



How Does Foreign Direct Investment Influence Albania's Economic Growth?

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Abstract: *In this study, we investigate the dynamic relationship between Foreign Direct Investment (FDI) and economic growth in Albania using a Vector Autoregression (VAR) framework and Granger-causality analysis. Covering annual data from 1992 to 2022, the findings reveal a bidirectional link between FDI and GDP growth, suggesting that economic expansion not only attracts foreign investment but is also reinforced by it.*

The results highlight the importance of sustained economic growth in fostering FDI inflows, offering critical insights for policymakers seeking to enhance Albania's investment climate. Additionally, this research enriches the broader discourse on FDI-growth dynamics, providing relevant implications for emerging economies with similar structural characteristics.

1. INTRODUCTION

In the last three decades, Albania has undergone significant economic transformations, marked by the transition from a centrally planned to a market-oriented economy.

The period from 1992 to 2022 witnessed dynamic changes in Albania's FDI inflows/outflows, reflecting the country's evolving economic priorities, policy frameworks, and external dynamics. In the early years of the transition, FDI inflows were modest but steadily increased as Albania implemented reforms to improve the investment climate and attract foreign capital. Privatization of state-owned enterprises, liberalization of trade and investment regulations, and infrastructure development initiatives were key drivers of FDI inflows during this period.

Understanding the dynamics between FDI inflows and economic growth becomes paramount for policymakers, investors, and researchers alike.

The late 1990s and early 2000s saw a surge in FDI inflows as Albania intensified its efforts to integrate into regional and global markets. Many strategic sectors such as energy, telecommunications, and tourism emerged as focal points for foreign investment, supported by government incentives and investment promotion strategies.

Albania's accession to the World Trade Organization (WTO) in 2000 and the signing of bilateral investment treaties also, further bolstered investor confidence and facilitated FDI inflows.

This study aims to empirically examine the relationship between FDI inflows and economic growth in Albania, shedding light on the mechanisms through which FDI impacts the country's economic performance. FDI, characterized by the investment of foreign capital into domestic enterprises, is often perceived as a catalyst for economic growth, stimulating productivity, technology transfer, and employment generation.

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Albania's attractiveness to foreign investors has been evident in the steady increase in FDI inflows over the past decades, facilitated by liberalization measures, privatization initiatives, and improvements in the business environment. However, the extent to which FDI contributes to sustainable economic growth and development remains a subject of debate.

This study builds upon existing literature on the FDI-growth nexus, with a specific focus on Albania's unique economic context. By employing rigorous empirical methods, including Vector Autocorrection (VAR) modelling and Granger causality testing, we seek to unravel the complex relationship between FDI inflows and economic growth in Albania.

Through exploratory data analysis, correlation analysis, and VAR modelling, we aim to provide insights into the dynamic interactions between FDI inflows and economic growth, capturing both short-term dynamics and long-term trends.



Figure 1. Albanian FDI as percent to GDP

Source: World Bank (2024)

The findings of this study have implications for policymakers tasked with formulating strategies to attract and harness FDI for sustainable economic development in Albania. Additionally, investors and multinational corporations seeking investment opportunities in Albania stand to benefit from a nuanced understanding of the relationship between FDI and economic growth.

This study contributes to the growing body of literature on the FDI-growth nexus, offering empirical evidence and policy insights tailored to Albania's economic context. By elucidating the mechanisms through which FDI influences economic growth, this research aims to inform evidence-based policy decisions and promote inclusive and sustainable development in Albania.

The rest of the paper is structured as follows: Section two provides a literature review. Section three presents the methodology employed in the paper and the results achieved. Section four discusses the results. Finally, section five concludes and makes suggestions for future research.

2. LITERATURE REVIEW

Since Albania transitioned to a market economy in 1989, Foreign Direct Investment (FDI) and trade have played a central role in driving economic activity. Several studies highlight a long-term

positive relationship between FDI and economic growth, often attributing this to capital inflows, technology transfer, and enhanced management practices (Cakerri et al., 2020; Boriçi & Osmani, 2015). Boriçi and Osmani (2015) specifically emphasize FDI's role in technological development and sustained growth.

Gjini (2024) examines the relationship between economic growth and globalization in Albania from 1980 to 2022, finding that higher levels of globalization positively impact economic growth by promoting trade liberalization, attracting foreign investment, and enhancing competitiveness. Empirical findings also suggest that FDI has supported Albania's structural transformation and sectoral competitiveness, particularly in telecommunications and banking. Muço (2001) argues that the impact of FDI is closely tied to institutional quality, highlighting the importance of governance and transparency in maximizing growth benefits.

Hysa and Hodo (2016), using quarterly data from 1991 to 2012, confirm a strong long-term link between FDI and GDP growth, supporting theoretical claims around FDI's contribution through human capital formation and productivity gains. Similarly, Bezo Balili and Lleshaj (2021) find that FDI is a primary driver of economic growth, with greater returns than domestic investment, and a positive relationship with exports, wages, and efficient use of external debt.

Trade and FDI also appear interlinked. Using annual data from 1993 to 2018, Voka et al. (2023) report a long-run positive relationship between FDI and trade, but a negative association between trade and GDP. Granger causality tests indicate that changes in GDP and trade drive FDI. Hobbs et al. (2021) similarly find long-term relationships among FDI, trade, and GDP, though short-run effects show GDP influencing FDI and exports, not vice versa.

However, not all findings are consistent. Golitsis et al. (2018) find no clear link between FDI and economic growth in Albania. Xhindi and Shestani (2020) offer even more complex results, showing a negative impact of FDI on growth, and unexpectedly, a positive relationship between corruption and economic performance, underlining the importance of institutional context in transition economies.

3. METHODOLOGY AND RESULTS

To briefly introduce our model with two variables AGR and FDI. In a simple VAR model, each of these variables will be regressed on its own lagged values and the lagged values of the other variable. Given that we have only two variables this case represents a bivariate VAR model. The system of equations is presented below:

$$AGR_t = \alpha_1 + \sum_{j=1}^k \beta_j AGR_{t-j} + \sum_{j=1}^k \chi_j FDI_{t-j} + \mu_{1t} \quad (1)$$

$$FDI_t = \alpha_2 + \sum_{j=1}^k \varepsilon_j AGR_{t-j} + \sum_{j=1}^k f_j FDI_{t-j} + \mu_{2t} \quad (2)$$

Here we are re-writing our two previous equations in a matrix form.

$$\begin{bmatrix} AGR_t \\ FDI_t \end{bmatrix} = \begin{bmatrix} \alpha_1 \\ \alpha_2 \end{bmatrix} + \begin{bmatrix} \beta_1 & \chi_1 \\ \varepsilon_2 & f_2 \end{bmatrix} \begin{bmatrix} AGR_{t-1} \\ FDI_{t-1} \end{bmatrix} + \dots \dots + \begin{bmatrix} \mu_{1t} \\ \mu_{2t} \end{bmatrix} \quad (3)$$

Where α_1 and α_2 represent the constants and AGR and FDI on the left-hand side are the endogenous variables. β_j of AGR_{t-j} and χ_j of FDI_{t-j} represent the coefficients of lag variables of AGR and FDI, μ_{1t} and μ_{2t} represent the error terms of each equation respectively.

Hypothesis One: Economic growth stimulates FDI inflows.

Hypothesis Two: FDI inflows stimulate economic growth.

For this paper, we are utilizing annual time series data obtained from the World Bank for the period 1990-2022. We will conduct econometric tests on our variables representing annual growth rate (AGR) and foreign direct investments (FDI). Firstly, we will analyze the stationarity of the variables by employing the Augmented Dickey-Fuller Unit root test. Following this, we will estimate the Johansen Cointegration rank test. Additionally, we will conduct the Granger causality test. Finally, we will conclude by performing a series of impulse response functions to evaluate the effect of one shock on the current and future values of our two main variables, AGR and FDI.

3.1. Augmented Dickey-Fuller Unit Root Test

Before proceeding with a Vector Autoregression (VAR) model, it is essential to assess the stationarity of the variables involved in the analysis. Stationarity is a fundamental concept in time series analysis, because it determines the stability of the underlying statistical properties over time.

Furthermore, stationarity is a prerequisite for the validity of the statistical VAR model. When time series data are non-stationary, traditional statistical techniques may yield biased or misleading results. Therefore, ensuring stationarity is essential for obtaining reliable estimates and making accurate inferences from the VAR model. In Albania, the year 1997 marked a period of significant turmoil and instability, both politically and economically. The country experienced a series of events that had profound consequences on its economy and society. One of the major events of 1997 was the collapse of several pyramid investment schemes, which led to widespread financial losses for many Albanians. These pyramid schemes promised high returns on investments but ultimately proved to be unsustainable, resulting in financial ruin for countless individuals and families. The collapse of the pyramid schemes triggered widespread protests and civil unrest across the country.

We will perform this test for levels and first differences of our variables (excluding the year 1997). From a first estimate, we can see that FDI inflow variable is not stationary, so we are transforming it by calculating the first difference, which aimed to stabilize the series and make them more amenable to statistical analysis within the VAR framework.

Table 1. Augmented Dickey-Fuller (ADF) unit root test at levels and first difference

Variables	Sample period	Levels			First difference		
		ADF T-Stat	p-Value	Critical Value (5%)	ADF T-Stat	p-Value	Critical Value 5%)
AGR	Before 1997	-4.421	0.0003	-3.000	-3.336	0.0134	-3.000
AGR	After 1997	-6.294	0.0000	-3.000	-10.582	0.0000	-3.000
FDI	Before 1997	-9.662	0.0000	-3.000	-	-	-
FDI	After 1997	-4.876	0.0000	-3.000	-6.924	0.0000	-3.000

Source: Own calculations

For each of the two variables AGR and FDI (level and first difference) analysis, we can conclude based on the results, that the null hypothesis [the time series data contains a unit root, indicating non-stationarity] can be rejected, and both them are stationary.

3.2. Johansen Cointegration Rank Test

After establishing the stationarity of the variables representing FDI and economic growth, the next step is to assess whether there exists a long-run relationship between them. By conducting the Johansen cointegration test, we aim to determine if FDI and economic growth move together over time despite short-run fluctuations, indicating a cointegrating relationship.

The null hypothesis is that there is no cointegration relationship between the variables, and the alternative hypothesis is that there is at most one cointegration relationship. Based on the Johansen tests for cointegration, we can conclude that there is the presence of at least one cointegration relationship between the variables AGR and FDI. Specifically:

For the Trace test, the null hypothesis of no cointegration ($r=0$) is rejected at the 5% significance level, indicating that there is at least one cointegration relationship between the variables. Similarly, for the Maximum Eigenvalue test, the null hypothesis of no cointegration ($r=0$) is rejected, providing further evidence of cointegration.

Additionally, the test for “At most one cointegration ($r \leq 1$)” also supports the presence of cointegration, as the null hypothesis of $r \leq 1$ is not rejected.

Overall, these results indicate a long-run relationship between economic growth and foreign direct investments, which suggests a movement together despite short-run fluctuations.

Table 2. Johansen cointegration test AGR-FDI (Trace and Maximum EigenValue)

Hypothesis	Test	Rank	Eigenvalue	Test Statistic	Critical Value (5%)
No Cointegration ($r=0$)	Trace	0	-	40.3578	15.41
At most one Cointegration ($r \leq 1$)	Trace	1	0.62863	12.6220	3.76
No Cointegration ($r=0$)	Maximum Eigenvalue	0	-	27.7358	14.07
At most one Cointegration ($r \leq 1$)	Maximum Eigenvalue	1	0.36287	-	-

Source: Own calculations

3.3. Granger causality

Before estimating a VAR model, often researchers conduct the Granger causality test in order to determine causal relationships between variables. Here below we are presenting the results from the Granger causality test. As Table 3 shows the first hypothesis states that annual growth rate does not granger cause FDI.

Based on the Granger causality tests conducted, it was found that there is no statistically significant evidence to suggest that AGR Granger causes FDI, as indicated by a chi-square statistic of 0.6702 with 1 degree of freedom and a corresponding p-value of 0.413. However, there is strong evidence to support the presence of Granger causality from AGR to FDI, with a chi-square statistic of 20.257 and a p-value of 0.000. [Hobbs et al. \(2021\)](#) have achieved the same results in their study.

Table 3. Granger causality: AGR and FDI

	Chi-squared	df	Prob>chi2
AGR to FDI	0.6702	1	0.413
FDI to AGR	20.257	1	0.000

Source: Own calculations

3.4. Joint Lag Selection and VAR Model

The joint lag selection in our time series analysis is the next step to capture the dynamic relationship between AGR and FDI over time in an accurate way. This will help us to identify the optimal level of model complexity that best explains the data without overfitting or underfitting. Based on the results from Table 4 seems that lag3 is the choice for the VAR model for the variables AGR and FDI.

Table 4. VAR lag order selection criteria

Lag	LL	LR	Df	P	FPE	AIC	HQIC	SBIC
0	-92.7888				5.03176	7.29145	7.31932	7.38823
1	-89.4566	6.6644	4	0.155	5.30753	7.34282	7.42642	7.63315
2	-79.3449	20.223	4	0.000	3.34219	6.87268	7.01202	7.35657
3	-68.9822	20.725*	4	0.000	2.08486*	6.38324*	6.57832*	7.06068*
4	-66.8214	4.3215	4	0.364	2.4809	6.52472	6.77554	7.39571

The asterisk (*) denotes the selected lag length. LR (Likelihood Ratio) Test compares likelihood between models with and without lag. Lower FPE (Final Prediction Error) indicates better forecasting. AIC balances fit and complexity, with lower values preferred. HQIC is akin to AIC but penalizes more for complexity. Lower HQIC suggests a better fit. SBIC penalizes parameters, favoring lower values for better fit and complexity trade-off.

Source: Own calculations and processing

Table 5. VAR model

	Coef.	Std.Err.	z	P>z	[95%Conf.	Interval]
AGR						
AGR						
L1.	-0.020	0.168	-0.120	0.908	-0.349	0.310
L2.	-0.371	0.175	-2.110	0.035	-0.714	-0.027
L3.	0.070	0.190	0.370	0.713	-0.302	0.442
FDI						
L1.	3.097	1.835	1.690	0.091	-0.499	6.693
L2.	-0.453	1.605	-0.280	0.778	-3.600	2.693
L3.	2.528	1.634	1.550	0.122	-0.674	5.729
_cons	-0.090	3.416	-0.030	0.979	-6.785	6.606
FDI						
AGR						
L1.	0.023	0.014	1.650	0.099	-0.004	0.049
L2.	0.032	0.014	2.260	0.024	0.004	0.060
L3.	-0.066	0.015	-4.300	0.000	-0.097	-0.036
FDI						
L1.	-0.008	0.149	-0.060	0.956	-0.301	0.285
L2.	-0.163	0.131	-1.240	0.214	-0.419	0.094
L3.	0.004	0.133	0.030	0.979	-0.257	0.264
_cons	1.370	0.278	4.920	0.000	0.825	1.915

Source: Own calculations and processing

3.5. Residual's Tests

We will perform the Portmanteau test for white noise presented in Table 6 to assess whether the residuals of our model exhibit white noise behaviour, meaning they are independently and identically distributed with constant mean and variance. As we can see from the results The Portmanteau (Q) statistic is 13.3765, while the p-value (Prob > chi2(16)) is 0.6451; meaning that our p-value is greater than the significance level (commonly set at 0.05), and we fail to reject the null hypothesis. Therefore, we do not have sufficient evidence to conclude that there is significant autocorrelation in the residuals. Our residuals appear to be consistent with white noise, indicating that the model adequately captures the serial correlation structure in the data. Also, we will perform the Lagrange-Multiplier Test for Autocorrelation in Table 7 to examine whether there is autocorrelation in the residuals of a time series model up to a specified lag order. The test is conducted at different lag orders, and for each lag order, it produces a chi-squared statistic and associated p-value. The null hypothesis is that there is no autocorrelation at the specified lag order.

Table 6. Portmanteau test

Test	Value
Portmanteau (Q) Statistic	13.3765
Prob > chi2(16)	0.6451

Source: Own calculations and processing

Table 7. Lagrange-multiplier test

lag	chi2	df	Prob>Chi2
1	4.331	4	0.363
2	7.490	4	0.112

Source: Own calculations and processing

Here below in Figure 2, we present the assessment for the stability of our VAR model. We want to check if the model's behaviour remains bounded over time, or if it has an unstable behaviour. The results provided indicate that all the eigenvalues lie inside the unit circle, meaning that the model is stable over time. Also, the model appears to be suitable for the analysis between annual growth rate and FDI, and its predictions are reliable within the context of the data used.

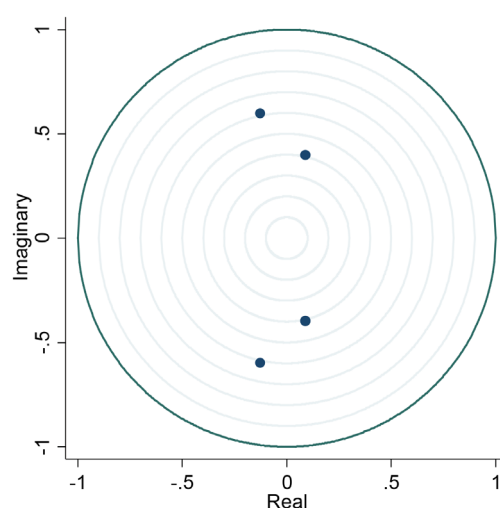


Figure 2. Eigenvalues of the VAR Model

Source: Own calculations and processing

4. DISCUSSION

Overall, our findings contribute to the FDI growth in the existing literature by offering empirical evidence, especially for Albania's economic context. This research provides valuable insights for policymakers, investors, and researchers alike. Informed by these findings, they can formulate evidence-based strategies to attract and harness FDI for sustainable economic development in Albania, while investors can make informed decisions regarding investment opportunities in the country.

However, it is very important to note some limitations. The analysis is based on annual time series data, which sometimes may not capture short-term fluctuations and nuances in the relationship between AGR and FDI. Additionally, the study focuses solely on the quantitative aspects of the FDI-growth relationship, overlooking qualitative factors that may influence investment decisions. Future research could address these limitations by incorporating more granular data and qualitative analysis to provide a comprehensive understanding of the FDI-growth dynamics in Albania.

5. CONCLUSION

The findings of this study offer valuable insights into the dynamic relationship between Foreign Direct Investment (FDI) and economic growth in Albania. By employing Vector Autoregression (VAR) analysis, we aimed to examine the complex interactions between these variables and their impact on Albania's economic performance.

Our analysis revealed several important findings. Firstly, the results of the Johansen cointegration test provided evidence of a long-run relationship between economic growth and FDI in Albania. Despite short-run fluctuations, economic growth and FDI inflows move together over time, suggesting a symbiotic relationship between these variables.

Moreover, the Granger causality test results indicated bidirectional causality between economic growth and FDI inflows. While there was no statistically significant evidence to suggest that AGR Granger causes FDI, strong evidence supported the presence of Granger causality from AGR to FDI. This implies that economic growth stimulates FDI inflows, highlighting the role of economic expansion as a catalyst for attracting foreign investment into Albania.

Furthermore, the VAR model estimation results provided insights into the dynamic interactions between economic growth and FDI inflows. Lag analysis revealed that lag 3 was optimal for capturing the relationship between these variables, suggesting a significant lagged effect on economic growth and FDI.

Additionally, residual tests confirmed the adequacy of the VAR model in capturing the serial correlation structure in the data, with residuals exhibiting white noise behaviour. This indicates that the model adequately represents the relationship between economic growth and FDI in Albania, with reliable predictions and stable behaviour over time.

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