

THE IMPACT OF FOREIGN DIRECT INVESTMENT ON INCOMES INEQUALITY: CASE STUDY WESTERN BALKANS

Linda KADRIJI¹, Raman ISMAILI², Besnik FETAI³

¹Department of Business Administration, Faculty of Economics

²Department of Marketing, Faculty of Economics

³Department of Economics, Faculty of Business and Economics

*Corresponding Author: e-mail: b.fetai@seeu.edu.mk

Abstract

The objective of this paper is to investigate empirically the impact of Foreign Direct Investment (FDI-henceforth) on income inequality for the period 2007 to 2021. Therefore, the research question is: Does FDI has an impact on income distribution? To answer this research question, we established the hypothesis that FDI has a negative impact on income inequality. For this purpose, we employ GMM (Generalized Method of Moments) model in order to check validity of hypothesis. Our findings shows that FDI has a significant effect on income inequality, that is measured by Gini-index. The effect of FDI is negative on income inequality, and statistically is significant. Therefore, the findings with GMM estimator conform the hypothesis that FDI has a positive effect on reducing inequality.

Keywords: FDI, Income Inequality, GMM

1. Introduction

There is a significant body of research that has investigated the relationship between FDI and income inequality (Bhandari 2007; Herzer and Unnenkamp 2011; Jensen and Rosas 2007; Chintrakarn et al. 20012; Mugeni 2015), however, most of them claimed that FDI has a positive effect on reducing income inequality. In addition, there are some of studies that claimed that FDI has a negative impact on reducing income inequality (Reuveny and Li 2003; Choi 2006; Basu and Guariglia 2007). For example, Tsai 1995 found that income disparities hurt economic development (Cingano 2014). The increase in income disparity could inhibit poverty reduction efforts. Brewer & Young, 1997 discovered that inequality within Europe appears to be on the rise in recent decades. In the 1980s, the real income of the wealthiest 10% was seven times higher than the average income of the poorest 10%. It's about ten times higher today. In other words, the stabilization of the economy has not reversed the long-term trend towards growing income inequality, since it is at an all-time high point (OECD, 2019). With growing questions about what happens as the difference between rich and poor begins to expand, this trend will be affecting not just the social but also the political unity of Europe (WIR,2019). Since, there is not unique answer relating to the impact of FDI on income equality, and therefore, the main aim of this paper is to examine the effect of FDI on income inequality. Hence, we attempt to answer the research question does FDI has a positive impact on reducing income inequality in the Western Balkans. To explore this research question, we establish the following research hypothesis: FDI has a positive effect on reducing inequality in the Western Balkans.

In order to test the hypothesis, we employ GMM models, which have been proven to provide robust result. The data for this study is sourced from World Bank World Development Indicators (WB), United Nations Development Programme (UNDP) and Standardized World Income Inequality Database (SWIID) developed by Solt (2020).

The main contribution of this paper is that there are only few studies that assess the effect of FDI on income inequality, using GMM in the Western Balkans: Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia, and Serbia from 2007 to 2021.

The rest of the paper is organized as follows: section 2 review of literature; section 3 presents research methodology and data; section 4 provides the results and discussion, and section 5 provides the conclusion.

2. Literature Review

In the recent years the impact of FDI on income inequality has grown interest, because of the prevalence of anti-globalization movements (Franco and Gerussi, 2013). The question about the effect of FDI income on income inequality is still inconclusive and debatable. Some of empirical evidence found out that FDI has no effect on income inequality (Hemmer et al. 2005; Sylwester 2005; Faustino and Vali 2011; Franco and Gerussi 2013) on one hand and the studies that found out that FDI has a positive impact on income inequality (Jensen and Bhandari 2007; Herzer at.al., 2011; Chintrakarn et al 2012; Mugeni 2015) on the other hand.

The study by Asteriou et al. (2014) investigated effects of FDI on wage inequality for the EU-27 and apply different methods including fixed effects, random effects, and generalized moment methods (GMM). They found out that trade openness decreases disparity, in particular FDI, raises income inequality. The results indicate that since 1995, FDI has been the primary driver of income inequality in the EU-27. The study by Basu and Guariglia (2007) investigated the results of FDI inflows in 119 developed countries for the period 1970-1999. They employ fixed effects and GMM regression and found out that that FDI fosters productivity and raises disparity in human capital. Moreover, they argue that inflows of FDI intensify income inequalities. Herzer et al. (2014), investigate Latin American countries from the period 1980-2000, using DOLS and they found out that the inward stock of FDI encourages income inequality in those countries. Alderson and Nielsten (1999), applying panel data for 88 countries over the period 1969-1994, investigated the relationships of FDI with income inequality. The results indicate that the income inequality in inward FDI stock is growing. Reuveny and Li (2003) also looks at the effects of FDI over the period 1960-1996 on income inequality in 69 countries.

The findings demonstrate that FDI increases the disparity of wages. Choi (2006) also found that FDI inflows in 119 countries worsen wealth gaps. Similarly, Huang et al. (2016) discovered that the FDI's internal income is more likely to increase income disparities in transition economies and Latin American countries by using panel data for a grouping of 39 middle-income countries for the period 1981–2006. For the 65 developed countries using the panel results, Beer and Boswell (2002) analyze the shift in income disparities resulting from MNE in a region. Two points in time are the primary emphasis compared with the 1980–1995 findings. They show that in most countries, for example, income inequality is increased.

Finally, a huge of studies have assessed the effect of FDI on income inequality, however, yet there is no consensus among them, relating to the FDI on income inequality, which provides good ground for this research. To the best of my knowledge, this is one of the few studies that measure the effect of FDI on income inequality, employing quantitative methods in the Western Blakans. Moreover, there are few empirical studies dealing with the relationship between FDI and income inequality, Western Balkans countries. This paper seeks to fulfill the gap in the literature by examining how the FDI affect income inequality in Western Balkans.

3. Research Methodology and Data

3.1 Research Methodology: We have estimated an empirical model to investigate the impact of FDI on income inequality in Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia. Since the best estimator could be provided by Generalized Method of Moments (GMM), we decided to apply this method in our study. GMM methodology was initially developed by Arellano and Bond (1991) and was further developed by Arellano and Bover (1995), and Blundell and Bond (1998). The GMM offers several advantages such as its capacity to control for country-specific effects and the simultaneity bias caused by some potential endogenous explanatory variables.

The dynamic panel data model (GMM) has the following specifications:

$$\text{Ln Gini}_{it} = \mu + \text{Ln gini}_{(it-1)} + \beta_1 (\text{LnFDI}_{it}) + \beta_2 (\text{Lntrdeopen}_{it}) + \beta_3 (\text{LnGDPpercapita}_{it}) + \beta_4 (\text{LnInfl}_{it}) + \delta_i + \gamma_i + \varepsilon_i$$

The dependent variable is the Gini index, denoted as Gini, where 'i' represents each country, and 't' represents the years. The term ' μ ' represents the constant term. The explanatory variables include Gini_{it-1}, which is the first lag of the dependent variable. The independent variables consist of FDI, trade openness, GDP per capita, and inflation. The term δ_i stands for the country fixed effect, which allows us to account for time-invariant unobservable variables that can influence discrimination and contribute to bias coefficients. The term γ refers to a specific time effect that encompasses the business cycle effect, which would otherwise result in spurious regression between the dependent variable and the explanatory variables. The term ε represents standard error.

3.2 Data :

(i) Descriptive Statistics

The descriptive statistics provide a summary of the statistical data for the variables included in the empirical model. The GINI index is dependent variables, whereas the independent variables are trade openness, GDP per capita and Inflation. The table I show the mean, standard deviation, maximum and minimum values. The sample contains 120 observations. The description of the variables is reported in the Appendix.

Table 1. Descriptive Statistics

Variable	Observation	Mean	SD	Minimum	Maximum
Gini index	120	35.39571	3.896912	28.2	39.9
FDI	120	7.34225	5.697263	0.5358076	37.27248
T_Openess	120	92.06999	17.41327	66.02182	137.2766
GDP_percapita	120	12874.56	2419.516	7538.314	18179.78
Inflation	120	3.034503	2.727737	-0.632442	16.04154

Source: Autor's calculation

4. Empirical Result

Results for the estimation of the relationship between Multinational Enterprises through FDI and income inequality are presented, considering two different dependent variables; Gini coefficient and Human Development Index for each dependent variable. The empirical analysis was built around various models, including MNE measures in broad terms and particular components of explanatory. Each model has been estimated by taking the logarithm function while FDI with lag.

4.1 Testing the effect of FDI on income inequality: The findings demonstrate that all measured dynamic panel models are well developed, as the coefficients of the lagged Gini index are statistically significant. Furthermore, the Sargan -test for identifying limitations in the presence of heteroscedasticity with the corresponding p-value, which tests the reliability of the instrumental variables, is accepted (generated in the result of the second step) as safe instruments for all approximate equations. As a result, the findings of the GMM estimator support the hypothesis that instrumental variables are unrelated to the group of residuals. Therefore, Arellano – Bond tests AR (1) and AR (2) with p-values in the first order are rejected, while they are proved in the second-order confirming that the second-order is not auto correlated between the error term (by construction, the differenced error term is first-order serially correlated even if the original error term is not).

Table 2 shows the results from Generalized Method of Moments (GMM). The GMM approach has several advantages, over the other methods, due to its ability to control for the country-specific effects and the simultaneity bias caused by some potential endogenous explanatory variables. The GMM method through the use of instrumental variables eliminates correlation between variables that have been used in the model and individual components of the error terms.

In applying the GMM estimator, the variables that are considered to be exogenous and used as their instruments are FDI and trade openness. The variables that are considered to be endogenous and are instruments by the deviation of the individual’s mean are FDI first lag (fdilag1) and, GDP per capita, and inflation.

VARIABLES	(GMM) Ln_Gini
LogGini_L1	0.0138 (0.00939)
log_FDI	-0.00415** (0.00211)
LogTradeofGDP	-0.0532*** (0.00807)
log_GDP per capita	-0.00164 (0.00114)
log_Inflation	0.00176** (0.000684)
Constant	3.748*** (0.0524)
Observations	120
R-squared	6
	-2.34
	-4.12
Sargan Test	166.52

Note: Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Source: Authors' calculations

The Table 1 present the result of the effect of FDI on Gini index. The result finds out that FDI has a negative impact on Gini index and the coefficient of FDI is statistically significant. The finding implies that FDI reduces income inequality in Western Balkan countries. Our finding is consistent with the results obtained by Firebaugh & Beck (1994), Alarcon & McKinley (1996), Jensen & Rosas (2007), Jensen & Rosas (2007), Im and McLareen (2017) while opponent to results obtained by Alderson and Nielsen (1999), Reuveny and Li (2003), Jaumotte et al. (2013), Asteriou et al. (2014), and Herzer et al. (2014). The coefficient of the trade openness is a negative (-0.0532) and statistically significant; thus, the trade openness has a positive impact on the reducing income inequality. Our results are in line with the findings of Reuveny and Li (2003), and Wu and Hsu (2012).

The negative coefficient of the GDP per capita (-0.00164) reflects the level of economic growth, but the coefficient is statistically insignificant. Inflation has a positive coefficient of (0.00176) and a statistically significant. The result shows that inflation increase income inequality. The inequality-increasing effect of inflation is intensified when the wages are not adjusted to the level of inflation as is the case in many WB countries. Weak institutions and weak labor unions in many WB countries leave workers with less or no rise in wages in case of high inflation. Our finding conforms with the results obtained by Bhandari (2007)

5. Conclusions

Using a growth model and GMM estimator, we investigate whether FDI affect income inequality in Western Balkan countries. The research includes Gini index as measure of the income inequality. The result presented all measured dynamic panel models are well developed, since the coefficients of the lagged Gini index is statistically significant. The results indicate that the effects of FDI on income inequality are significant and have a negative effect on income inequality. Therefore, the results from the GMM estimator conformed the hypothesis FDI has a positive effect on reducing income inequality in the Western Balkans.

In addition, the result demonstrate that the trade openness has a negative impact on income inequality; implying that the trade openness has a positive impact on reducing income inequality. The negative impact of the GDP growth is statistically insignificant. Inflation has a positive effect on income inequality and statistically significant, which means that inflation increase the income inequality in the Western Balkans countries.

The limitation of this study is short span of the data. This paper leaves several avenues for future research; next research could be the comparison between developing and emerging countries and developed ones; the literature could benefit from the inclusion of firm-level data, such as wage and employment data related to FDI, to explore how different sectors and workers are affected by FDI and how these impacts contribute to patterns of inequality.

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Appendix

Table A1. Description of variables

Variable	Description	Source
<i>Gini index</i>	A measure of the income distribution in a country, listed from 0 to 100 in my data. 0 indicates perfect equality, and 100 indicates maximum inequality. household disposable income in a particular year.	SWIID, World Bank Povcal
<i>Human Development Index (HDI)</i>	HDI is an combination of life expectancy, education and per capita income indicators, which are used to mark countries under four tiers of human development. The HDI uses the logarithm of income, to reflect the diminishing importance of income with increasing GNI	UNDP
<i>ForeignDirectInvestment (FDI)</i>	The liabilities (stock) of FDI in a country, divided by total GDP in USD, times 100	World Development Indicator, Lane & Milesi-Ferretti (2007)
<i>Tradeopenness</i>	is represented by the sum of imports and exports as percentage of GDP	World Development Indicators
<i>logGDP_pcapit</i>	GDP per capita in current USD	World Development Indicators
<i>gdpgrowthit</i>	Annual GDP growth measured in percent	World Development Indicators
<i>inflationit</i>	Inflation, GDP deflator (annual %)	World Development Indicators
<i>General Inequality Index (GII)</i>	Gender Inequality (BIGI) is the ratio of women to men on three core dimensions of life; 1) Educational opportunities in childhood; 2) Healthy life expectancy (the number of years one can expect to live in good health); and, 3) Overall life satisfaction	World Development
<i>Education Inequality Index</i>	Calculated using Mean Years of Schooling and Expected Years of Schooling.	UNDP
<i>School enrollment tertiary ration</i>	Calculated by dividing the number of students enrolled in tertiary education regardless of age by the population of the age group which officially corresponds to tertiary education, and multiplying by 100	World Development Indicators