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# Impact of Foreign Direct Investment on Income Inequality: The Case of Kosovo

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## Abstract

Foreign direct investment (FDI) is often seen as a key driver of economic growth and development, but its impact on income distribution remains still inconclusive. Thus, this served as a motivation to examine how foreign direct investment (FDI) influences income inequality in Kosovo, a country with a young population and high unemployment that shapes its economic and social patterns. The study focuses on the period from 2009 to 2019, using a Vector Error Correction Model (VECM) to explore the long-term relationship between FDI and income inequality, measured by the Gini coefficient. The findings reveal that FDI inflows have a significant impact on income inequality in Kosovo. This research tries to fill the gap in the literature by analyzing Kosovo's unique socioeconomic, political, and demographic context. The results provide insights for policymakers seeking strategies to attract investment and promote economic growth while addressing income disparities.

**Keywords:** Foreign direct investment (FDI), income inequality, Vector Error Correction Model (VECM).

## Introduction

Foreign direct investment (FDI) is vital in addressing poverty and income inequality globally. Previous research indicates that while FDI tends to increase income inequality in developed nations, it often reduces it in developing countries. The effect of FDI on income inequality is a significant concern for several reasons. First, high-income inequality can impede economic growth (Cingano, 2014). Second, individuals concerned about their relative income often prefer living in a more equitable society (Figini & Görg, 2011; Sylwester, 2005). Rising income inequality could undermine efforts to alleviate poverty, a pressing issue for developing nations that depend heavily on FDI. Social stability is crucial for economic progress in these regions.

Kosovo's economic structure offers a specific case for studying the relationship between income distribution and foreign direct investment (FDI). This study focuses on Kosovo due to its significant development potential, labor market patterns, and pronounced income disparities. Investigating how FDI affects income inequality in this context is particularly important, given the limited research on Kosovo compared to other Balkan countries.

Factors such as high unemployment, education, and not enough developed social services significantly influence income inequality in Kosovo. FDI plays a twofold role in this dynamic: while it can exacerbate wage gaps by favoring skilled labor, it also has the potential to create jobs and raise wages. Understanding these impacts is essential for addressing labor market disparities. Unlike its more developed Balkan neighbors, Kosovo presents specific challenges and opportunities that require deeper research. This study aims to fill this gap and provide insights for policymakers seeking to balance economic growth with social equity.

The structure of the paper follows with the review of relevant previous studies; the third section presents the dynamics of income inequality and foreign direct investments over time; the fourth section details the research design, including data collection strategies and regression analysis; the fifth section presents empirical findings, describing the results and their relevance; the final section includes conclusions and recommendations.

## Literature Review

This section reviews previous research on the impact of Foreign Direct Investment (FDI) on income inequality, which can generally be grouped into four categories based on their findings. The first one consists of the research showing that FDI increases income inequality in host countries. For example, Wu (2005) found that more competitive labor markets as a result of increasing FDI lead to greater income inequality due to a widening wage gap between workers in state-owned enterprises and those in foreign firms. Similarly, Lessmann (2013) observed that FDI increased regional income inequality in China after the 1980s reforms, although this effect disappeared post-1990. Herzer and Nunnenkamp (2013) demonstrated that FDI had a positive short-term impact on income inequality in eight European countries from 1980 to 2000. Jaumotte et al. (2013), using panel data from 51 countries over 23 years, found that financial globalization associated with FDI contributes to increased income inequality. Bogliaccini and Egan (2017) showed that in 60 middle-income countries, FDI in the service sector had a positive effect on income inequality.

The second category of studies is those that find a negative relationship, indicating that FDI reduces income inequality. Jensen and Rosas (2007) found that increased FDI in Mexico from 1990 to 2000 led to reduced income inequality, particularly benefiting the lower-middle class. Chintrakarn and Chen. (2011) discovered that FDI negatively impacts income inequality in the long run across U.S. states. Ucal et al. (2016) found that in Turkey, FDI had a negative effect on the Gini coefficient, reducing income inequality in both the short and long term from 1970 to 2008.

The third category of studies includes those showing that the relationship between FDI and income inequality is complex and non-linear. Chen (2016) observed that while FDI can reduce income inequality through job creation and economic growth, it also increases the rural-urban income gap in China. Kaulihowa (2017) found that in sixteen African countries from 1980 to 2013, FDI's impact on income inequality was U-shaped: initially improving income distribution but worsening inequality at higher levels of FDI. Figini and Görg (2011) found a non-linear relationship in developing countries, where FDI initially increased income inequality, but the effect diminished as FDI inflows grew. In developed countries, FDI inflows tended to decrease income inequality, though this relationship was not always robust.

The fourth category of studies are those that depend on variable selection and model specification as well as those that do not find any significant relationship. Thus,

some studies have identified patterns suggesting that FDI's impact on income inequality depends on specific circumstances, such as economic development stage or country conditions. Franco and Gerussi (2013) found no significant impact of FDI on income distribution in seventeen transition countries from 1990 to 2006. Sylwester (2005) concluded that while FDI promotes economic growth in less developed countries, it does not necessarily increase income inequality.

Overall, research shows that the relationship between FDI and income inequality is context-dependent and varies based on factors such as country conditions, development strategies, and methodological approaches. There is no consensus on whether FDI increases or decreases income inequality, highlighting the need for more detailed studies focused on specific developing countries to better understand these dynamics.

## Overview of FDI and Income Inequality in Kosovo

The key objectives and policies of a country include sustainable economic growth, trade liberalization, improvement of overall business climate, and attraction of foreign direct investment (FDI). Kosovo is actively working to create development policies within this context, focusing more on improving the business climate and attracting investment. Numerous organizations are working together with the international community and different donor agencies to accomplish these goals. Developing human capability and offering financial support or co-financing for development projects are the primary areas of their combined efforts. Because foreign direct investments (FDIs) have a significant impact on the economy, they play a critical role in a nation's economic activities.

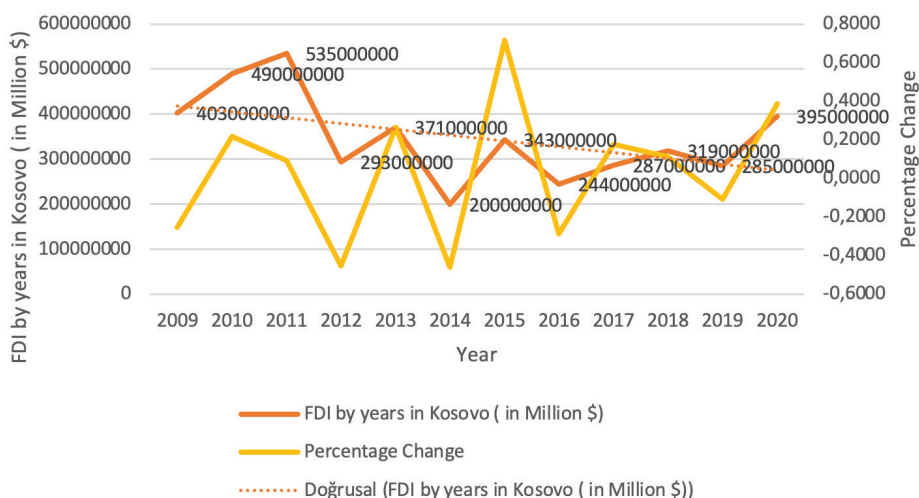
## The Trend of FDI in Kosovo

In the last decade, due to internal political problems, the fragility of state institutions, the perception of high levels of corruption, and the inefficiencies of justice institutions, there has been a decline in the level of FDI flows in Kosovo. As shown in Fig. 1 (orange curve), there was a downward tendency in FDI, especially from 2011 to 2014, but fortunately, this negative trend was broken in 2015, when the total amount of FDI amounted to \$343 million. The highest level of FDI was in 2010 at \$535 million, while the lowest was \$200 million in 2014. Based on the yellow curve in Fig. 1, the average total change in FDI flows over 12 years was 71.8%, and after dividing the amount gained by the number of years, the average increase in FDI inflows was only 5.98%. The graph

line that reflects FDI flows over the years in Kosovo shows that the fluctuations have been very large, with a downward trend for most of the period considered. This is seen from the average FDI change over the years and from the trend line, as shown in the graph above. This is quite alarming and should serve as a signal that this topic receives the attention of policymakers to support sustainable development.

**Figure 1.**

The Trend of FDI in Kosovo in Millions \$ (2009-2020)



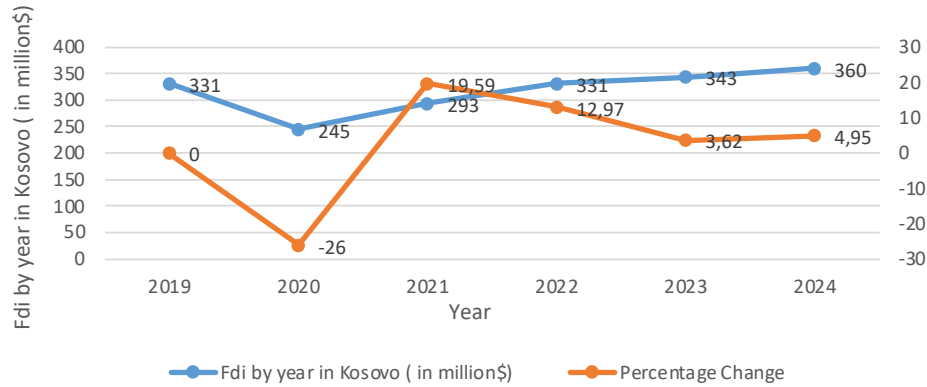
Source: Author's calculations based on World Development Indicators data

Kosovo's foreign direct investments for 2020 were 395 million US \$, which makes an increase of 38.43% related to 2019 but are still significantly lower than the Foreign direct investments stock of 535 million US \$ attracted in 2011, but almost 50% higher than the FDIs realized in 2014 in a nominal value of 200 million US \$. Yet, the recent decline of FDIs was marked in 2019, which was a 10.5% decline related to 2018, while the foreign direct investments in 2018 were 320 million US \$, presenting an increase of 11.05% related to 2017.

In 2020, considering the pandemic COVID-19 period, FDI experienced a dramatic growth of 26%, followed by a recovery in the post-COVID-19 period, reaching an increase of 19.59% in 2021. During 2022 and 2023, FDI increased by 12.97% and 3.62%, respectively. The estimated FDI for 2024 shows a further increase of 4.95%, suggesting continued investor interest and confidence in Kosovo's economic stability and growth prospects.

Figure 2.

FDIs in Kosovo in Millions for the Period 2020-2024

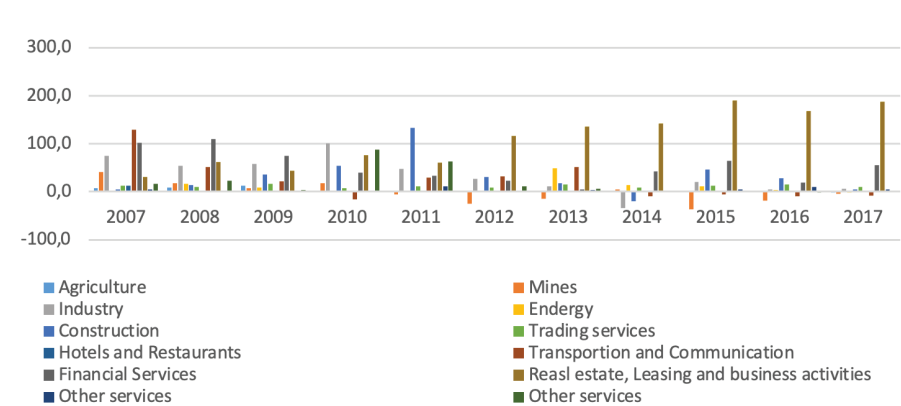


Source: Author's calculations based on World Development Indicators data

Overall, the figures indicate a recovery trajectory from the sharp decline in 2020, with steady growth in subsequent years, though at a slowing rate. This pattern underscores the importance of maintaining and enhancing economic stability and investor confidence.

Figure 3.

FDIs in Kosovo by economic activity



Source: Author's calculations based on CBK data, 2018

The overview of FDI by economic activity shows that at times some sectors have faced withdrawal of investments from the Kosovo market. In this context, to the greatest extent, the mining sector is worth around 105.2 million euros, and transportation and communication are worth 48.1 million euros.

### FDI in Kosovo by Country of Origin

According to Fig. 4, investors from EU countries are the primary contributors to foreign direct investment (FDI) in Kosovo.

**Figure 4.**

FDIs in Kosovo by Top Five Countries



Source: Author's calculations based on CBK data.

The top five countries investing in Kosovo are Germany, Switzerland, Türkiye, the UK, and Austria. Collectively, businesses from these countries have invested around €2 billion, representing 59.13% of the total FDI in Kosovo. Between 2007 and 2017, Germany was the leading investor, contributing €552.6 million, which is 16.77% of the total investment during this period.

### Income Inequality

Rising income inequality is a common phenomenon in many countries around the world. There are a higher number of studies that show both its magnitude and severity and attempt to diagnose its causes. Unfortunately, such a debate has not found a place in the sphere of public discussion in Kosovo. Indeed, poverty remains more pronounced here as a topic. However, poverty is often accompanied by high levels of economic inequality. Hence, it should be the duty of any progressive government to use all its powers to address not only the symptoms but especially the

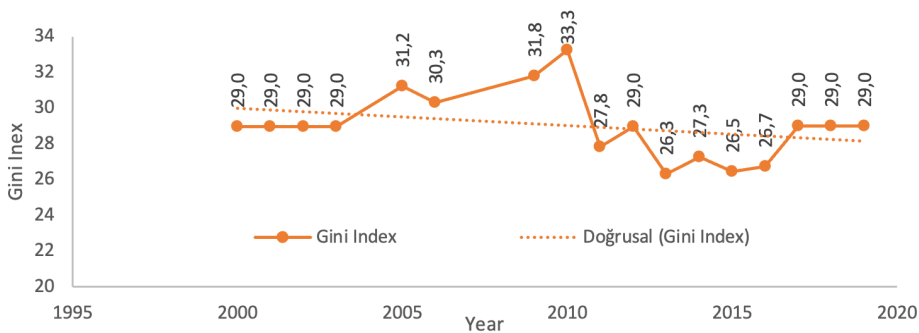
causes of both wealth and income inequality. However, income inequality is a growing problem in many countries around the world.

There are a lot of factors that interconnect and impact income inequality in Kosovo, like economic structure, education skills, foreign direct investment (FDI), social and demographic factors, political issues, and international patterns. These factors impact the economy, driven by remittances and service sectors while leaving manufacturing and agriculture undeveloped. All this leads to higher income inequality. Another factor that drives a significant income disparity is the low quality of education and gender inequality. Differences between urban and rural areas contribute to income distribution because they create wage disparities. Corruption, institutional frameworks, and governance and redistribution have a high impact on income inequality. Remittances, inadequate social safety, and welfare programs, the primary mission of which is to provide financial support to families, worsen income inequality. Addressing Kosovo's income inequality requires a comprehensive approach, focusing on job creation, labor market improvements, sustainable economic growth, and an increase in the quality of education.

In Kosovo, inequality has deepened, with the richest 1% having more income than the poorest 30%. In the period 2016–2020, the richest 1% in Kosovo owned, on average, 9% of all income from work (i.e., salary) before tax or 8.7% of all income from work after-tax payment. In the same period, the poorest 30% owned, on average, 6.1% of all pre-tax labor income or 6.3% of all after-tax labor income. The Gini coefficient, developed by Corrado Gini, measures income or wealth inequality within a group.

**Figure 5.**

Income Inequality Trend in Kosovo Measured Through GINI Index



Source: Author's calculations based on World Development Indicators data.

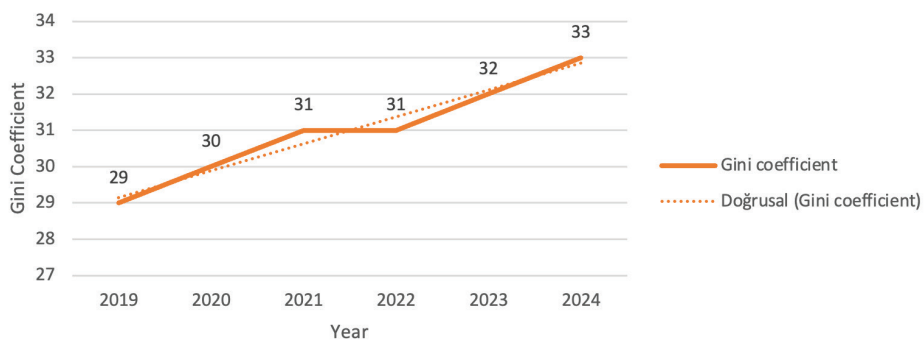


Ranging from 0 (perfect equality) to 1 (maximum inequality), it shows how evenly income is distributed. A higher Gini coefficient indicates greater inequality. Income inequality is a significant concern in economic development, affecting social and economic stability.

Income inequality levels in Kosovo are moderate to low, showing a gradual downward trend from 2010 to 2015 and a slight upward trend from 2015 to 2019. A Gini coefficient of 29 points shows that inequality has remained constant from 2017 to 2019.

**Figure 6.**

Income inequality trend (GINI index) in Kosovo ( 2019-2024)



*Source:* Author's calculations based on World Development Indicators data.

As is shown in Figure 6, the Gini coefficient for Kosovo has shown fluctuations between 2019 and 2024. For 2019, the Gini coefficient was approximately 0.29, reflecting moderate income inequality. Subsequent years saw slight variations due to economic changes and policy impacts. The Gini coefficient remained relatively stable, around 0.30 during 2020, and in 2021–2022, the coefficient experienced some fluctuation but was generally around 0.31. The coefficient showed an increase to about 0.32 during 2023, indicating a rise in income inequality. Recent estimates suggest a slight increase to approximately 0.33 in 2024. These figures indicate a trend of increasing income inequality over these years, driven by various economic and social factors.

## Methodology and Data

### Data Description and the Model

This study uses secondary data collected from the Central Bank of Kosovo and the World Development Indicators, for 11 years, 2009–2019. The variables included in the econometric model are described in the following.

**Foreign Direct Investment (FDI) Net Inflow** (as % of GDP) represents the net investment inflows into an economy, including equity capital, reinvested earnings, and other long-term and short-term foreign capital. **The Gini Coefficient**, denoted by  $Gini^{coeff}$ , measures income inequality within an economy. A Gini index of 0 indicates perfect equality, while an index of 100 represents extreme inequality. Extensive research has explored the relationship between FDI and income inequality. The econometric model for this study shows how changes in FDI impact income distribution, using the Gini coefficient to assess variations in inequality relative to foreign investment inflows.

The specified econometric model is:

$$Gini^{coeff} = \beta_0 + \beta_1 FDI + \varepsilon_t$$

Where,  $Gini^{coeff}$  is the dependent variable and FDI is the independent variable, whereas  $\varepsilon_t$  is the error term.

### Research Methodology

The methodology used in this study is the Vector Error Correction Model (VECM). The initial step involves conducting a stationarity test, commonly referred to as the unit root test. If the series data are non-stationary but integrated in the same order (e.g.,  $I(1)$ ), it indicates that there is a linear combination of the series that is stationary. In this case, a VECM, also known as the restricted VAR model, is used to estimate the relationships among the variables while accounting for their cointegration.

The unit root test helps determine whether the data are stable enough for further analysis. Testing the order of integration for each variable is essential to identify whether the data are non-stationary and to ascertain how many differences are needed to achieve stationarity. Several methods can test for stationarity, with this study employing the Augmented Dickey-Fuller (ADF) test.

Following the examination of stationarity, the next step is to determine the level of cointegration among the variables using the Johansen test. This test evaluates

whether there are long-term relationships among the variables that exhibit stochastic trends and potential unit roots. The Johansen test is preferred over the Engle and Granger test because it accommodates multiple long-run relationships and is based on the ADF test, which considers only a single long-run relationship.

## Results and Discussion

The study tests the presence of unit roots, starting with levels and followed by the first difference, using ADF tests. The results show that the series were non-stationary (mean, variance, and covariance are not constant over time) in first difference form (see Table 1) but was stationary in the first difference.

**Table 1.**

Unit Root Test Results (First =Difference) ADF Test

Variable	Statistic	p-value	Integration Level
Gini	-4.6	0.0001	<b>I (1)</b>
FDI	-5.36	0.0000	<b>I (1)</b>

Source: Author's calculations

Therefore, concluding that VECM analysis can be performed on these two series in the first difference. *Thus, it is worth concluding that all variables are turned to stationary and are integrated of order one I(1)s.* Subsequently, the cointegration test is performed.

**Table 2.**

Cointegration Test

Johansen tests for cointegration					
Trend: constant					Number of obs = 9
Sample: 2011 - 2019					Lags = 2
					-----
maximum				trace	5%
rank	parms	LL	eigenvalue	statistic	critical
0	6	-27.117214.	16.4864	15.41	
1	9	-18.915793	0.83838	0.0836*	3.76
2	10	-18.87401	0.00924		
					-----

\* selected rank

H0: no cointegration equation

Ha: Cointegration

Source: Author's calculations

Rejection at the 5% level occurs when the Trace statistic exceeds the 5% critical value, leading to the rejection of the null hypothesis. If these statistics do not surpass the critical value, there is insufficient evidence to reject the null hypothesis. The (Table 2) provides a row for each value of  $r$  representing the number of cointegrating equations. In this case, since the trace statistic at  $r=0$  is 15.41, which is greater than the critical value, we reject the null hypothesis of no cointegrating equations. Conversely, the trace statistic at  $r=1$  is 0.0836, which is less than the critical value of 3.76, so we cannot reject the null hypothesis that there is one cointegrating equation. Johansen's method suggests that  $r=1$  should be accepted as the number of cointegrating equations if the null hypothesis is not rejected. The sign “\*” in the Trace statistic at  $r=1$  signifies that this value of  $r$  is selected by Johansen's multiple-trace test procedure.

The cointegration test defines whether a long-run relationship exists among the variables. Therefore, it is concluded that the series are co-integrated and a long-run relationship exists among the variables, in this case between FDI and Gini index. For that reason, the vector error correction (VECM) mechanism was applied and an estimation of short-run and long-run dynamics is performed.

**Table 3.**

VECM Model Long-Run Results.

Cointegrating equations

Equation	Parms	chi2	P>chi2
-----	-----	-----	-----
_cel	1	17.30392	0.0000
-----	-----	-----	-----

Identification: beta is exactly identified

Johansen normalization restriction imposed

	beta	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
-----	-----	-----	-----	-----	-----	-----
_cel						
giniindex		1	.	.	.	.
fdi		4.402334	1.058305	4.16	0.000	2.328095    6.476574
_cons		-48.01522	.	.	.	.

Source: Author's calculations

Considering the long-run equation presented in (Table 3), the coefficient of FDI is positive; however, we would reverse the sign of the coefficient when interpreting the effect of the independent variables on the dependent variable for the VECM model because the software presents the cointegrating equation in a normalized form. Thus, to interpret the long-run equation, we reverse the sign, observing that FDI has a negative impact on income inequality, which is significant at a level of 0.1%. This means that in the analyzed period, the increase in FDI contributed to the decrease in income inequality. Another important element that should be interpreted is the ECT coefficient. It represents the speed at which the variables return to equilibrium after a short-run deviation from the long-run relationship. A negative sign indicates that the variable is adjusting toward the long-run equilibrium. Thus, the ECT coefficient in this model is (-0.1814), which is statistically significant at the 0.1 level because the  $p\text{-value} = 0.0000 < 0.001$ , suggesting that previous year deviations from long-run equilibrium are corrected for within the current year at a speed of 18.14%. Regarding the short-run effects, it was found a positive relationship between FDI and the Gini coefficient was statistically insignificant.

**Table 4.**

Jarque-Bera test

Equation	chi2	df	Prob > chi2
D_giniindex	1.118	2	0.57169
D_fdi	0.071	2	0.96524
ALL	1.189	4	0.87989

Eigenvalue stability condition

Eigenvalue	Modulus
1	1
-.567925	.567925
.5618977	.561898
-.406065	.406065

The VECM specification imposes a unit modulus.

Source: Author's calculations

Furthermore, a Jarque – Bera test is performed after the VECM model to check whether the residuals (errors) of the model follow a normal distribution. Since the p-values for the three equations are greater than 0.05, we do not reject the null hypothesis (Table 4). This suggests that the residuals are approximately normally distributed, which supports the assumptions of the model.

However, the main limitation of the model is the very low number of observations due to lack of data for a wider time spin, as time series regression models require a large sample size.

## Conclusion

This paper investigates the effects of Foreign Direct Investment (FDI) on income inequality in Kosovo. Using annual time series data from 2009 to 2019, the study analyzes the short and long-term impacts of employing the Vector Error Correction Model (VECM).

The analysis reveals a long-term inverse relationship between FDI and the Gini coefficient. Specifically, FDI appears to decrease income inequality in the long run, with a significant effect at the 0.1% level, suggesting that FDI inflows contribute to the decrease of income inequality in Kosovo. While FDI has a positive but insignificant short-term effect on income inequality consistent with studies by Franco and Gerussi (2013) and Sylwester (2005).

The negative long-term coefficient implies that as Kosovo attracts more FDI, the economic benefits likely spill over to various sectors, potentially leading to job creation, which in turn helps lower-income groups. This suggests that FDI inflows are not only a driver of economic growth but also a key contributor to reducing disparities in income. The magnitude of the effect emphasizes the importance of maintaining policies that promote foreign investment as part of a broader strategy for inclusive economic development.

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