

Do Financial Sector Characteristics Influence FDI? A Study of Western Balkans Countries



Arbër Krasniqi

South East European University, North Macedonia,

ABSTRACT: This paper investigates the relationship between the development of the financial sector and foreign direct investment (FDI) inflows in Western Balkans countries from 2007 to 2023. The study focuses on four indicators of the financial sector: the ratio of bank nonperforming loans to total gross loans, domestic credit to the private sector by banks, the number of commercial bank branches per 100,000 adults, and the number of borrowers from commercial banks. Using panel data regression techniques, including fixed and random effects models, the analysis aims to understand how these financial characteristics affect net FDI inflows as a percentage of GDP. The findings show that higher domestic credit to the private sector has a statistically significant and positive impact on FDI inflows, suggesting that a stronger credit environment encourages foreign investors. In contrast, a higher number of borrowers from commercial banks is associated with a significant decrease in FDI, which may reflect credit risk. Other variables, such as nonperforming loans and commercial bank branches, did not show a consistent effect. These results highlight the importance of credit availability and financial soundness for attracting FDI in the Western Balkans region. The study contributes to the understanding of how financial sector indicators influence foreign investment decisions in small, developing European economies.

KEYWORDS: Foreign Direct Investment (FDI), Financial Sector Development, Western Balkans, Domestic Credit, Bank Branches, Non-Performing Loans

I. INTRODUCTION

Foreign direct investment (FDI) plays a very important role in the economic development of many countries, especially for developing and transition economies. FDI brings not only capital, but also technology, management and production “know-how”, and better integration into global markets. In the case of Western Balkans countries, which are still in process of economic transformation and EU integration, attracting more FDI is a strategic goal and aspiration.

Economic growth is essential for improving the quality of life, particularly in developing regions such as the Western Balkans—which includes Albania, Bosnia and Herzegovina, Kosovo, North Macedonia, Montenegro, and Serbia. For these countries, improving economic performance is a key priority. In this context, our study explores the relationship between financial sector development and foreign direct investment (FDI). Given that increased FDI is often associated with greater international trade, the entry of multinational enterprises, and expanded sales, understanding this dynamic is crucial. Ultimately, attracting higher levels of FDI may serve as a catalyst for accelerated economic growth across the region.

At the same time, the performance and structure of the financial sector can be a key factor that influences the decisions of foreign investors. A stable and efficient banking sector gives more confidence to investors and helps in financing investment activities. On the other hand, problems in the financial system, such as a high rate of nonperforming loans, can be seen as risk and reduce the interest of foreign investors.

This study aims to explore how some financial indicators are related with foreign direct investment net inflows in six Western Balkans countries between 2007 and 2023. The main variables included in the analysis are:

- Bank nonperforming loans to total gross loans,
- Domestic credit to private sector,
- Commercial bank branches per 100,000 adults, and
- Number of borrowers from commercial banks.

These indicators represent the credit availability, accessibility to financial services, and health of the banking system. The dependent variable is net FDI inflows as percentage of GDP, which is widely used to measure foreign direct investment attractiveness.

Do Financial Sector Characteristics Influence FDI? A Study of Western Balkans Countries

We believe that foreign investors evaluate not just market size or labor costs, but they also do evaluate the stability and reliability of financial systems. A healthy financial sector reduces perceived investment risk. Multinational companies often rely on local credit markets for working capital or to partner with local firms. Access to credit and sound banking practices make it easier to establish and expand operations.

While the majority of infrastructure and FDI-related studies do focus on the impact of transport, energy, and telecommunications infrastructure, we believe that a well-developed financial infrastructure—also plays a critical role by facilitating essential business operations such as payroll processing, supplier payments, and customer transactions. On the other hand a low level of non-performing loans and responsible lending behaviour signals a disciplined and resilient economy, which enhances investor confidence from a more macroeconomic perspective.

By using panel data analysis, including both fixed effects and random effects models, the study tries to understand if there is significant relationship between the financial system development and FDI in the region. This research is relevant not only for policymakers in the Western Balkans but also for international institutions and foreign investors who are interested in the stability and investment climate of these countries. Although many studies exist on FDI and its determinants, only few focus specifically on the role of the financial sector in the Western Balkans region. This paper contributes to the literature by analyzing updated and regional data, and by including variables that reflect both access to finance and banking sector soundness. This can offer new insights for improving financial policies to make the region more attractive to foreign investors.

The structure of the paper is as follows: Section 2 reviews related literature, Section 3 explains data and methodology, Section 4 presents the empirical results, and Section 5 concludes the findings and gives recommendations.

2. LITERATURE REVIEW

Beck (2002) examines how financial development influences the structure of international trade. Using a two-sector model, it finds that countries with more developed financial systems tend to specialize in and export goods from sectors with high economies of scale, such as manufacturing. Empirical evidence from a 30-year panel of 65 countries supports this, showing that financially developed countries have higher manufactured exports and trade balances. The findings highlight that financial development not only drives economic growth but also shapes trade patterns, emphasizing its importance for policymakers. Bilir et al. (2019) by using U.S. firm-level data, the study finds that better financial development in host countries encourages more multinational affiliate entry and boosts sales, particularly to the U.S. and third countries. While overall FDI activity rises, local market sales decline due to increased competition from domestic firms, reflecting both improved financing access and competitive pressures.

Manova (2013) shows that financial market imperfections limit international trade by restricting exporters' access to external capital. Using cross-country trade data, the study finds that credit constraints reduce both export participation and sales, especially in financially vulnerable sectors. Economies with stronger financial systems export more by entering more markets and selling more products, highlighting the importance of financial development for trade-driven growth.

Irandoust (2021) in his paper investigates the impact of host countries' financial development (FD) on foreign direct investment (FDI) in eight post-communist countries. Using a multidimensional FD index and the bootstrap panel Granger causality approach, the study finds unidirectional causality from FD to FDI in six out of the eight countries. The findings suggest that countries aiming to attract more FDI should enhance access to external finance and maintain a well-regulated, functional financial system.

Furthermore Hermes et al. (2003) study highlights that a well-developed financial system is crucial for FDI to positively influence economic growth. Based on data from 67 countries, it finds that in 37—mainly in Latin America and Asia—FDI contributes to growth through enhanced technological diffusion supported by strong financial institutions. In their study Pham et al. (2022) explored the relationship between foreign direct investment (FDI) and financial development, measured by banks and stock markets, in 30 Asian developing countries from 1986 to 2019. Using Granger causality tests and the system GMM estimator, the study found a bidirectional relationship between FDI and financial development. It shows that stronger financial systems attract more FDI, while FDI also enhances local financial markets by improving capital mobilization and services. The findings suggest that policymakers should strengthen banking and stock markets to boost investor confidence and attract more FDI.

Mohamed et al. (2010) find that a well-developed financial system is a key factor in attracting FDI to MENA countries. Strengthening financial institutions, alongside improving trade openness and governance, can make these economies more appealing to foreign investors. Hidayat et al. (2024) conducted a comparative panel data analysis covering the period of time from 2010 to 2021 to examine the relationship between banking penetration and foreign direct investment (FDI) in three ASEAN countries—Indonesia, Malaysia, and Thailand. The study found a significant positive impact of banking penetration on FDI inflows, highlighting that countries with more developed financial infrastructures and stronger digital financial services tend to attract higher levels of foreign investment.

Do Financial Sector Characteristics Influence FDI? A Study of Western Balkans Countries

Gebrehiwot et al. (2016) investigates the long-run relationship between FDI and financial market development in eight sub-Saharan African countries from 1991 to 2013. Using Granger causality tests and a two-step panel regression (2SLS), the study examines banking and stock market indicators. The results indicate that the relationship between FDI and credit (a banking sector development indicator) is statistically significant according to both the Granger causality and 2SLS regression models.

Alam et al. (2023) do investigate the link between banking sector performance and foreign direct investment (FDI) in Bangladesh, they claim they did address a relatively underexplored area in the literature. The study emphasizes how efficient banking systems can influence the unique characteristics of FDI inflows. Bangladesh was chosen as the case study due to its growing FDI volumes and the implementation of liberalization policies, particularly in banking, trade, and international business. They found that strong banking performance in Bangladesh may actually deter FDI inflows—an unconventional finding. Instead, trade openness, inflation, and infrastructure emerged as the key drivers, while market size had little impact.

Desbordes et al. (2017) study highlights that financial development in both source and host countries promotes FDI by improving access to external finance and supporting economic activity. It emphasizes the need for well-regulated financial systems to sustain FDI flows, especially during credit crises, and warns against potential crowding-out effects in financially weak economies.

Tsaurai and Makina (2018) examined 21 emerging economies and found that financial sector development positively affects FDI inflows, but only when certain threshold levels are reached. Specifically, higher levels of stock market activity and banking sector development above these thresholds significantly boost FDI, while levels below the thresholds have little to no impact.

On the other hand, by using data from 50 Belt and Road Initiative countries, Aibai et al. (2019) finds that FDI significantly contributes to financial development, particularly in financial markets. The positive impact is stronger in countries with higher institutional quality, as FDI enhances both financial deepening and functionality.

Pham et al. (2024) analysed data from 62 developing countries (2011–2021), the study finds that financial market development positively influences FDI, while financial institutions and income distribution do not. Institutional quality strengthens the link between financial markets and FDI, suggesting that improving financial markets can help attract more investment by reducing risk and uncertainty.

3. SCIENTIFIC RESEARCH METHODOLOGY AND ECONOMETRIC MODEL SPECIFICATION

In this section, we develop an empirical econometric model to assess the interactions between Financial Sector Development and Foreign Direct Investment in Western Balkans countries. The analysis is based on a balanced panel dataset covering six countries—Albania, Bosnia and Herzegovina, Kosovo, North Macedonia, Montenegro, and Serbia—for the period from 2007 to 2023. To assess the relationship between financial sector indicators and FDI inflows, we specify the following econometric model:

$$FDI_{it} = \beta_0 + \beta_1 NPL_{it} + \beta_2 DCPS_{it} + \beta_3 CBB_{it} + \beta_4 BORR_{it} + \mu_i + \epsilon_{it}$$

Variable Name	Definition	Source
Foreign direct investment, net inflows (% of GDP)	Foreign direct investment are the net inflows of investment to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments. This series shows net inflows (new investment inflows less disinvestment) in the reporting economy from foreign investors, and is divided by GDP.	World Bank Data
Bank nonperforming loans to total gross loans (%)	Bank nonperforming loans to total gross loans are the value of nonperforming loans divided by the total value of the loan portfolio (including nonperforming loans before the deduction of specific loan-loss provisions). The loan amount recorded as nonperforming should be the gross value of the loan as recorded on the balance sheet, not just the amount that is overdue.	World Bank Data
Domestic credit to private sector (% of GDP)	Domestic credit to private sector refers to financial resources provided to the private sector by financial corporations, such as through loans, purchases of nonequity securities, and trade credits and other accounts receivable, that establish a claim for repayment. For some countries these claims include credit to public enterprises. The financial corporations include monetary authorities and deposit money banks, as well as other financial corporations where data are available (including corporations that do not accept transferable deposits but do incur such liabilities as time and savings deposits). Examples of other financial	World Bank Data

Do Financial Sector Characteristics Influence FDI? A Study of Western Balkans Countries

	corporations are finance and leasing companies, money lenders, insurance corporations, pension funds, and foreign exchange companies.	
Commercial bank branches (per 100,000 adults)	Commercial bank branches are retail locations of resident commercial banks and other resident banks that function as commercial banks that provide financial services to customers and are physically separated from the main office but not organized as legally separated subsidiaries.	World Bank Data
Borrowers from commercial banks (per 1,000 adults)	Borrowers from commercial banks are the reported number of resident customers that are nonfinancial corporations (public and private) and households who obtained loans from commercial banks and other banks functioning as commercial banks. For many countries data cover the total number of loan accounts due to lack of information on loan account holders.	World Bank Data

4. EMPIRICAL EVIDENCE

In this section we present the outcomes derived from the empirical analysis examining the relationship between financial sector development and foreign direct investment (FDI) in Western Balkan countries. The results include tests for multicollinearity, correlation analysis, and three regression models—Ordinary Least Squares (OLS), Fixed Effects (FE), and Random Effects (RE). Variance Inflation Factor (VIF) values are all below 2, indicating no serious multicollinearity concerns among the explanatory variables.

Variable	VIF	1/VIF
Commercial bank branches per 100	1.85	0.541109
Domestic credit to private sector	1.63	0.611899
Bank nonperforming loans to total	1.27	0.784653
Borrowers from commercial banks	1.05	0.95114
Mean VIF	1.45	

The correlation matrix reveals moderate associations between FDI and financial sector indicators, particularly domestic credit to the private sector and the number of commercial bank branches.

	Foreign Direct Investment Net Inflow	Bank Non-performing Loans to Total	Domestic Credit to Private Sector	Commercial Bank Branches per 100	Borrowers from Commercial Banks
Foreign Direct Investment Net Inflow	1	0.1221	0.4447	0.3963	-0.1649
Bank Non-performing Loans to Total	0.1221	1	-0.0502	0.3523	-0.0395
Domestic Credit to Private Sector	0.4447	-0.0502	1	0.5573	0.205
Commercial Bank Branches per 100	0.3963	0.3523	0.5573	1	0.1602
Borrowers from Commercial Banks	-0.1649	-0.0395	0.205	0.1602	1

Regression results show that domestic credit to the private sector has a statistically significant and positive impact on FDI across all models, indicating that greater credit availability may attract more foreign investment. Conversely, the number of borrowers from commercial banks exhibits a significant negative relationship with FDI, possibly suggesting concerns over credit quality or market saturation. The effect of non-performing loans and bank branch availability was statistically insignificant in most cases.

Do Financial Sector Characteristics Influence FDI? A Study of Western Balkans Countries

Variable	OLS Coef.	OLS S.E.	p-value (OLS)	FE Coef.	FE S.E.	p-value (FE)	RE Coef.	RE S.E.	p-value (RE)
Bank non-performing loans to total	0.0556	0.0944	0.558	-0.074	0.0766	0.337	-0.067	0.076	0.378
Domestic credit to private sector	0.2129	0.063	0.001 ***	0.342	0.0573	0.000 ***	0.3327	0.0562	0.000 ***
Commercial bank branches per 100	0.1356	0.0836	0.108	-0.17	0.1436	0.24	-0.071	0.1098	0.518
Borrowers from commercial banks	-0.0117	0.004	0.004 ***	-0.0153	0.0059	0.011 **	-0.0121	0.0049	0.015 **

Source: Authors' calculations using STATA. P-values are presented along with significance levels for each model (OLS, FE, RE), using * for $p \leq 0.01$, ** for $0.01 < p \leq 0.05$, and * for $0.05 < p \leq 0.10$.**

The Fixed Effects (FE) regression model is chosen as the preferred specification, as it controls for unobserved heterogeneity across countries that may influence FDI inflows but remain constant over time.

The estimation reveals that domestic credit to the private sector has a positive and statistically significant effect on FDI inflows ($\beta = 0.342$, $p < 0.01$). This suggests that when private sector access to credit improves, it may signal to foreign investors a healthier financial environment, greater investment opportunities, and lower financial risk, making the country more attractive for FDI.

On the other hand, the number of borrowers from commercial banks shows a negative and significant relationship with FDI ($\beta = -0.015$, $p < 0.05$). This could indicate that as borrowing expands too rapidly, concerns may arise about creditworthiness, financial discipline, or potential over-leveraging in the domestic market—factors that may deter foreign investors.

The coefficients for non-performing loans (NPLs) and commercial bank branches per 100,000 adults are negative but statistically insignificant. While NPLs are often seen as a risk indicator, their effect on FDI may be muted in this context, possibly because foreign investors focus more on broader credit conditions than on banking system inefficiencies. Similarly, the availability of bank branches may not directly reflect the efficiency or sophistication of financial services, limiting its impact on attracting foreign capital.

The model's R-squared is 0.3288, indicating that roughly 33% of the variation in FDI inflows within countries over time is explained by the included financial variables.

5. CONCLUSION

This study explored the impact of financial sector development on foreign direct investment (FDI) in six Western Balkan countries over the period 2007–2023. Given the importance of FDI for accelerating economic growth, especially in developing and transition economies, understanding the financial sector's role in attracting foreign capital is crucial for informed policymaking.

Using panel data regression techniques—including Ordinary Least Squares (OLS), Fixed Effects (FE), and Random Effects (RE) models—we analyzed four key financial indicators: non-performing loans (NPLs), domestic credit to the private sector, the number of commercial bank branches, and the number of borrowers from commercial banks.

Among these, domestic credit to the private sector emerged as the most consistently significant and positive determinant of FDI inflows across all models, particularly in the Fixed Effects estimation. This finding suggests that increasing credit access for private enterprises can enhance a country's attractiveness to foreign investors by indicating economic dynamism, improved financial intermediation, and investment potential.

Conversely, the number of borrowers from commercial banks showed a significant negative relationship with FDI, potentially reflecting concerns over credit risk or overextension in the financial system. This result highlights the importance of not just expanding credit but ensuring credit quality and sustainable lending practices.

Do Financial Sector Characteristics Influence FDI? A Study of Western Balkans Countries

The effects of non-performing loans and commercial bank branch density were statistically insignificant in most specifications. While these indicators are often used to assess banking sector health and accessibility, their influence on foreign investors appears to be limited in this context, possibly due to more pressing structural or institutional considerations in the region.

REFERENCES

- 1) Beck, T., 2002. Financial development and international trade: Is there a link? *Journal of International Economics* 57 (1), 107–131.
- 2) Bilir, K., Chor, D., & Manova, K. (2019). Host-country financial development and multinational activity (NBER Working Paper No. 20046). National Bureau of Economic Research. <https://www.nber.org/papers/w20046>
- 3) Kalina Manova, Credit Constraints, Heterogeneous Firms, and International Trade, *The Review of Economic Studies*, Volume 80, Issue 2, April 2013, Pages 711–744, <https://doi.org/10.1093/restud/rds036>
- 4) Manuchehr Irandoust (2021) FDI and financial development: evidence from eight post-communist countries, *Studies in Economics and Econometrics*, 45:2, 102-116, DOI:10.1080/03796205.2021.1978859
- 5) Hermes, N., Lensink, R., 2003. Foreign direct investment, financial development and economic growth. *Journal of Development Studies* 40 (1), 142–163.
- 6) Pham, Huy Tiet, Christopher Gan, and Baiding Hu. 2022. Causality between Financial Development and Foreign Direct Investment in Asian Developing Countries. *Journal of Risk and Financial Management* 15: 195. <https://doi.org/10.3390/jrfm15050195>
- 7) Sufian Eltayeb Mohamed & Moise G. Sidiropoulos, 2010. "Another Look At The Determinants Of Foreign Direct Investment In Mena Countries: An Empirical Investigation," *Journal of Economic Development*, Chung-Ang University, Department of Economics, vol. 35(2), pages 75-95, June.
- 8) Hidayat, A., & Shodrokov, X. (2024). The Impact of Banking Penetration on Foreign Direct Investment in ASEAN: Comparative Analysis of Indonesia, Malaysia, and Thailand. *Innovation Economics Frontiers*, 27(2), 30-44. <https://doi.org/10.36923/iefrontiers.v27i2.245>
- 9) Gebrehiwot, A., & Sayim, M. (2016). The relationship between FDI and financial market development: The case of the Sub-Saharan African region. *International Journal of Research in Development*, 3(1), 1-15. <https://doi.org/10.5296/ijrd.v3i1.8592>
- 10) Alam, M.B., Sayal, A.U., Naveed Jan, M. and Tahir, M. (2023), "Banking sector performance and FDI inflows in Bangladesh: exploring the unexplored", *Journal of Economic and Administrative Sciences*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/JEAS-08-2022-0193>
- 11) Desbordes, R., Wei, S.J. (2017). The effects of financial development on foreign direct investment. *Journal of Development Economics*, 127: 153-168. <https://doi.org/10.1016/J.JDEVECO.2017.02.008>
- 12) Kunofiwa Tsaui & Daniel Makina, 2018. "The Impact of Financial Sector Development on Foreign Direct Investment: An Empirical Study on Minimum Threshold Levels," *Journal of Economics and Behavioral Studies*, AMH International, vol. 10(5), pages 244-254.
- 13) Abuduwali Aibai, Xianjing Huang, Yu Luo & Yuchao Peng (2019): Foreign Direct Investment, Institutional Quality, and Financial Development along the Belt and Road: An Empirical Investigation, *Emerging Markets Finance and Trade*, DOI: 10.1080/1540496X.2018.1559139
- 14) Pham, H. T. T., & Pham, N. T. (2024). The impact of financial development and income distribution on FDI under the role of institutions in developing countries. *International Journal of Sustainable Development and Planning*, 19(12), 4897–4903.



There is an Open Access article, distributed under the term of the Creative Commons Attribution – Non Commercial 4.0 International (CC BY-NC 4.0) (<https://creativecommons.org/licenses/by-nc/4.0/>), which permits remixing, adapting and building upon the work for non-commercial use, provided the original work is properly cited.