decreases the inequality of income distribution and so the social polarization. The increase in the index of education decreases the inequality of income distribution. The increase in the crime rate in the EU member countries increases the inequality of income distribution. In addition to these results, no statistically significant difference between the public expenses and the inequality of income distribution was observed when the results obtained in this study are analysed.

Consequently, this particular study provides a response supporting the hypothesis of neo-liberal economists that they give to the question "how does globalization affect the social polarization?" which was the main purpose of the study. In addition, this study might show a deficiency by using only the indicator of income distribution as the indicator of social polarization. For as much as, the social polarization can appear by depending not only to the income level but also the cultural, ideological, historical, biological and social stimulation. In this context, evaluating the social polarization only in the scope of income distribution might be deficient evaluation. It is seen, however, in the literature that the indicator of income distribution is the most frequently used numerical indicator of the social polarization in the analytical studies carried out on this issue. In line with this point of view, the existence of a more comprehensive numerical indicator expressing the social polarization can result in a stronger interpretation of the findings of this study.

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