DETERMINANTS OF FOREIGN DIRECT INVESTMENT (FDI) IN THE WESTERN BALKAN COUNTRIES: A PANEL DATA AND THE VECTOR ERROR CORRECTION MODEL (VECM) APPROACH

Vesna Georgieva Svrtinov*, Filip Taskovski**

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Abstract

This study analyses the factors influencing Foreign Direct Investment (FDI) inflows in the Western Balkan countries, which share a history of political instability and economic transition. The research uses panel data analysis, fixed-effect models, and Vector Error Correction Models (VECM) to examine macroeconomic, institutional, political, market, operational, and infrastructural factors affecting FDI inflows in these countries. The findings reveal that a fixed exchange rate regime positively impacts FDI while maintaining macroeconomic stability, improving regulatory frameworks, and enhancing credit to the private sector, crucial for attracting FDI. Additionally, government effectiveness significantly boosts FDI inflows, underscoring the importance of strong governance. The analysis indicates no long-run causality among the variables but significant short-run causality from all analyzed variables to FDI inflows. These insights contribute to the existing literature by highlighting region-specific factors and offering policy recommendations to improve the investment climate in the Western Balkans.

Keywords: foreign direct investment (FDI), Western Balkans, macroeconomic stability, panel data analysis, vector error correction models (VECM).

JEL: F21, O52, C33.

1. Introduction

The countries of the Western Balkans—Albania, Bosnia and Herzegovina, Montenegro, North Macedonia, and Serbia are working to attract Foreign Direct Investment (FDI) to fuel their economic growth and development. These nations can be viewed as a distinct group due to their common experiences of political instability and economic transition. FDI plays a vital role in these economies by facilitating technology transfer, improving managerial skills, generating employment, and connecting local markets to the global economy.

This potential encourages policymakers to foster a welcoming environment for foreign investors. This study examines various macroeconomic, institutional, political, market, operational, and infrastructural elements that impact FDI inflows into the Western Balkans, utilizing panel data analysis, fixed-effect models, and Vector Error Correction Models (VECM). Over the past few decades, the Western Balkan countries have seen substantial fluctuations in FDI inflows, driven by factors such as political instability, economic reforms, and the integration with the European Union.

Figure 1 below illustrates the FDI inflows in the selected Western Balkan nations from 2002 to 2023. This visualization highlights the trends and shifts in FDI across the region, pinpointing significant periods of growth and decline. Although the descriptive trends presented in the introduction extend to 2023 in order to illustrate the most recent regional developments, the econometric analysis in this study is limited to the period 2000–2020 due to data availability and consistency across all variables.

* Faculty of Economics, Goce Delcev University, Stip, North Macedonia, vesna.georgieva@ugd.edu.mk
** Faculty of Economics, Goce Delcev University, Stip, North Macedonia, filip.30825@student.ugd.edu.mk

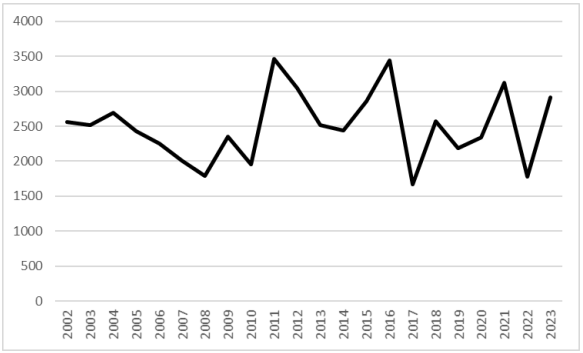

Figure 1. *FDI Inflows (in million USD) in the Western Balkans from 2002 to 2023*
Source: World Bank database

In the early 2000s, the Western Balkan countries were primarily in the phase of post-conflict recovery and initial economic reforms. FDI inflows during this period were relatively modest but showed a gradual upward trend as countries implemented reforms to improve their business environments (World Bank, 2022). Throughout the 2010s, FDI inflows were influenced by the ongoing process of EU integration. Countries that made significant progress in accession negotiations tended to attract higher levels of FDI. Economic reforms aimed at improving the ease of business, enhancing institutional quality and increasing market openness further contributed to FDI growth. During this period, the total nominal FDI inflows displayed several notable trends. The peak in 2011 of approximately 3,460 million USD can be attributed to significant economic reforms and increased regional investor confidence. Following the peak in 2011, the region experienced fluctuations, with another high in 2016 at 3,436 million USD. The impact of the global financial crisis and subsequent recovery phases are evident in the data. A decrease to around 1,669 million USD was observed in 2017, followed by a gradual recovery. The ongoing repercussions of the COVID-19 pandemic, global economic uncertainty stemming from Russia's invasion of Ukraine, persistent inflation, and tighter financial conditions have deteriorated investor confidence in recent years. However, the last year of our observation shows a resurgence in FDI inflows, amounting to approximately 2,914 million USD, indicating a potential return of investor confidence in the region. FDI inflows in the Western Balkans have shown a mixed pattern. While some countries continued to attract significant investments, particularly in sectors like manufacturing, services, and technology, others faced challenges due to political instability, regulatory issues, and global economic uncertainties. Figure 2 illustrates FDI inflows for each Western Balkan country, highlighting specific trends and movements within each nation.

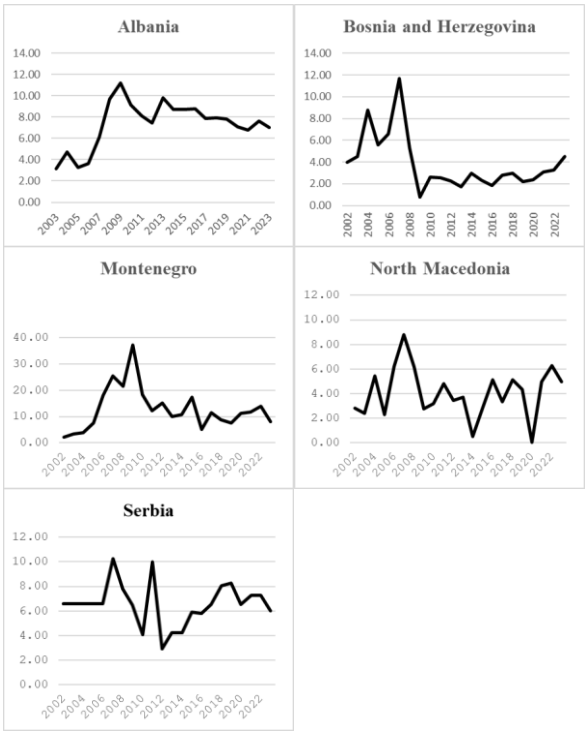

Figure 2. *FDI Inflows in Individual Western Balkan Countries from 2002 to 2022*
Source: World Bank database

As shown in Figure 1 above, Albania experienced moderate FDI inflows, with noticeable fluctuations over the years. There was a significant increase in these flows around 2006-2008, likely due to liberal economic reforms and efforts to improve the business environment. A spike in FDI in the late 2010s can be linked to large infrastructure projects and increased political stability (International Trade Portal, 2023).

While showing variability, FDI inflows in Bosnia and Herzegovina reflect the country's complex political and economic landscape. A notable increase occurred around 2005-2007, potentially due to post-war reconstruction, efforts, and reforms aimed at EU integration. Despite a decline in the early 2010s, the potential for increased FDI inflows remains high, particularly due to the country's ongoing efforts toward political stability and investor-

friendly reforms (World Bank, 2012; World Bank, 2016; World Bank, 2020). Montenegro experienced significant fluctuations in FDI inflows, often driven by large-scale investments in tourism and real estate. The mid-2000s witnessed a boom in FDI, especially in the tourism sector, which peaked around 2007-2008. FDI inflows remained relatively high, bolstered by continued investments in tourism and infrastructure (World Bank, 2024). North Macedonia saw relatively stable FDI inflows, with occasional spikes linked to political and economic reforms: FDI inflows increased significantly around 2006-2007, likely due to improved business conditions and government incentives. However, political instability sometimes impacted investor confidence, leading to periods of reduced FDI inflows (World Bank, 2012). Serbia consistently attracted substantial FDI inflows, driven by its market size and strategic location. The notable increases in FDI in the late 2000s and again in the late 2010s, reflecting successful privatization efforts and economic reforms, underscore Serbia's appeal as an FDI destination. It is essential to highlight that Serbia remains a top destination for FDI in the region, with ongoing investments in manufacturing, technology, and infrastructure further enhancing its economic prospects (World Bank, 2023; World Bank, 2024). The remainder of the paper is structured as follows: Section 2 reviews the relevant literature and research questions. Section 3 outlines the methodology used for the analysis. Section 4 presents empirical results and discussion. Finally, Section 5 provides the conclusion, policy implications, recommendations, and references.

2. Literature review and research questions

2.1. Literature review

The literature consistently highlights macroeconomic stability as a critical determinant of FDI inflows. Stability, often measured by low inflation rates and steady GDP growth, significantly boosts investors' confidence and attracts FDI (Fischer, 1993; Cushman, 1985). Recent studies emphasize the importance of stable macroeconomic conditions, noting that they reduce economic uncertainty and foster a conducive environment for foreign investments. Institutional quality, regulatory efficiency, and effective governance are crucial in attracting FDI. Solid institutional frameworks reduce investment risks and encourage long-term commitments from foreign investors (Kaufmann et al., 2007; Schneider & Frey, 1985). Political stability is also crucial because countries with stable political environments provide a predictable business climate essential for attracting and retaining foreign investments, instilling a sense of security about the long-term prospects of FDI. The ease of doing business, particularly the efficiency of business start-up procedures, is a significant factor influencing FDI decisions. Studies have shown that a longer time to start a business can deter FDI, as it increases the cost and complexity of entering a market (Jayasuriya, 2011). Digital infrastructure is increasingly recognized as a critical factor influencing FDI. Advanced digital infrastructure reduces operational costs, improves communication, and enhances economic competitiveness, underlining the urgency of its development for FDI attraction (Kinoshita & Campos, 2003). Trade openness continues to be a significant factor for FDI inflows. Countries with fewer trade barriers and more liberal trade policies tend to attract more foreign investments. Additionally, developing financial markets is crucial as it enhances the attractiveness of host countries by providing better financial services and reducing transaction costs. Comprehensive data studies could provide deeper insights into these determinants, which remain under-explored in the context of the Western Balkans (Osmani, 2016; Gashi, 2021). While previous studies have primarily relied on cross-sectional or simple panel regression models, this study employs a panel data framework combined with a VECM in order to capture both short-run dynamics and potential long-run relationships between FDI and its determinants.

EU integration is expected to influence FDI inflows. Still, a more detailed analysis is needed of how specific stages of the EU accession process affects investor confidence and FDI in the Western Balkans. Cultural factors, which can significantly influence FDI decisions, are often overlooked in literature. Incorporating cultural dimensions could provide a more

holistic understanding of FDI determinants (Demirhan & Masca, 2008).

2.2. Research questions

While there is a wealth of research on FDI determinants, more literature should focus on the Western Balkans. With its unique economic and institutional factors, this region presents intriguing areas for further exploration, including the interactions between economic factors such as financial market development, trade openness, digital infrastructure, and institutional factors that have yet to be thoroughly examined. To address these gaps, this study explores the following research questions:

- Does higher macroeconomic stability, characterized by low inflation rates, steady GDP growth, and a stable exchange rate, positively influence FDI inflows in the Western Balkan countries?
- How do improvements in government effectiveness, political stability, regulatory quality, and reduced times required to start a business significantly increase FDI inflows? What is the role of robust institutional frameworks in attracting foreign investment?
- Does the availability of better domestic credit to the private sector enhance FDI inflows by supporting business operations and expansion?
- How do greater internet usage and improved digital infrastructure positively affect FDI inflows by decreasing operational costs and enhancing business efficiency?
- Does increased trade openness, measured as trade percentage of GDP, positively influence FDI inflows by integrating local economies into global markets?

By addressing these research questions, the study aims to contribute to knowledge on FDI determinants in the Western Balkans. The insights gained from this research could enhance the attractiveness of these countries to foreign investors, thereby stimulating economic growth and development in the region.

3. Research methodology

3.1. Data collection

This study adopts an empirical, quantitative approach to investigate the determinants of FDI inflows in the Western Balkan countries from 2000 to 2020. The sample includes Albania, Bosnia and Herzegovina, Montenegro, North Macedonia, and Serbia, while Kosovo is excluded due to limited data availability and inconsistencies in several indicators for the entire observation period. It tests the hypotheses using econometric models applied to time series and cross-sectional data. The data for this study was meticulously sourced from reputable international organizations, including the World Bank and the International Monetary Fund (IMF), ensuring the reliability and credibility of the analysis. Statistical software EViews 11 was then employed to thoroughly examine the determinants of FDI inflows in the Western Balkan countries.

3.2. Analytical framework

The variables of interest selected for the study were as follows:

- Dependent Variable:
  - FDI Inflows as a % of GDP (FDI): This variable indicates the level of foreign investment relative to the economy's size.

- Independent Variables:

Macroeconomic Indicators:

- Exchange Rate Regime (E.R.): This is a dummy variable, where 1 represents a fixed exchange rate and 0 represents a flexible exchange rate.
- GDP Growth (GDP): Annual percentage growth rate of GDP.
- Inflation (consumer prices, annual % %) (INFLATION): Annual percentage change in consumer prices.
- Trade as a % of GDP (TRADE): Trade openness is measured as the sum of exports and imports expressed as a percentage of GDP.

Institutional Quality:

- Political Stability Index (POLITICAL_STABILITY): This index measures perceptions of the likelihood

of political instability and politically motivated violence.
- Rule of Law (RULE_OF_LAW): Confidence in the legal system, including contract enforcement and property rights, is measured by percentile rank and upper bound of the 90% confidence interval.
- Regulatory Quality (REGULATORY_QUALITY): Measures the ability of the government to formulate and implement sound policies and regulations that support private sector development.
- Government Effectiveness (GOVERNMENT_EFFECTIVENESS): Reflects the quality of public services and the degree of their independence from political pressures.
- Time Required to Start a Business (START_BUSINESS): Number of days required to start a business.
- Total Tax and Contribution Rate (TAX): Total taxes and contributions payable by businesses as a percentage of profit.
- Domestic Credit to Private Sector (CREDIT): Availability of domestic credit to the private sector as a percentage of GDP.

Logistics and Market Development Indicators:
- Logistics Performance Index (LOGISTICS): Quality of trade and transport-related infrastructure (scale from 1 to 5).
- Individuals Using the Internet (USING_INTERNET): Percentage of the internet population.

To capture the relationship between FDI inflows and their determinants, the following econometric model is specified:

$$FDIit=\beta0+\beta1ERit+\beta2GDPit+\beta3TRADEit+\beta4CREDITit+\beta5TAXit+\beta6GOVERNMENT\_EFFECTIVENESSit+\beta7POLITICAL\_STABILITYit+\beta8RULE\_OF\_LAWit+\beta9START\_BUSINESSit+\beta10USING\_INTERNETit+\beta11LOGISTICSit+\beta12REGULATORY\_QUALITYit+\epsilon it \quad \text{Eq. (1)}$$

Where:
- t - represents the period, and i represents the country.
- β0: Constant term.
- β1, β2, ..., β12: Slope coefficients for each independent variable.
- *ϵit: Error term for country i at time t.*

The model's primary objective is to quantify the impact of these variables on FDI inflows. This approach provides crucial insights into how various economic, political, and infrastructural factors contribute to attracting foreign investments in the Western Balkan countries. It should be noted that potential endogeneity may exist between FDI inflows and certain macroeconomic variables, such as GDP growth and credit to the private sector, which represents a limitation of the study and a possible direction for future research. Including a broad range of variables is essential for capturing the complex nature of FDI determinants. Prior to the econometric estimation, panel unit root tests were conducted to examine the stationarity properties of the variables. The results indicate that most variables become stationary after first differencing, confirming their integration of order one, which justifies the use of the VECM framework.

To ensure the robustness and reliability of the results, the following statistical techniques are employed:
- Pooled Effect Model: The simplest model for establishing a baseline.
- Fixed Effects Model: To control unobserved heterogeneity.
- Chow Test: Choose between fixed effects and pooled effects models.
- Cointegration Tests: To determine the long-run relationships between the variables.
- Error Correction Model (ECM): To explore short-run dynamics and long-run equilibrium relationships.

The empirical results and discussion section will present the outcomes of the statistical tests and models applied, interpreting the significance of each independent variable in FDI inflows. Additionally, the discussion will compare these findings with existing literature and provide insights into policy implications for the Western Balkan countries.

4. Research results

4.1. Descriptive statistics

It is essential to understand the basic characteristics of the data before conducting the econometric analysis. Table 1 presents the descriptive statistics for the key variables used in this study.

Table 1. Descriptive statistics

	Mean	Median	SD	Var	Kurtosis	Skewness	Range	Minimum	Maximum
FDI	6.89	6.20	5.16	26.68	11.72	2.74	37.21	0.06	37.27
GDP	3.15	3.36	3.44	11.84	7.57	-1.63	28.35	-15.31	13.04
INFLATION	3.91	3.03	3.75	14.08	3.15	1.70	20.23	-0.74	19.49
TRADE	93.82	88.27	20.35	414.00	1.05	0.88	113.95	56.87	170.82
START_BUSINESS	31.44	15.00	29.36	862.17	-0.27	1.05	104.50	4.50	109.00
TAX	29.16	30.00	11.68	136.51	0.02	0.33	51.20	7.40	58.60
LOGISTICS	2.43	2.30	0.47	0.22	-0.80	0.67	1.52	1.98	3.50
POLITICAL_STABILITY	44.59	45.26	13.47	181.52	-0.88	0.00	58.99	15.30	74.29
RULE_OF_LAW	44.59	45.26	13.47	181.52	-0.88	0.00	58.99	15.30	74.29
REGULATORY_QUALITY	0.03	0.03	0.30	0.09	-0.39	-0.30	1.34	-0.64	0.70
USING_INTERNET	50.68	52.25	24.04	577.81	-1.01	-0.31	87.83	0.39	88.22
GOVERNMENT_EFFECTIVENESS	0.25	0.23	0.09	0.01	30.39	4.58	0.76	0.12	0.88
CREDIT	41.21	42.97	14.66	214.89	0.77	-0.19	79.97	6.48	86.45

Authors' calculations

On average, FDI constitutes 6.89% of GDP across the sample, indicating significant foreign investment relative to the size of the economies. The Western Balkan countries are relatively more dependent on foreign investment than developed countries, where FDI typically accounts for around 2% of GDP (WorldPopulationReview, 2024). However, the standard deviation 5.16 highlights considerable variability in FDI inflows among the countries, suggesting that individual FDI rates differ significantly from the average.

The average GDP growth rate of 3.15% suggests moderately healthy economic expansion, with significant variability (SD = 3.44) indicating diverse economic performance across countries. Similarly, the inflation rate averages 3.91%, which is moderate but above the 2% target typical of developed economies. The inflation rate range, from -0.74% to 19.49%, reflects substantial differences in inflationary pressures among the countries, with the maximum value attributed to recent global inflationary trends influenced by the COVID-19 pandemic, economic disruptions, and the oil price crisis.

Trade openness, with an average of 93.82% of GDP, indicates that trade constitutes a significant portion of the Western Balkan economies. However, the range of 113.95% highlights substantial differences in trade dependence among these countries.

The average of 31 days to start a business is relatively long compared to developed countries, where it typically takes less than a week, suggesting room for improvement through regulatory reforms (World Population Review, 2024).

A mean tax burden of 29% of the total profit indicates a relatively high level of taxation compared to some developed countries, though it falls within the range of high-tax countries in the OECD. This suggests that businesses face a substantial tax burden, potentially impacting competitiveness (OECD, 2024).

The quality of infrastructure is slightly below the midpoint, suggesting moderate quality that may require improvement (World Bank, 2024).

The average political stability score is below the midpoint on the Economist Intelligence Unit (EIU) scale, indicating moderate political risks with significant variability among countries.

The average Rule of Law score of 44.59, below the global median, highlights substantial differences in legal frameworks across countries, with scores ranging from 15.30 to 74.29.

Regulatory quality is moderate, indicating room for improvement. Internet penetration averages 50.68%, below the 80-90% typical in developed countries (International Trade Union, 2023).

Government effectiveness, with an average score of 0.25, indicates slightly above-average performance in public services and independence from political pressures (World Bank, 2024).

The average level of private credit is 41.21% of GDP, suggesting moderate financial development, though the high standard deviation highlights diverse levels of credit availability (World Bank, 2022).

Several variables, including FDI, GDP growth, government effectiveness, inflation, and logistics performance, exhibit high variability and skewness, indicating the presence of outliers. Addressing these non-stationary variables through first-order differencing will ensure robust and reliable econometric analysis. These descriptive statistics provide a preliminary understanding of the data distribution and variability, informing subsequent analyses.

4.2. Regression analysis

4.2.1. Analysis and discussion

This section will analyze the results obtained from empirical models and discuss their correspondence with existing literature and economic theory. This analysis will help validate the findings and provide a deeper understanding of the determinants of FDI inflows in the Western Balkan countries. Initially, we implemented the pooled aggregate model to assess the overall influence of these factors. To determine whether there are differences among the countries in the region regarding the factors influencing FDI inflows, we also employ the fixed-effect model. The results from both analyses are presented below.

Table 2: A pool model of estimating the factors that affect FDI inflows in the Western Balkans

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3.412771	3.373356	-1.011684	0.3142
ER	3.983575	1.458396	2.731476	0.0075
GDP	0.130064	0.104947	1.239328	0.2182
INFLATION	0.297161	0.106679	2.785570	0.0064
TRADE	-0.088350	0.030258	-2.919859	0.0044
CREDIT	0.182481	0.032207	5.665877	0.0000
TAX	0.181755	0.042230	4.303941	0.0000
GOVERNMENT_EFFECTIVENESS	20.98012	5.153941	4.070695	0.0001
POLITICAL_STABILITY	0.002777	0.034473	0.080561	0.9360
RULE_OF_LAW	0.061515	0.037157	1.655545	0.1011
START_BUSINESS	-0.113974	0.020959	-5.438022	0.0000
USING_INTERNET	-0.052648	0.025096	-2.097853	0.0385
LOGISTICS	-0.071082	0.164587	-0.431879	0.6668
REGULATORY_QUALITY	0.710671	2.410409	0.294834	0.7688

R-squared	0.659767	Mean dependent var	6.890246
Adjusted R-squared	0.613694	S.D. dependent var	5.164985
S.E. of regression	3.210220	Akaike info criterion	5.288969
Sum squared resid	989.3289	Schwarz criterion	5.632667
Log-likelihood	-276.8933	Hannan-Quinn criteria.	5.428375
F-statistic	14.31999	Durbin-Watson stat	1.765303
Prob(F-statistic)	0.000000		

Authors' calculations

The results of the Panel OLS regression model provide valuable insights into the determinants of FDI as a percentage of GDP in the Western Balkan countries. The exchange rate regime is represented as a Dummy variable where 1 indicates a fixed regime, while 0 denotes a flexible regime. The coefficient for the exchange rate regime shows that, on average, countries with a fixed exchange rate regime experience FDI inflows that are 3.99 percentage points higher compared to those with a flexible exchange rate regime. From this, it can be inferred that a stable exchange rate regime attracts more FDI, reduces currency risk, and offers investors a more predictable economic environment. Inflation rates exhibit a significant positive effect, suggesting that higher inflation is associated with increased FDI within the context of this study. This counterintuitive finding may reflect investor expectations of higher returns in inflationary environments. This may also be the structural characteristics of transition economies, where moderate inflation can accompany periods of economic expansion, privatization process, and increased market opportunities that attract foreign investors. The coefficient for trade openness shows a notable adverse effect, indicating that a greater trade percentage of GDP might diminish FDI inflows. This could be explained by the possibility that trade substitutes for investment or suggests external competition that deters foreign investment. Domestic credit availability has a strong positive influence, signifying that increased access to domestic credit supports business operations and expansion, thereby attracting more FDI. Tax rates also have a significant positive effect, somewhat contrary to expectations. However, higher tax rates can foster a more appealing investment environment when utilized effectively to provide public services and infrastructure. The coefficient for government effectiveness demonstrates a powerful positive effect, indicating that effective governance substantially boosts FDI inflows. This underscores the significance of institutional quality and public sector efficiency. The Rule of Law is statistically significant only at the 10% level, suggesting a potential positive impact of legal stability on FDI. The time required to start a business presents a significant adverse effect; longer durations deter FDI, highlighting the

necessity of regulatory efficiency. We observed a negative correlation between the coefficient for internet usage and FDI, which does not align with our expectations. Increased internet usage may signify a transition toward a digital economy, potentially lessening the appeal of traditional sectors that typically garner more FDI. As businesses and consumers migrate online, investments may shift from physical infrastructure to digital platforms, which may need to be captured as FDI inflow. We did not identify significant coefficients for the variables of GDP, political stability, logistic performance, and regulatory quality. The high R-squared value indicates that the model effectively captures the factors influencing FDI inflows in the Western Balkan countries, while the significant F-statistics affirm the model's robustness. Table 3 presents the results from the fixed effect model that was conducted.

Table 3. Panel model Fixed effects

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.912807	3.847254	-0.237262	0.8130
GDP	0.105656	0.099063	1.066556	0.2889
INFLATION	0.205311	0.104472	1.965216	0.0524
TRADE	-0.054395	0.036005	-1.510738	0.1342
CREDIT	0.218837	0.036342	6.021520	0.0000
TAX	0.108571	0.064064	1.694722	0.0935
GOVERNMENT_EFFECTIVENESS	12.63459	5.622831	2.247015	0.0270
POLITICAL_STABILITY	0.015771	0.036299	0.434487	0.6649
RULE_OF_LAW	-0.023102	0.057034	-0.405050	0.6864
START_BUSINESS	-0.049900	0.027069	-1.843447	0.0684
USING_INTERNET	-0.025113	0.029505	-0.851150	0.3969
LOGISTICS	-0.070641	0.153949	-0.458864	0.6474
REGULATORY_QUALITY	-2.498793	2.848913	-0.877104	0.3827

Effects Specification			
Cross-section fixed (dummy variables)			
R-squared	0.714400	Mean dependent var	6.890246
Adjusted R-squared	0.665264	S.D. dependent var	5.164985
S.E. of regression	2.988271	Akaike info criterion	5.168477
Sum squared resid	830.4683	Schwarz criterion	5.585824
Log-likelihood	-267.2663	Hannan-Quinn criteria.	5.337756
F-statistic	14.53938	Durbin-Watson stat	1.974817
Prob(F-statistic)	0.000000		

Authors' calculations

The fixed-effect model provides a deeper understanding of the factors influencing FDI as a percentage of GDP in the Western Balkan countries. The analysis incorporates multiple economic and institutional variables to control unobserved heterogeneity across the countries. As evidenced in the table above, the estimated results are broadly consistent with those derived from the pooled model; nevertheless, the coefficients of Trade Openness and Rule of Law fail to reach statistical significance. The fixed-effect specification underscores the necessity of accounting for unobserved heterogeneity when examining the determinants of FDI inflows. The insignificance of openness and the Rule of Law suggest their effects are complex and linked to other constant country-specific characteristics. This indicates that policies should be tailored, and further study is needed to understand how these variables attract FDI in different countries. The R-squared value in this model is higher, indicating that the model explains approximately 71% of the variability in FDI as a percentage of GDP. This improvement suggests that the fixed-effect model better captures the factors influencing FDI inflows than pooled models. Additionally, the F-statistics show that the overall model is statistically significant, confirming the robustness and appropriateness of the model in explaining the determinants of FDI inflows in the Western Balkan countries. Furthermore, we conducted the Chow test to determine the most appropriate model for our analysis. This test allows us to confidently choose the model that provides the most reliable estimates, ensuring robust and accurate results in our study of FDI inflows. The results from the Test are presented below.

Table 4. Redundant Fixed Effects Tests

Effects Test	Statistic	def.	Prob.
Cross-section F	6.600108	(4,93)	0.0001
Cross-section Chi-square	27.4871664		0.0000

Authors' calculations

The test results indicate that fixed effects are significant (with a low p-value), suggesting that the fixed effect model is preferred over the Pooled OLS model. This selection ensures that the model accounts for unobserved heterogeneity and provides more reliable estimates of the determinants of FDI inflows. We continue our analysis by determining short-term dynamics and adjustments to long-run equilibrium. By employing the VECM, we gain a deeper understanding of the determinants of FDI inflows, accounting for both short-term fluctuations and long-term trends. This approach provides more robust and insightful policy recommendations for the Western Balkan countries. Considering that the VECM is specifically designed to handle cointegrated data, we check for cointegration among the variables using the Kao Residual Cointegration Test. The results are presented below.

Table 5. Kao Residual Cointegration Test Results

	t-Statistic	Prob.
ADF	-3.557077	0.0002
Residual variance	31.92767	
HAC variance	15.01216	

Authors' calculations

The significant t-statistics and corresponding probability value indicate that the series are cointegrated. This finding confirms a long-term equilibrium relationship among the variables, validating the use of the VECM for further analysis. Proceeding with the VECM model, we first evaluate the presence of long-run causality.

Table 6. Long-Run Causality Test Results from VECM

	Coefficient	Std. Error	t-Statistic	Prob.
C (1)	-0.008743	0.071083	-0.122993	0.9021

Authors' calculations

The results indicate that the error correction term is not significant (p-value = 0.9021), suggesting that deviations from the long-term equilibrium are not being corrected. Therefore, there is no evidence of long-run causality among the variables in the VECM model, as they do not adjust to restore equilibrium over time. This may reflect the relatively short time span of the dataset and the structural heterogeneity of Western Balkan economies, where institutional and macroeconomic changes occur gradually and may primary influence FDI dynamics in the short-run rather than through stable long-run equilibrium relationships. Next, we examine short-run causality using the Wald Test. The results are presented below.

Table 7. Wald Test Results for Short-Run Causality

Test Statistic	Value	df	Probability
Chi-square	150.5462	30	0.0000

Authors' calculations

These results demonstrate short-run causality from the independent variables to FDI. In other words, while no long-run causality was identified, the significant Chi-square statistic (p-value = 0.0000) indicates robust short-run causality from these variables to FDI.

4.2.2. Correspondence with literature

Previous studies emphasize the importance of a stable exchange rate regime in attracting FDI, as it reduces uncertainty for investors (Aizenman, 1992; Cushman, 1985). Our results confirm this, showing a significant positive impact of the exchange rate regime on these inflows. Although high inflation usually deters FDI due to economic instability, our finding that inflation positively impacts FDI matches the literature suggesting that moderate inflation can indicate economic growth and potential for higher returns (Fischer, 1993; Cushman, 1985). Trade openness is generally associated with higher FDI, but our study found a negative impact. This may be due to context-specific factors in the Western Balkans, where high trade volumes could reduce local investment opportunities (Sahiti et al., 2020). Consistent with existing research, our findings indicate that greater domestic credit availability supports business operations and expansion, attracting more FDI (Kinoshita & Campos, 2003). While lower tax rates are often

viewed as more attractive to investors, our study found a positive relationship between higher tax rates and FDI. This suggests that when combined with good public services, reasonable tax rates can be attractive to foreign investors (Schneider & Frey, 1985). Our analyses demonstrate that the time required to start a business significantly negatively impacts FDI inflows. This finding aligns with previous research, such as Jayasuriya (2011), which shows that longer start-up times can deter foreign investment by increasing the costs and complexities associated with entering a new market. Contrary to the expectation that increased internet usage would facilitate business operations and attract FDI, our study found a negative impact, suggesting that other factors may mitigate the anticipated benefits of digital infrastructure (Kinoshita & Campos, 2003). Our study reaffirms established factors influencing FDI and highlights some unique characteristics specific to the Western Balkans. These insights enhance our understanding of the regional dynamics affecting FDI inflows and highlight critical areas for future research and policy intervention. By identifying common and distinct determinants, our findings provide a comprehensive framework for developing targeted strategies to attract and sustain foreign investment in the region.

5. Conclusion

The study aims to analyze the determinants of FDI inflows in the Western Balkan countries, focusing on Albania, Bosnia and Herzegovina, Montenegro, North Macedonia, and Serbia. These nations share a common history of political instability and economic transition. The study employs panel data analysis, fixed-effect models, and the VECM to examine the macroeconomic, institutional, political, market, operational, and infrastructural factors affecting FDI inflows.

The study concludes that several factors significantly affect FDI inflows in the Western Balkans. A fixed exchange rate regime greatly enhances FDI inflows by reducing currency risk and creating a more predictable economic environment for investors. This stability attracts foreign investment by minimizing uncertainties associated with exchange rate fluctuations. Contrary to traditional expectations, higher inflation rates positively impact FDI. This finding suggests that moderate inflation may indicate economic vitality and the potential for higher returns, thus attracting investors. However, higher trade openness is linked to reduced FDI inflows, possibly because trade substitutes for foreign investments.

Against expectations that increased internet usage would boost FDI inflows, our study found a negative correlation. In transitioning economies like the Western Balkans, rising internet usage may be tied to structural changes that could initially deter FDI. For example, industries may require time to adapt to digital technologies, and during this transition, investors might hesitate to commit substantial funds. Additionally, high internet usage may expose the existing regulatory and infrastructure challenges that could further discourage investment. This finding implies that the benefits of increased internet usage are complex and influenced by the broader economic and regulatory context.

The increased availability of domestic credit significantly supports business operations and expansion, attracting more FDI. This access to credit enables businesses to invest in growth opportunities, improve productivity, and enhance competitiveness, making the economy more appealing to foreign investors. Similarly, higher tax rates can create a more attractive investment environment when effectively utilized to provide public services and infrastructure. Higher taxes can improve the overall business climate by delivering reliable public services and robust infrastructure, positively affecting FDI inflows by demonstrating a well-managed and supportive economic environment for investors.

Effective governance is essential in significantly boosting FDI inflows by minimizing investment risks and ensuring a stable business environment. Good governance enhances investor confidence through transparent decision-making processes, accountability, and the efficient delivery of public services. A strong rule of law also positively influences FDI by providing legal stability and reliable contract enforcement,

which are vital for protecting investor interests. Furthermore, our research confirms that the time required to start a business negatively impacts FDI inflows, as lengthy and complex procedures can deter potential investors by raising entry costs and uncertainties.

Analyzing current economic conditions and performance indicators can yield key policy recommendations for increasing FDI inflows and fostering economic growth in the Western Balkans. First, it is crucial to enhance macroeconomic stability. This can be achieved by focusing on policies maintaining low and stable inflation rates to foster a more predictable economic environment. Promoting consistent GDP growth through supportive economic policies and incentives for diverse industries is also essential.

Second, improving investment frameworks is necessary. Simplifying and streamlining regulations to reduce the time required to start a business is vital. This could involve digitalizing processes and reducing bureaucratic hurdles.

Third, optimizing tax policies is essential. Reviewing and adjusting tax policies to balance the need for public revenue with the competitiveness of the business environment can make higher tax rates more acceptable to investors. Ensuring that tax revenues are effectively utilized to enhance infrastructure and public services will improve the investment climate.

Fourth, strengthening infrastructure and institutional quality is critical. Infrastructure development, particularly in transportation and digital sectors, will enhance the business climate. Improving political stability and the rule of law through governance reforms that promote transparency, reduce corruption, and ensure consistent law enforcement is also critical.

Lastly, boosting financial development is necessary. Promoting policies that increase domestic credit availability will ensure businesses have access to the financial resources needed for growth and expansion. These findings contribute to a deeper understanding of the factors influencing FDI inflows in the Western Balkans. The study highlights the significant roles of various economic indicators and institutional qualities while revealing unexpected impacts, such as the negative influence of higher internet usage. This nuanced understanding underscores the complexity of FDI determinants in the region and the importance of context-specific factors. The insights gained from this research suggest several areas for further investigation, including the effects of economic transitions and the role of digital infrastructure. Additionally, the results point to potential policy interventions that could enhance FDI attractiveness, such as improving regulatory efficiency and tailoring tax policies to balance public service provision with investment incentives. Overall, this study provides a valuable foundation for policymakers and researchers aiming to foster a more favorable investment climate in the Western Balkans.

References

1. Aizenman, J. (1992). Exchange Rate Flexibility, Volatility, and Domestic and Foreign Direct Investment. *Staff Papers (International Monetary Fund), 39*(4), 890-922. https://doi.org/https://doi.org/10.2307/3867425
2. Cushman, D. O. (1985). Real Exchange Rate Risk, Expectations, and the Level of Direct Investment. *The Review of Economics and Statistics, 67*(2), 297-308. https://doi.org/https://doi.org/10.2307/1924729
3. Demirhan, E., & Masca, M. (2008). Determinants of foreign direct investment flows to developing countries: a cross-sectional analysis. *Prague Economic Papers, 2008*(4), 356-369. https://doi.org/DOI: 10.18267/j.pep.337
4. Fischer, S. (1993). The role of macroeconomic factors in growth. *Journal of Monetary Economics, 32*(3), 485-512. https://doi.org/https://doi.org/10.1016/0304-3932(93)90027-D
5. Gashi, R. (2021). FOREIGN DIRECT INVESTMENT LEGISLATION: A PRECONDITION FOR CREATING A FAVOURABLE INVESTMENT CLIMATE IN THE CASE OF KOSOVO. *Baltic*

Journal of Real Estate Economics and Construction Management, 9(1), 33–41. https://doi.org/https://dx.doi.org/10.2139/ssrn.3815303
6. International Trade Portal. (2023). *Foreign direct investment (FDI) in Albania.* Lloyds Bank International Trade Portal.
7. International Trade Union. (2023, August 06). *Facts and figures 2023*. Retrieved from International Telecommunication Union: https://www.itu.int/
8. Jayasuriya, D. (2011). *Improvements in the World Bank's ease of doing business rankings : do they translate into greater foreign direct investment inflows ?," Policy Research Working Paper Series 5787.* The World Bank.
9. Kaufmann, D., Kraay, A., & Mastruzzi, M. (2007). Growth and Governance: A Reply. *Journal of Politics, 69*(2), 555-562. https://doi.org/https://doi.org/10.1111/j.1468-2508.2007.00550.x
10. Kinoshita, Y., & Campos, N. F. (2003). Why Does Fdi Go Where It Goes? New Evidence From The Transition Economies. *IMF Working Papers 2003*. https://doi.org/https://doi.org/10.5089/9781451875461.001
11. OECD. (2024, August 06). *The tax burden on an OECD country*. Retrieved from Tax Foundation: https://taxfoundation.org/
12. Osmani, R. (2016). Improved Business Climate and FDI in the Western Balkans. *Journal of Economic and Social Studies, 6*(1). https://doi.org/DOI:10.14706/JECOSS16611
13. Sahiti, A., Sahiti Ramushi, A., & Zeqiri, R. (2020). The Determinants of Foreign Direct Investment: Empirical Evidence from Kosovo. *Advances in Business Related Scientific Research Journal, 11*(1), 67-76. Retrieved from https://ssrn.com/abstract=3647565
14. Schneider, F., & Frey, B. S. (1985). Economic and political determinants of foreign direct investment. *World Development, 13*(2), 161-175. https://doi.org/https://doi.org/10.1016/0305-750X(85)90002-6
15. Schneider, F., & Frey, B. S. (1985). Economic and political determinants of foreign direct investment. *World Development, 13*(2), 161-175. https://doi.org/https://doi.org/10.1016/0305-750X(85)90002-6
16. World Bank. (2012). *Bosnia and Herzegovina: From post-conflict reconstruction to EU integration.* The World Bank.
17. World Bank. (2016). *Bosnia and Herzegovina: Transforming the economy to achieve sustainable prosperity.* The World Bank.
18. World Bank. (2020). *Bosnia and Herzegovina faces new economic headwinds.* The World Bank.
19. World Bank. (2022). *Western Balkans Regular Economic Report, No.22, Fall 2022: Beyond the Crises.* World Bank.
20. World Bank. (2023). *Western Balkans regular economic report No. 23, Spring 2023: Testing resilience.* The World Bank.
21. World Bank. (2024). *FDI by country 2024.* The World Bank.
22. World Bank. (2024). *Logistics Performance Index.* The World Bank.
23. World Bank. (2024). *Worldwide Governance Indicators.* The World Bank.
24. World Population Review. (2024, August 05). *Ease of Doing Business Index by Country 2024*. Retrieved from World Population Review: https://worldpopulationreview.com/country-rankings/ease-of-doing-business-index-by-country
25. World Population Review. (2024, August 01). *Foreign Direct Investment (FDI) by Country 2024*. Retrieved from World Population Review: https://worldpopulationreview.com/country-rankings/fdi-by-country