

MASTERARBEIT | MASTER'S THESIS

Titel | Title

„Role of the EIB in facilitating economic growth through the EU
Accession Process: The Case of the Western Balkans“

verfasst von | submitted by
Kristina Radovic

angestrebter akademischer Grad | in partial fulfilment of the requirements for the degree of
Master of Science (MSc)

Wien | Vienna, 2025

Studienkennzahl lt. Studienblatt | Degree
programme code as it appears on the
student record sheet:

UA 066 913

Studienrichtung lt. Studienblatt | Degree
programme as it appears on the student
record sheet:

Masterstudium Applied Economics

Betreut von | Supervisor:

Assoz. Prof. Mag. Dr. Paul Pichler Privatdoz.

Abstract

The Western Balkans remain a region of strategic economic and political interest to the European Union (EU), with aspirations for integration into the EU market. However, persistent macroeconomic challenges, such as high unemployment rates, low investment levels, and infrastructure gaps, hinder the region's economic convergence with EU standards. Over the past 15 years, development banks, like the European Investment Bank (EIB), played key roles in financially supporting this region, often providing loans on terms distinct from commercial banks. Large infrastructure projects, which are crucial for the region, face substantial financial challenges, as the cost of borrowing from commercial banks makes them prohibitively expensive. This is where development banks step in to fill the gap.

This thesis discusses the contributions of the EIB in the Western Balkans, focusing on their lending practices, funding processes, financing structures, motivations, and the economic impacts of their investments. The research highlights the ways in which this bank has supported economic growth through project funding and analyses the sectoral distribution of their investments and their overall economic impact. Further, it empirically examines the impact of EIB loans on unemployment rates in the Western Balkans, using fixed effects panel regression as the primary econometric method. The study uses a dataset covering six Western Balkan countries (Albania, Bosnia and Herzegovina, Montenegro, North Macedonia, Serbia, and Kosovo) over the period 2008–2023. Beyond regression analysis, the study conducts long-term employment projections using investment-driven growth model, inspired by Claude Berthomieu, Massimo Cingolani, and Anastasia Ri (2016). The projections estimate the number of years required for the Western Balkans to reduce unemployment below 10%, depending on different GDP growth and employment elasticity scenarios.

Abstract

Die Westbalkanstaaten bleiben eine Region von strategischem wirtschaftlichem und politischem Interesse für die Europäische Union (EU) mit Bestrebungen zur Integration in den EU-Markt. Doch anhaltende makroökonomische Herausforderungen wie hohe Arbeitslosenquoten, niedrige Investitionsniveaus und Infrastrukturlücken behindern die wirtschaftliche Annäherung der Region an die EU-Standards. In den letzten 15 Jahren spielten Entwicklungsbanken, wie die Europäische Investitionsbank (EIB), eine Schlüsselrolle bei der finanziellen Unterstützung dieser Region, oft durch die Bereitstellung von Krediten zu Bedingungen, die sich von kommerziellen Banken unterscheiden. Große Infrastrukturprojekte, die für die Region von entscheidender Bedeutung sind, stehen vor erheblichen finanziellen Herausforderungen, da die Kreditkosten bei kommerziellen Banken sie prohibitiv teuer machen. Hier setzen Entwicklungsbanken an, um diese Lücke zu füllen.

Diese Dissertation diskutiert die Beiträge der EIB auf dem Westbalkan und konzentriert sich auf deren Kreditvergabepraktiken, Finanzierungsprozesse, Finanzierungsstrukturen, Motivationen und die wirtschaftlichen Auswirkungen ihrer Investitionen. Die Forschung hebt hervor, wie diese Bank das Wirtschaftswachstum durch Projektfinanzierung unterstützt hat und analysiert die sektorale Verteilung ihrer Investitionen sowie deren gesamtwirtschaftliche Auswirkungen. Weiterhin untersucht sie empirisch den Einfluss der EIB-Kredite auf die Arbeitslosenquoten im Westbalkan, wobei die Fixed-Effects-Panelregression als primäre ökonometrische Methode verwendet wird. Die Studie verwendet einen Datensatz, der sechs westbalkanische Länder (Albanien, Bosnien und Herzegowina, Montenegro, Nordmazedonien, Serbien und Kosovo) über den Zeitraum 2008–2023 abdeckt. Neben der Regressionsanalyse führt die Studie langfristige Beschäftigungsprognosen durch, die auf einem von Claude Berthomieu, Massimo Cingolani und Anastasia Ri (2016) inspirierten, investitionsgetriebenen Wachstumsmodell basieren. Die Prognosen schätzen die Anzahl der Jahre, die benötigt werden, damit der Westbalkan die Arbeitslosenquote unter 10% senken kann, abhängig von verschiedenen Szenarien des BIP-Wachstums und der Beschäftigungselastizität.

Table of Contents

Abstract.....	1
Abstract.....	2
List of Figures	4
List of Tables	5
1. Introduction.....	6
2. Literature Review.....	7
3. European Investment Bank (EIB).....	9
3.1. Background of the European Investment Bank.....	9
3.2. The EIB in the Western Balkans	10
3.2.1. Funding of EIB's activities in the Western Balkans	13
3.2.2. Case Study: Montenegro Railways Rehabilitation Projects.....	16
4. Data, Methodology and Results	19
4.1. Comparative Analysis of EIB Loans Across Regions	20
4.1.1. EIB lending activity in Montenegro.....	24
4.2. Comparative analysis of economic situation in the Western Balkan vs. EU countries	28
4.2.1. Montenegro vs. Croatia / Bulgaria	32
4.3. Panel regression analysis of EIB loans in the Western Balkan	34
4.3.1. Results and discussion.....	37
4.4. Long-Term Employment Projections: When Will the Western Balkans Reach EU Employment Levels?	38
4.4.1. Results and discussion.....	39
5. Conclusion	44
6. References.....	45

List of Figures

Figure 3-1: Focus on the Western Balkans: Regional Context within Europe	12
Figure 3-2: Components of Project Funding: Blended Finance Sources	13
Figure 3-3: Components of Blending Operation.....	14
Figure 4-1: Total signed amount by country and year	20
Figure 4-2: EIB global annual lending in 2022- 2023 as % of 2022 GDP	21
Figure 4-3: Signed EIB exposure in 2022 as a % of each country's GDP in 2022.....	22
Figure 4-4: Total signed amount by country.....	23
Figure 4-5: Loans as a % of GDP by country in 2023	24
Figure 4-6: EIB investments as % of GDP of Montenegro (2008-2023).....	25
Figure 4-7: Total amount of loans signed between Montenegro and EIB (2008–2024).....	25
Figure 4-8: EIB lending activity portfolio allocation in Montenegro	26
Figure 4-9: Sector distribution of EIB activities in Montenegro	27
Figure 4-10: Detailed breakdown of EIB infrastructure loans in Montenegro	27
Figure 4-11: GDP per capita (PPP, Current International \$)	28
Figure 4-12: GDP per Capita relative to Germany (100%)	29
Figure 4-13: Real GDP Growth in Western Balkan countries (2008- 2023)	30
Figure 4-14: Unemployment rate in Western Balkan countries (2008-2023).....	31
Figure 4-15: Inflation rate in Western Balkan counties (2008-2023)	32
Figure 4-16: Comparative Analysis of Unemployment Rates in Montenegro, Croatia, and Bulgaria (2008-2023).....	32
Figure 4-17: FDI comparison: Montenegro, Croatia and Bulgaria.....	33
Figure 4-18: Unemployment rate in 2023 in WB6 and EU average.....	40
Figure 4-19: Potential impact of investment on unemployment- Albania.....	41
Figure 4-20: Potential impact of investment on unemployment- Bosnia and Herzegovina	42
Figure 4-21: Potential impact of investment on unemployment- Montenegro	42
Figure 4-22: Potential impact of investment on unemployment- North Macedonia.....	42
Figure 4-23: Potential impact of investment on unemployment- Serbia	43

List of Tables

Table 3-1: Funding overview for Montenegro railway rehabilitation project	17
Table 4-1: EIB global annual lending in 2022- 2023.....	21
Table 4-2: Total loan amounts by country	22
Table 4-3: GDP of Western Balkan Countries in 2023 (in Millions USD)	23
Table 4-4: Description of the variables.....	34
Table 4-5: Descriptive statistics of the variables	36
Table 4-6: Results for the estimated coefficients based on the model with fixed effects	37
Table 4-7: Potential employment impact of investment stimulus scenarios in WB5	40

1. Introduction

In recent years, the Western Balkans, driven by a strong desire to integrate into the European Union, have undergone significant political and economic transformations. My thesis deals with the critical role played by the European Investment Bank (EIB) in facilitating this transition through strategic financial interventions that support large-scale projects. These projects are important for regional economic stability and growth but are often unfeasible for realization by the local countries alone due to the high costs associated with commercial lending. This study examines the EIB's financial interventions, focusing on its lending practices, funding mechanisms, and the economic rationale behind its strategies.

The primary objective of this research is to assess the impact of EIB loans on economic development in the Western Balkans, with a specific focus on their influence on unemployment reduction. To achieve this, the thesis employs panel regression analysis, setting unemployment rate as the dependent variable, while independent variables include EIB loans, GDP growth, inflation rate, and gross capital formation. The study applies fixed effects panel regression, selected based on statistical testing, to account for country-specific, time-invariant factors that may influence unemployment dynamics. Additionally, employment projections are conducted to estimate the timeframe required for the region to reach an unemployment rate below 10%.

Firstly, chapter 3 will establish the theoretical concept necessary for understanding the role of international development banks like the EIB. It will explore key economic theories that explain the mechanisms through which such banks influence regional development and integration into larger economic unions like the EU. Furthermore, chapter 4 outlines the methodology, detailing the data sources, empirical model specifications, and statistical techniques applied to evaluate the economic effects of EIB loans. The methodological approach integrates quantitative panel data analysis with qualitative evaluations, providing a comprehensive perspective on the sectoral distribution of EIB investments and their broader economic implications. The findings are intended to enrich knowledge on the role of development banks in transitional economies, highlighting how strategic financial support from institutions like the EIB can facilitate significant economic transitions.

The thesis is organized to first introduce the topic and theoretical framework, followed by a literature review that sets the scene for understanding the depth of previous research in this field. Subsequent chapters present data, empirical models, and detailed results, leading to a discussion that combines the practical outcomes of the EIB's interventions with theoretical insights. The study concludes with projections of when the employment level in Western Balkan will decrease by at least below 10%. This is setting the stage for policymakers, financial institutions, and other potential research in this field, while also emphasizing the methodological challenges and limitations that must be considered when interpreting the results.

2. Literature Review

In my review of literature on the economic development of the Western Balkans and the role of European Union (EU) investments, particularly those made by the European Investment Bank (EIB), I have gathered significant insights into how external financing impacts growth and integration within this region. Additionally, I have examined detailed accounts of the EIB's operational framework and its historical and ongoing contributions to the region. This literature reviews the methodologies employed and the significant findings of key studies, providing an understanding of the mechanisms through which EU investments impact the Western Balkans.

In paper "Economic development of the Western Balkans and European Union investments" Goran Popović and Ognjen Erić (2018), authors explore the critical relationship between EU investments and economic growth in the Western Balkans. They point out that such investments are vital for economic development in a region plagued historically by political instability and economic underperformance. Employing Vector Autoregression (VAR) modelling to examine the dynamic relationships between EU investments and crucial economic indicators like GDP growth, their analysis provides a detailed perspective on how external financial inflows can boost local economies. Their findings reinforce the idea that increased EU investment is positively correlated with economic development in the Western Balkans.

In another significant work, "The Western Balkans on the road to the European Union," Marek Dabrowski and Yana Myachenkova (2018) offer an extensive review of the strides made by Western Balkan countries towards EU integration. Their analysis of essential economic indicators, such as GDP growth, unemployment rates, and foreign direct investment (FDI) inflows, is contextualized within the broader framework of EU integration efforts. They illustrate how external investments, including those from the EIB, are crucial in promoting economic stability and growth. While acknowledging the substantial progress achieved, they also note ongoing challenges, especially in harmonizing local economic policies with EU standards. Their comprehensive examination serves as a vital backdrop for understanding the specific impacts of EIB financing.

Further broadening the discussion, Griffith-Jones and Tyson (2013) in their paper, "The European Investment Bank: Lessons for developing countries," discuss the broader implications of EIB financing. They emphasize how the EIB provides long-term, low-cost financing for infrastructure projects, bridging market gaps that frequently impede development in less economically stable regions. Their insights highlight the EIB's critical role during economic downturns, showcasing the bank as an essential facilitator of sustainable development. Although their focus is not exclusively on the Western Balkans, their analysis offers valuable policy lessons that can guide future investment strategies aimed at bolstering economic growth in developing regions like the Western Balkans.

I also explore insights from Tamás Szígyetvári's (2018) paper on the European Investment Bank (EIB) operations outside the EU, particularly in the Southern Mediterranean. Szígyetvári highlights the EIB's unique role in supporting EU foreign policies through targeted investments, adhering strictly to EU mandates without independent developmental goals. His work is crucial for understanding the EIB's influence in the Western Balkans, demonstrating how the bank's project-focused funding aligns with EU enlargement policies and contributes to regional economic growth.

Moreover, I draw upon the methodologies and analytical frameworks used in the studies by Sucubasi, Trenovski, Imeri, and Merdzan (2021), as well as Zakharov and Kušić (2003). These studies provide a foundational approach for examining the impact of external economic influences on domestic markets in the Western Balkans, which has been instrumental in shaping my own analysis of European Investment Bank (EIB) loans. The study by Sucubasi uses a panel data approach to assess how inward foreign direct investments (FDI) influence domestic investments across several Western Balkan

countries. This methodological approach has guided my own analysis to similarly assess the effects of EIB loans, applying a similar econometric model to understand their impact on domestic economic conditions. While the focus of their study is on FDI, the underlying economic interactions and the model setup have been crucial in helping me conceptualize and structure my own investigation into EIB loans. Similarly, Zakharov and Kušić's exploration of FDI as a catalyst for EU accession readiness and economic modernization offers insights into the broader economic impacts of substantial external investments. Their analysis of how strategic enhancements in policy and regional cooperation can attract investment has informed my understanding of how similar strategies could be effectively applied to EIB loans. Although my thesis does not focus primarily on FDI, the theoretical frameworks and conclusions drawn from these studies are pertinent for understanding the dynamics of how significant financial inflows, like EIB loans, can influence economic growth and integration processes.

Claude Berthomieu, Massimo Cingolani, and Anastasia Ri. have been analysing potential growth scenarios and employment growth rates in the Western Balkans in their paper *Investment for Growth and Development in the Western Balkans* (2016) emphasizing the critical role of infrastructure investments in bridging the development gap between this region and the European Union. Using the predictive model discussed by Berthomieu, Cingolani, and Ri, I have adapted their approach to specifically assess how EIB loans might influence unemployment rates and economic growth in the Western Balkans. Their model, which outlines various investment-driven growth scenarios, served as a foundational framework for my analysis, allowing me to project the potential years it might take for the Western Balkans to align with the EU's economic standards under sustained investment levels. This analysis not only estimates the direct impact of investments on reducing unemployment but also explores the broader socioeconomic benefits that can be realized through targeted financial support. The study's emphasis on infrastructure as a catalyst for private sector growth and sustainable economic development is particularly relevant to my research, which intersects with the themes of international finance and regional economic development. By integrating these insights, my thesis underscores the transformative potential of EIB loans as a strategic tool for economic convergence within the EU framework. This approach has allowed me to provide a detailed exploration of how structured financial support can enhance economic capabilities, drive growth, and reduce long-term unemployment in transitional regions

Various reports and fact sheets published by the European Investment Bank (EIB) and the European Commission, were beneficial for contextualizing the investments and financial efforts in the Western Balkans. Key resources such as the European Investment Bank's 2019 report on its activities in the Western Balkans, and the European Parliament's 2024 fact sheet, provide detailed insights into the past and ongoing projects financed in the region. These documents outline the EIB's substantial financial contributions since 1977, aimed at driving the region towards European integration. The bank's focus has shifted over the years from urgent reconstruction in the late 1990s to broader developmental goals, including support for small businesses, healthcare, education, and infrastructure projects that enhance economic stability and growth. In parallel, the European Commission's involvement and strategic direction for the Western Balkans, as discussed in their publications, highlight crucial areas such as rule of law, security, connectivity, digitization, economic development, and competitiveness. This aligns closely with my thesis focus on assessing the impact of European Investment Bank loans. By examining how these financial instruments have influenced economic conditions.

3. European Investment Bank (EIB)

European Investment Bank (EIB), established under the Treaty of Rome in 1958, is fostering economic development within the European Union and beyond. Owned by EU member states, the EIB is tasked primarily with supporting the EU's long-term strategic objectives. The bank's funding mechanism, which leverages capital markets to provide non-profit loans within the member states and for projects aligned with common EU interests, has significantly contributed to economic progress across various regions (Szigetvári, T., 2018).

The EIB's extensive involvement in EU external policies since 1963 has evolved to encompass a global presence, targeting EU foreign policy, neighbourhood policy, and development aid objectives. While the EIB operates without an independent development agenda, its activities are intricately tied to the goals set by EU member states and institutions, emphasizing investment and project funding under EU guarantees. This strategic focus limits the EIB's involvement in shaping broader country or sectoral strategies. These are managed by other EU institutions motivated by social economic, political reasons.

Focusing more on EU candidates and the countries in the EU geographical region rather than far away regions. The EIB's External Lending Mandate (ELM) operates with guarantees provided by the EU budget, supporting a broader geographical reach including regions crucial for EU enlargement policies. The discussion within this chapter is based on insights from the work of Tamás Szigetvári (2018) in his comprehensive analysis of the EIB's operations and latest Fact sheets published by the European Parliament, the European Commission and the EIB itself. Therefore, throughout the rest of this chapter, I'll explore the diverse approaches used to support emerging regions, with a specific focus on the European Investment Bank's (EIB) activities in the Western Balkans. I will provide a brief overview of the EIB, discussing its operational role within candidate countries and illustrate this with an example of a current project financed by the bank.

3.1. Background of the European Investment Bank

The European Investment Bank (EIB) is the lending arm of the European Union. The task of the EIB is to contribute to the balanced and steady development of the internal market in the interest of the Union (according to Article 309 TFEU). The EIB, in all sectors of the economy, facilitates the funding of projects that: seek to develop less-developed regions; seek to modernise or convert undertakings, or develop new activities which cannot be completely financed by means available in individual Member States; and are of common interest to several Member States. It also contributes to the promotion of economic, social and territorial cohesion in the Union (Article 175 TFEU and Protocol No 28). In addition, it supports the implementation of measures outside the EU that support the development cooperation policy of the Union (Article 209 TFEU). EIB activities focus on six priority areas: climate and environment; development; innovation and skills; small businesses; infrastructure; and cohesion (Fact sheet of European Parliament, 2024).

From financing aspect, the EIB mainly has its own resources and the international capital markets. The own resources are provided by the members of the EIB. The contribution to the capital by each individual Member State is laid down in Article 4 of the EIB's Statute and is calculated in accordance with Member States' economic weight. Member States can increase their capital subscriptions on a voluntary basis. The EIB's total subscribed capital amounts to EUR 248.8 billion. Other side of financing is coming from international capital markets, mainly through the issuing of bonds, becoming one of the largest lenders globally. The major credit rating agencies, S&P Global Ratings (S&P), Moody's, and Fitch Group, currently attribute the highest rating to the EIB - AAA/Stable. It reflects the quality of its loan portfolio. The EIB generally finances one third of each project, but supportive financing can reach 50% (Fact sheet of European Parliament, 2024).

The EIB's financial instruments are diverse, predominantly consisting of loans and guarantees. Over time, the EIB has also introduced more innovative and higher-risk financial instruments, designed in collaboration with other EU institutions. These efforts enhance the EIB's ability to support a wide range of projects. One of the key strategies employed by the EIB is the blending of its loans with additional financing from various EU sources, including the EU budget. This blending process combines EIB funds with grants, enhancing the financial viability and impact of projects. Additionally, the EIB provides advisory services alongside its financing activities. Its lending is mostly executed through direct or intermediary loans. Direct loans are designated for larger projects with total investment costs exceeding EUR 25 million, covering up to 50% of the project costs. Meanwhile, intermediary loans involve funds provided to local banks or financial entities, which then support smaller or medium-sized projects indirectly. While the majority of the EIB's lending activities are concentrated within the EU, the bank also employs blending facilities to combine its loans with grants from public bodies or philanthropic organizations, extending its impact beyond traditional lending. This multifaceted approach not only enhances the scope of EIB's financial engagements but also supports broader economic development across the EU (Fact sheet of European Parliament, 2024).

Lastly, the EIB is governed by three main bodies: the Board of Governors, the Board of Directors, and the Management Committee, each playing distinct roles in the bank's operations. The Board of Governors is the EIB's highest decision-making body, consisting of ministers designated by each of the Member States. This board sets the broad directives for the bank's credit policies and ensures their proper execution. Among its key responsibilities are deciding on increases in the bank's capital, setting principles for financing operations, and approving major financial decisions, including those related to investments outside the EU. It also approves the EIB's annual report, balance sheet, and profit and loss accounts. The Board of Directors, comprising 28 directors and 31 alternate directors nominated by Member States and the European Commission, serves a five-year term. This board is pivotal in making decisions regarding the granting of finance, particularly loans and guarantees. It also handles the raising of loans, setting interest rates on loans, and other related charges. The directors ensure that the EIB operates according to EU treaties, its statutes, and the directives from the Board of Governors, maintaining oversight to ensure the bank is run properly. The Management Committee includes a President and eight Vice-Presidents, who are appointed by the Board of Governors based on recommendations from the Board of Directors for a renewable six-year term. This committee is responsible for the EIB's daily operations, preparing decisions for the Board of Directors and implementing these decisions under the president's leadership and the board's supervision. An essential component of the EIB's governance is the Audit Committee, which comprises six members appointed by the Board of Governors. This committee plays a crucial role in ensuring that the bank's operations are conducted properly and that its accounts are accurately maintained, conducting annual checks to uphold financial integrity (Fact sheet of European Parliament, 2024).

Furthermore, the EIB Group was established in 2000 and consists of the EIB and the European Investment Fund (EIF), which was founded in 1994 and set up as a public-private partnership with three main shareholder groups: the EIB, as majority shareholder with 62.2%, the Commission (30%), and several public and private financial institutions (7.8%). The EIF provides various forms of risk capital instruments, e.g. venture capital. The lending focus of the EIF is small and medium-sized enterprises (SMEs), and it uses a wide range of innovative instruments with the aim of improving access to finance for SMEs. Lastly, in continuation with the rest of my work where I discuss activities in candidate countries, it's important to mention EIB Global. This division of the EIB focuses on operations outside of the EU, which includes significant work in candidate countries.

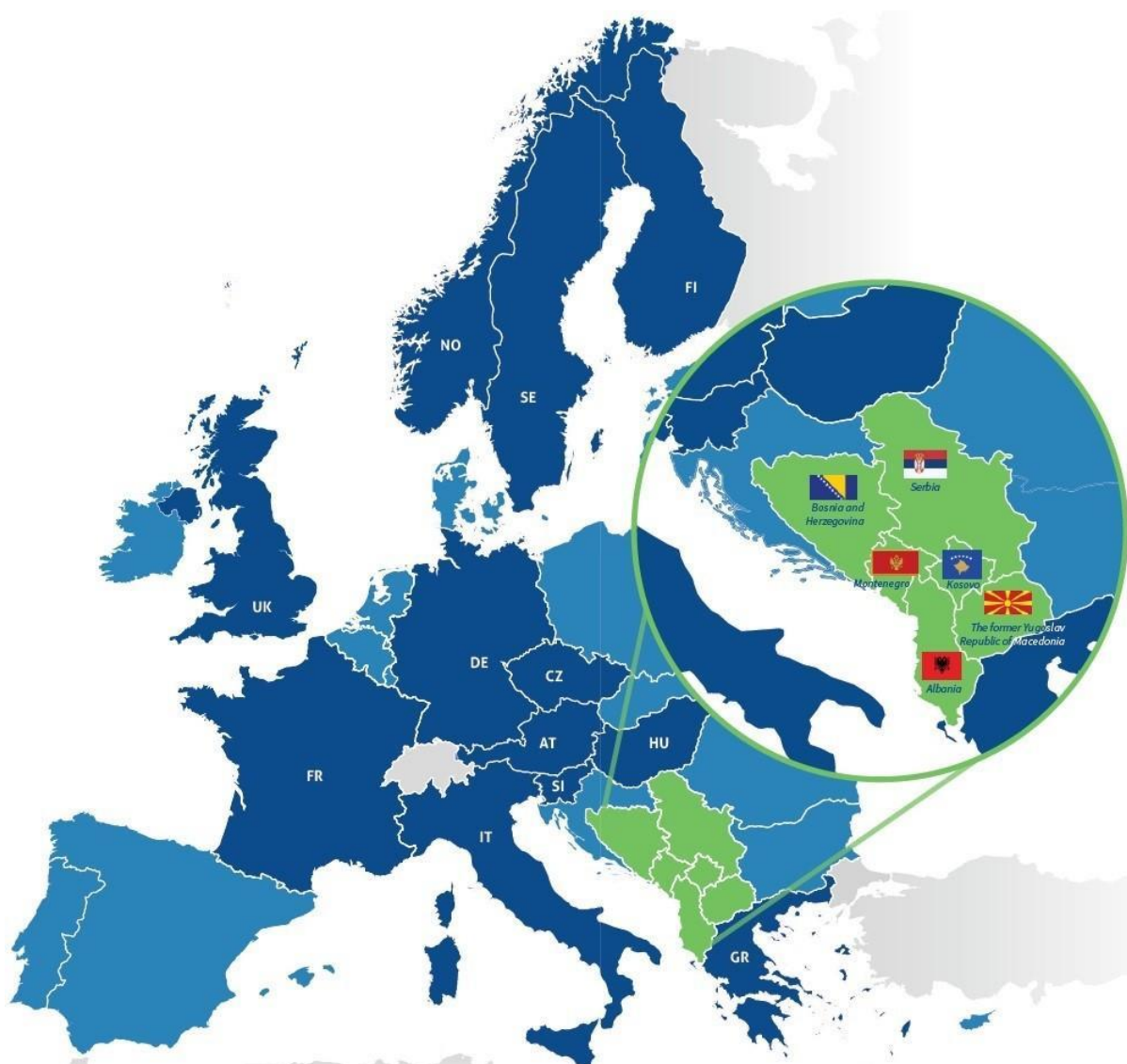
3.2. The EIB in the Western Balkans

The European Investment Bank (EIB) has been a major player in the Western Balkans since 1977. The EIB became especially active after the difficult 1990s, focusing on helping the region get closer to

Europe. In the late 1990s, their main job was to fix critical infrastructure that was damaged during conflicts, like bridges, railways, ports, airports, and roads.

Throughout the years, the EIB has worked with national and local governments, businesses, the European Commission, and other funding partners. Their goal has been to boost the local economy and update infrastructure to help the region stand on its own. In the last fifteen years, the EIB has started putting money into important areas like healthcare and education. They've also addressed bigger issues like the global migration crisis. These efforts aim to improve people's lives and prepare a well-trained workforce, including developers, scientists, economists, engineers, lawyers, and teachers. To help with economic recovery and the global financial crisis, the EIB increased its support for small businesses and local governments. They did this through offering loans and guarantees with local banks. Small businesses are crucial for the economy and helping them get long-term loans is key for their success. Facing these big challenges, the EIB started the Economic Resilience Initiative (ERI). This program helps neighbouring EU countries strengthen their economies and deal with the migration crisis. It supports small business growth and improves infrastructure with the help of grants from donors (European Investment Bank, 2019).

My thesis highlights the EIB's dedication to improving living standards and economic conditions in Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia, and Serbia (WB6- Figure 3-1). The EIB is committed to ensuring that the future of the Western Balkans is linked with the future of Europe.



Source: European Commission

FIGURE 3-1: FOCUS ON THE WESTERN BALKANS: REGIONAL CONTEXT WITHIN EUROPE

Candidate counties:	Potential candidate countries:
Albania	Kosovo
Montenegro	
North Macedonia	
Serbia	
Bosnia and Herzegovina	

Total GDP in 2023 of WB6:
€154.5 billion

Population of the WB6:
around 17.5 million

Surface Area of the WB6:
218,750 km²

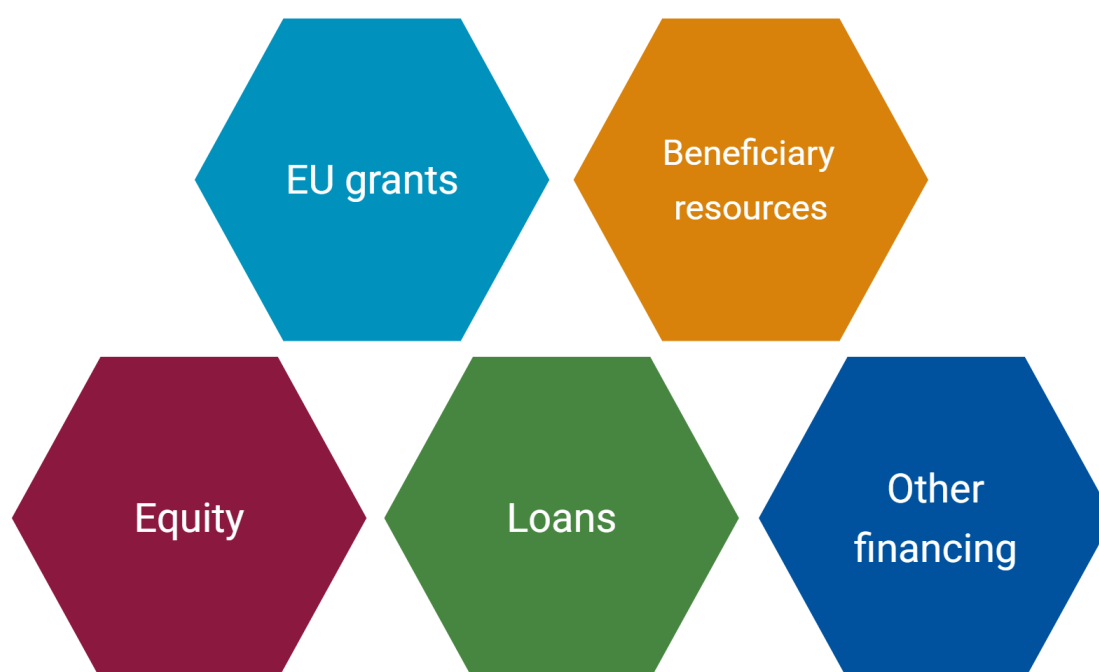
3.2.1. Funding of EIB's activities in the Western Balkans

Given the region's delicate context outside the EU and its complex history, it's understandable that the EIB must adapt its lending practices differently compared to those within the EU. The EIB primarily sources its funds from capital markets and contributions from EU member states. However, in the Western Balkans, a more suitable approach often employed is "blending." This technique involves the EIB collaborating with partners like the European Commission to merge its financing with investments from other sources. This strategy is particularly effective in the Western Balkans, allowing the EIB to extend its reach and impact by combining its resources with other financial contributions to support large-scale projects that can significantly propel the region toward EU standards and practices. This method not only maximizes the financial resources available but also aligns with the strategic goals of enhancing the region's economic infrastructure and business environment, which are essential steps towards EU accession.

3.2.1.1. Blended Finance

In recent years, 'blending' has become a common development finance term (Javier Pereira, 2017). The practice combines official development assistance with other private or public resources, in order to leverage additional funds from other actors. Blended finance is the mixing of both public and private funds through a common investment scheme or deal, with each party using their expertise in a complementary way.

In the contexts of EIB financing, Blending involves the strategic use of a limited amount of grant resources to catalyse additional financing for development projects. Grants are often combined with loans, equity, beneficiary resources or other forms of financing, with the aim of de-risking projects and making them bankable (visually shown on Figure 3-2). Blending allows partners to get the most out of their grant resources and enhance their overall development impact.



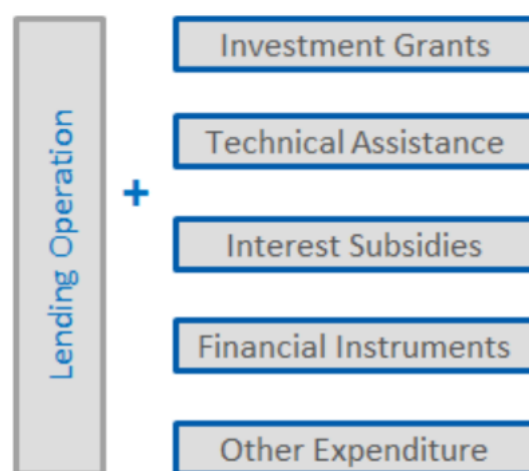
Source: European Investment Bank

FIGURE 3-2: COMPONENTS OF PROJECT FUNDING: BLENDED FINANCE SOURCES

The European Investment Bank (EIB) uses this approach, (European Investment Bank, 2025), to enhance the impact of its projects, particularly in regions facing unique economic challenges like the Western Balkans. This method involves combining the EIB's loans with non-repayable grants and other financial instruments under what is known as the "EU contribution." This funding, secured through agreements with the European Commission, is a critical component of the EU Blending Facilities framework, which aligns with the EU's external cooperation policies across a range of strategic areas and regions. The Neighbourhood, Development, and International Cooperation Instrument – Global Europe (NDICI – Global Europe) is a key element of this framework. It provides the EIB with access to EU blending resources, essential for supporting countries that are addressing long-term development challenges and aligning with the EU's global commitments and objectives. Additionally, the EIB plays a significant role in the Western Balkans Investment Framework (WBIF), a collective initiative that includes the EU, financial institutions, bilateral donors, and local stakeholders.

Blending operations typically involve the EIB providing long-term financing, such as low-interest loans, which are combined with EU grant financing. This structure helps to attract additional investments from both public and private financiers. The Figure 3-3 below breaks down various elements involved. The grants can significantly reduce the total funding needs of a project by providing investment grants, interest rate subsidies, technical assistance, or financial instruments like risk capital and guarantees. These supports decrease the financial risks and enhance the viability of projects, making them more attractive to investors who may be cautious about entering markets perceived as risky.

Blending operation



Source: European Investment Bank

FIGURE 3-3: COMPONENTS OF BLENDING OPERATION

3.2.1.2. Mandates

Mandates are authorized frameworks or instructions that define the scope, objectives, and types of projects the bank can finance. Mandates are often aligned with broader EU policies and goals, guiding the EIB in targeting its investments to support specific initiatives or regions. Each mandate allows the EIB to provide loans, guarantees, and other forms of financial support, often in partnership with other institutions, to promote economic development and integration. Some of key mandates under which the EIB operates to finance projects in the Western Balkans are Pre-Accession Assistance (IPA), Western

Balkans Investment Framework (WBIF), Economic Resilience Initiative (ERI) (Mandates and partnerships, EIB, 2024).

First from those is the Instrument for Pre-accession Assistance (IPA). It is the mechanism through which the EU has been providing financial and technical support to encourage reforms in the enlargement countries since 2007. The IPA is designed to help these countries, which include the Western Balkans and Turkey, build their administrative and institutional capacities as they prepare for EU accession. This support aims to foster steady and progressive improvements across the region. Initially, from 2007 to 2013, the IPA had a budget of €11.5 billion. Its successor, IPA II, was allocated €12.8 billion for the period 2014 to 2020 to continue this support. The current program, IPA III, covers the period from 2021 to 2027 and has been provided a budget of €14.162 billion (Directorate-General for Enlargement and Eastern Neighbourhood, European Commission, 2025).

One of the main funds for this region is the Western Balkans Investment Framework (WBIF), established on May 14, 2008, by the Economic and Financial Affairs Council. The WBIF aims to foster harmonization and cooperation in socio-economic investments across the Western Balkans. This framework supports a variety of development projects through a strategic blend of grants and loans provided by multiple donors, including the EU, various financial institutions, and bilateral donors. The WBIF operates by creating a pipeline of priority projects that significantly impact socio-economic development in the region. These projects are primarily funded through the European Western Balkans Joint Fund (EWBJF), which is a collaborative effort co-managed by the European Investment Bank (EIB) and the European Bank for Reconstruction and Development (EBRD). The funding for these projects includes substantial contributions from the EU budget, which increased its allocation from €70 million annually during 2010-2013 to €150 million annually in the period from 2014 to 2020. Projects supported by the WBIF cover critical areas such as infrastructure development-including transport and energy sectors which are vital for enhancing connectivity-as well as environmental and social projects. The process of grant application and approval within the WBIF involves a consensus among all stakeholders, ensuring that the projects align with the strategic goals of the region and the EU's pre-accession policies. This cooperative approach exemplifies advanced integration of governance and management systems among the donors and recipients, facilitating efficient and effective implementation of development projects (Directorate-General for Enlargement and Eastern Neighbourhood, European Commission, 2025). Moreover, the EIB, a major investor in the Western Balkans, (European Investment Bank, 2025), engages with the WBIF to provide both financial backing and expertise. Since its inception, the EIB has injected €10 million into the WBIF, aligning its contributions with those from other significant international financial institutions such as the EBRD and Council of Europe Development Bank (CEB). This collective effort has positioned the WBIF as a crucial platform for collaboration. The EIB's involvement in the WBIF is multifaceted, providing not just financial support but also technical assistance and strategic oversight.

Lastly, the Economic Resilience Initiative (ERI) was launched by the European Investment Bank (EIB) in 2016. This initiative was established to tackle the diverse challenges in the Southern Neighbourhood and the Western Balkans, responding to calls from European leaders to enhance resilience against economic, environmental, and geopolitical shocks. Its main aim is to promote economic stability and sustainable growth across these regions. The ERI focuses on increasing EIB's investment in essential areas already mention, but with special attention on small and medium-sized enterprises (SMEs). The initiative is funded through a combination of EIB's resources, contributions from EU member states, and the EU budget. These funds are used to provide loans with favourable terms, risk-bearing instruments, and grants for project preparation and implementation. The ERI enhances existing financial tools by offering better terms and increasing funding volumes, which include resilience loans that offer flexible terms for projects improving social and economic infrastructure. Resilience grants support project readiness and execution, particularly in enhancing regions' capacities to withstand crises. Additionally, private sector development programs include equity and guarantee instruments that

stimulate investment in SMEs, driving job creation and economic diversification. Operational Framework and Impact Projects under the ERI are selected for their potential to swiftly and significantly enhance socio-economic stability and resilience. The initiative operates through a partnership approach, engaging closely with local governments, international financial institutions, and private investors to maximize the impact of each project. The ERI's governance structure features a strategic steering committee comprising representatives from the EIB, the European Commission, and EU member states. This committee sets the strategic direction and ensures the initiative aligns with broader objectives. A robust monitoring and evaluation framework is also in place to assess the effectiveness and impact of the investments, guiding future funding decisions and strategic adjustments (European Investment Bank, 2025).

Those are just a few proofs that the European Investment Bank (EIB) continuously works on securing funding and exploring new financing sources to support crucial projects in the Western Balkans. The EIB focuses on implementing these resources effectively across vital infrastructure and private sector developments, specifically through initiatives like the Western Balkans Investment Framework and the Economic Resilience Initiative.

3.2.2. Case Study: Montenegro Railways Rehabilitation Projects

Incorporating the Montenegro Railways Rehabilitation Project into my thesis provides a compelling case study of how international financial support and regional development initiatives can significantly impact infrastructure modernization and economic growth in the Western Balkans. This project, revitalizing one of Europe's most scenic railways from Bar to Vrbnica, highlights the collaborative efforts between the European Investment Bank (EIB), the European Union, and the Western Balkans Investment Framework (WBIF). Originally constructed as a major achievement within the former Yugoslav federation, the railway had deteriorated significantly by the 1990s due to underfunding. The rehabilitation initiative, kickstarted with a €20 million loan from the EIB in 2017, aims to restore the railway's former glory. This investment is supplemented by the first investment grant from EU funds specifically allocated to Montenegro through the WBIF, marking a historic financing arrangement in the region. The project not only aims to repair and modernize approximately 40km of the railway track but also to enhance connectivity with neighbouring countries like Serbia and Romania, boosting trade and tourism. Expected to create about 1,000 jobs during the construction phase, the initiative is pivotal for local employment growth. Additionally, the rehabilitation of critical infrastructure like the Sozina Tunnel and addressing the Ratac landslide area are key components that will ensure safety and reliability for years to come (European Investment Bank, 2025).

This project serves as an exemplary case of blended finance, a method through which the European Investment Bank (EIB) funds extensive, high-cost projects that might otherwise be challenging to finance. Such projects have a significant impact, and the financing approach ensures that these vital initiatives are feasible. This railway rehabilitation project extends nearly a decade and includes loans structured for long-term repayment over 20 years. The loans are released in phases, contingent upon the achievement of specified milestones within the project. To ensure adherence to these conditions, the EIB has dedicated teams that monitor project progress and manage the disbursement of funds. A quick financial overview shows that the total estimated cost for the railway rehabilitation is €218,431,692. This cost is broken down into building and construction at €192,383,726, primarily financed through a mix of grants and loans. Technical assistance and support amount to €6,809,593, entirely covered by grants from the Western Balkans Investment Framework (WBIF). Additionally, contingencies are set at €19,238,373, supported by both grants and loans. The financial structure for these investments is organized across multiple agreements, utilizing funds from the EIB, the European Bank for Reconstruction and Development (EBRD), and the WBIF. This structured approach to finance helps manage risks and ensures the financial and operational stability of the project. As of May 2024, three significant contracts were signed- one for a €40,000,000 loan, another for a €19,705,000 investment

grant from the WBIF, and a third for €15,765,826 in investment grants also provided by the WBIF. This blend of financial support underscores the complex, yet robust framework established to facilitate large-scale infrastructure improvements in the region. The Table 3-1 below provides a detailed overview of the key components of the Montenegro Railway Rehabilitation Projects, outlining the specific segments being developed, their funding sources, and the respective financial contributions.

Project Component	Description	Funding Source	Amount (€)
Montenegro Railways Rehabilitation	Rehabilitation of 40km track between Bar and Golubovci	EIB Loan	52,905,525
Orient/East-Med Corridor: Rail Route 4	Reconstruction including Sozina Tunnel	EU Grant	112,620,642
Technical Assistance for Sozina Tunnel	Design and studies for Sozina Tunnel	WBIF Grant	850,000
Technical Assistance for Bar-Golubovci	Modernisation studies for Bar-Golubovci segment	WBIF Grant	3,300,000

TABLE 3-1: FUNDING OVERVIEW FOR MONTENEGRO RAILWAY REHABILITATION PROJECT

As the EIB is committed to being a climate-conscious bank, addressing environmental concerns is crucial, especially for large infrastructure projects like the Montenegro Railway Rehabilitation. This project encounters several challenges, particularly in environmental, regulatory, and technical domains. A critical segment of the railway near Lake Skadar, known for its ecological significance, requires clearance from the Environmental Protection Agency (EPA). The project must navigate the complexities of advancing infrastructure needs while ensuring environmental conservation. To expedite EPA approval, the project team is providing detailed technical descriptions and engaging in ongoing discussions with environmental authorities to ensure all concerns are thoroughly addressed. Furthermore, there are pending technical reviews for critical systems such as signalling, telecommunications, and power supply, which need to be completed swiftly to keep the project on schedule. To address this, additional resources are being allocated to speed up the technical assessments, ensuring that all designs and plans receive timely approvals and align with the overall project timeline. Concerning architectural approvals, the designs for station buildings also face scrutiny. They require not only the approval of local city architects but must also comply with legal standards concerning parcel division. To mitigate potential delays, there is continuous coordination with municipal architects, and legal checks on land use and property divisions are being conducted meticulously to adhere to all local regulations. Each of these challenges is being methodically addressed to ensure that the Montenegro Railway Rehabilitation project progresses without compromising on legal, technical, or environmental standards. This meticulous approach underlines the EIB's commitment to sustainable development practices, even in complex infrastructure projects.

Finally, I would outline set of strategic recommendations and next steps to ensure the success of the Montenegro Railway Rehabilitation Project. First, it's crucial to speed up the environmental clearance process, especially getting EPA consent for the sensitive area around Lake Skadar, to prevent any delays. Improving communication between all project stakeholders, local and national authorities, regulators, and architects, is essential for smooth execution. Financial coordination must be optimized by aligning all parties, including the EBRD and WBIF, on the financial aspects of the project to minimize risks and discrepancies. Additionally, hosting public hearings will enhance transparency and

community trust, especially in environmentally sensitive areas. These steps are designed to streamline project management, ensuring it meets its goals efficiently while maintaining environmental and community standards.

4. Data, Methodology and Results

In this Chapter 4, I am computing a detailed examination of European Investment Bank (EIB) loans, with a focus on their distribution across various regions and their impact on the economic landscapes of these areas. The chapter is structured into three primary sections: an analysis of EIB loans across different regions, an examination of the current and historical economic conditions in the Western Balkans compared to EU countries, and a panel regression analysis, trying to measure impact of EIB loans on unemployment level for the same region.

Data for key economic indicators, such as unemployment rate, GDP growth percentage, foreign direct investment (FDI), gross capital formation (% of GDP) and export growth, were sourced from the World Bank's World Development Indicators database, covering the period from 2008 to 2023. This timeframe was selected for several reasons. Firstly, it follows the independence of Montenegro in 2006, allowing an examination of the post-independence economic landscape. Secondly, although some contracts with the European Investment Bank (EIB) were approved as early as 2006, the actual signing and implementation of these financial agreements commenced in 2008, marking it as the starting point for analysis. This allows me to focus the analysis on Montenegro as an independent country, clearly differentiating from the previous period in the federate state union with Serbia.

Furthermore, data on EIB loans were extracted from the EIB's databases, where data is publicly available and detailed for each financed project, though not systematically reported on an annual basis. Consequently, the data required aggregation and cleaning to align with the annual format of the other economic indicators that I used in this study. I have accumulated loan amounts based on the year and the specific countries involved. Generally, the reported figures represent the total amount committed, inclusive of any approved grants. For the detailed analysis specifically concerning Montenegro, a distinction was made between the amounts allocated as loans and those provided as grants. This differentiation provides a deeper insight into the nature of EIB financing and its implementation in Montenegro, allowing for better understanding of its economic impact.

Below in the Figure 4-1, I present a concise overview of how loans have been allocated across various countries and over different years. This illustration helps clarify the non-linear trends in loan distribution, which can be expected given the complex factors influencing these decisions. Consequently, selecting an appropriate methodology emerges as a substantial challenge.

In the first part of empirical research, I did a comparative analysis of loan distribution across both regional and sectoral lines, discussed in Chapter 4.1. I also examined the economic conditions within the region, as these significantly shape the demand for financial resources, detailed in Chapter 4.2. Building on this foundation, Chapter 0 will introduce a fixed panel regression model designed to assess the impact of EIB loans on unemployment levels.

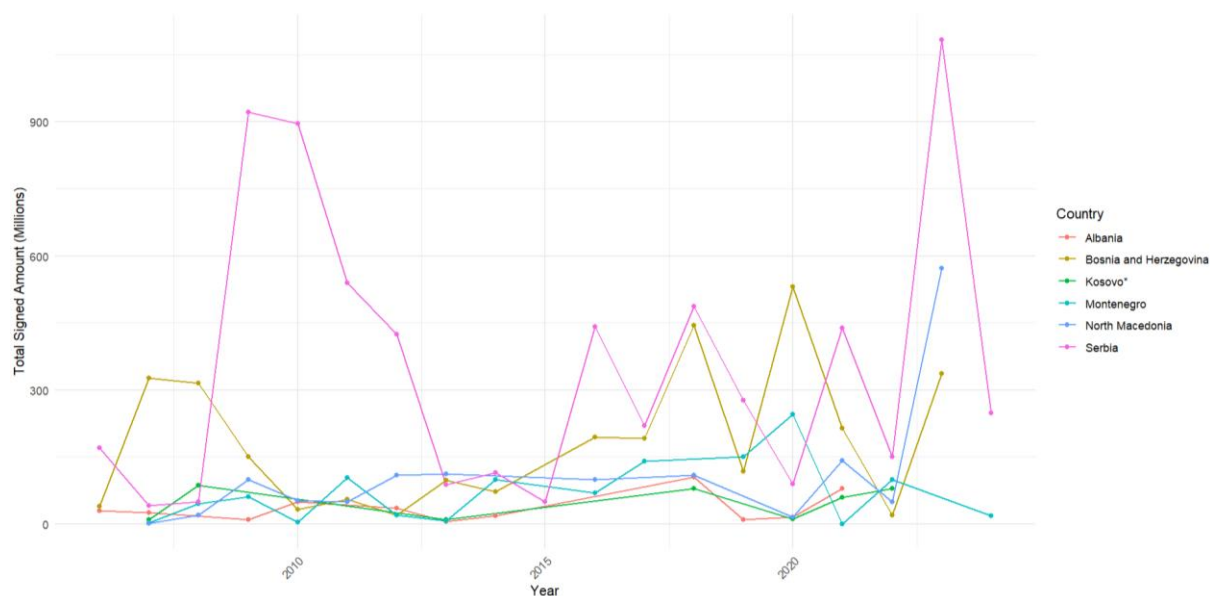


FIGURE 4-1: TOTAL SIGNED AMOUNT BY COUNTRY AND YEAR

4.1. Comparative Analysis of EIB Loans Across Regions

The European Investment Bank (EIB), though primarily the European Union’s multilateral development bank, has extended its financial support well beyond the EU’s borders, including geographically distant regions. In 2022, EIB loans were notably distributed across various regions, which are categorized as the Western Balkans, Eastern Neighbourhood, Southern Neighbourhood, Sub-Saharan Africa, Latin America & Caribbean, Turkiye, and Asia & Pacific. This strategic distribution highlights the EIB’s role in fostering development across diverse economic landscapes.

The Western Balkans, a region comprising Montenegro, Bosnia & Herzegovina, Serbia, North Macedonia, Albania, and Kosovo, has received focused attention from the EIB. Most countries in this region, except Kosovo, are in the process of EU accession negotiations, with Kosovo recognized as a potential candidate. Montenegro, despite its smaller economic scale, has emerged as a frontrunner in this integration process, largely due to its tourism sector.

To begin our analysis, it’s essential to set the scene with a look at the circumstances in 2022, which yielded some interesting results. That year, the EIB’s investment in the Western Balkans reached €1.01 billion. Of this, 63% was allocated under various mandates, while 14% was financed at the EIB’s own risk, as detailed in Table 4-1. The impact of this financial commitment is significant, accounting for 0.80% of the region’s GDP. This demonstrates the EIB’s substantial influence on the economic scale of the Western Balkans. Further highlighting this strategic focus, Figure 4-2 illustrates that the region received a higher percentage of GDP financing compared to others, emphasizing the EU’s commitment to stabilizing and integrating this economically and politically significant area, particularly considering its EU accession prospects.

Region	Annual Signatures as % of 2022 GDP	Annual Signatures (EURm)	ORFs %	Mandates %	Third party funds %
Western Balkans	0.80%	1010	14%	63%	23%
Eastern Neighbourhood	0.50%	1355	8%	89%	3%
Southern Neighbourhood	0.17%	2058	66%	30%	4%
Sub-Saharan Africa	0.16%	2720	54%	32%	14%
Latin America & Caribbean	0.03%	1318	80%	18%	1%
Türkiye	0.03%	215	7%	93%	0%
Asia & Pacific excl. China**	0.01%	1101	72%	28%	0%

TABLE 4-1: EIB GLOBAL ANNUAL LENDING IN 2022- 2023

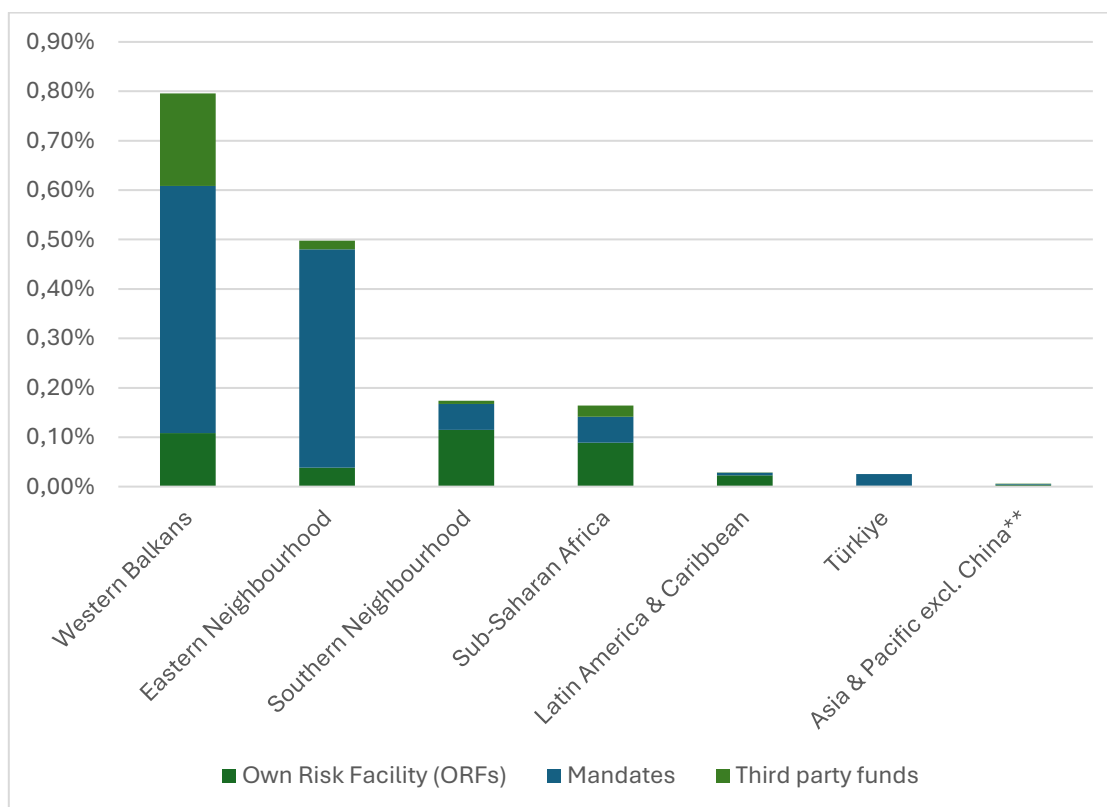


FIGURE 4-2: EIB GLOBAL ANNUAL LENDING IN 2022- 2023 AS % OF 2022 GDP

Additionally, Figure 4-3 presents a compelling visualization of the extent to which Montenegro and other countries rely on the European Investment Bank (EIB). It reveals that the combined total of signed but not yet reimbursed loans, along with those scheduled for disbursement in the coming years, constitutes 10.81% of Montenegro's GDP for 2022. This is the highest percentage among all the countries examined, highlighting Montenegro's significant reliance on external financing. Showing also the interest of EU to contribute to the fast development of Montenegro and underscoring necessity for these loans to be offered under favourable financing conditions.

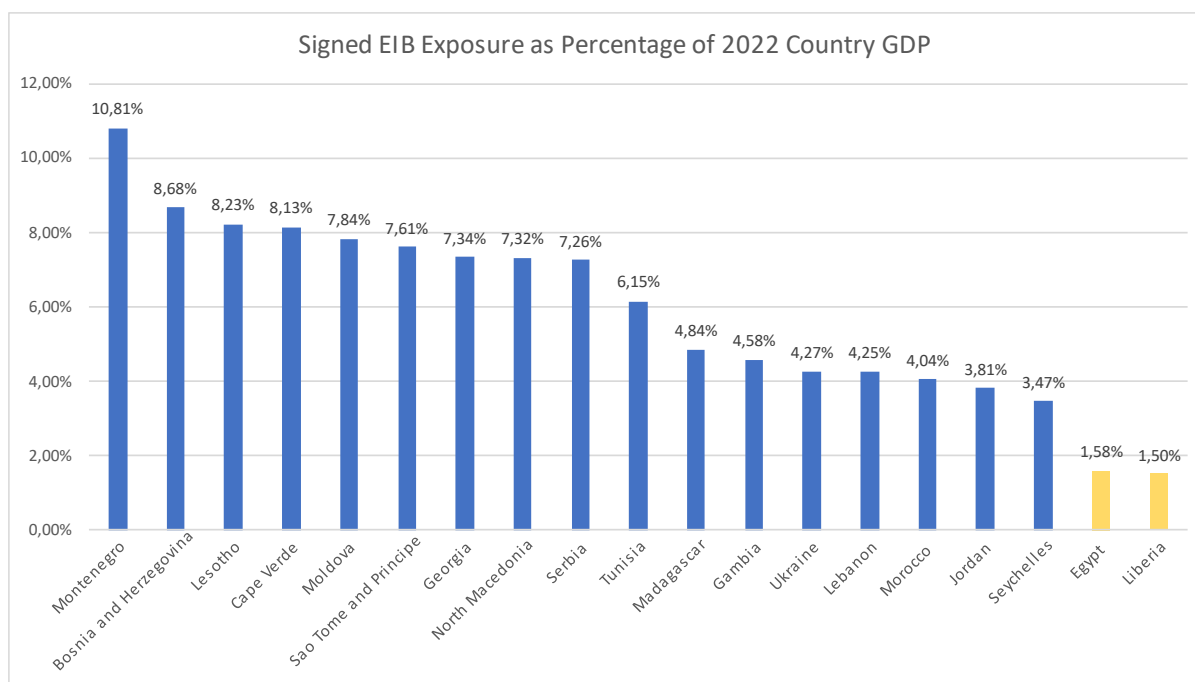


FIGURE 4-3: SIGNED EIB EXPOSURE IN 2022 AS A % OF EACH COUNTRY'S GDP IN 2022

As we extend our analysis to cover the period from 2008 to 2023, it becomes insightful to begin by examining the raw figures of signed loans per country. This data provides a clear snapshot of the bank's activities within the region. Accordingly, Figure 4-4 illustrates the total loan amounts signed by each country in the Western Balkans, highlighting the distribution of EIB loans across these nations. For instance, while Montenegro has secured approximately 1 billion euros in total, Serbia has received substantially more, with over 6 billion euros in loans, as detailed in Table 4-2. This initial data sets the stage for a deeper exploration of the trends and impacts of EIB financing over this extended timeframe.

Country	Total Signed Amount (Million EUR)
Albania	384.5
Bosnia and Herzegovina	3,159.3
Kosovo	337.8
Montenegro	1,068.0
North Macedonia	1,434.3
Serbia	6,732.4

TABLE 4-2: TOTAL LOAN AMOUNTS BY COUNTRY

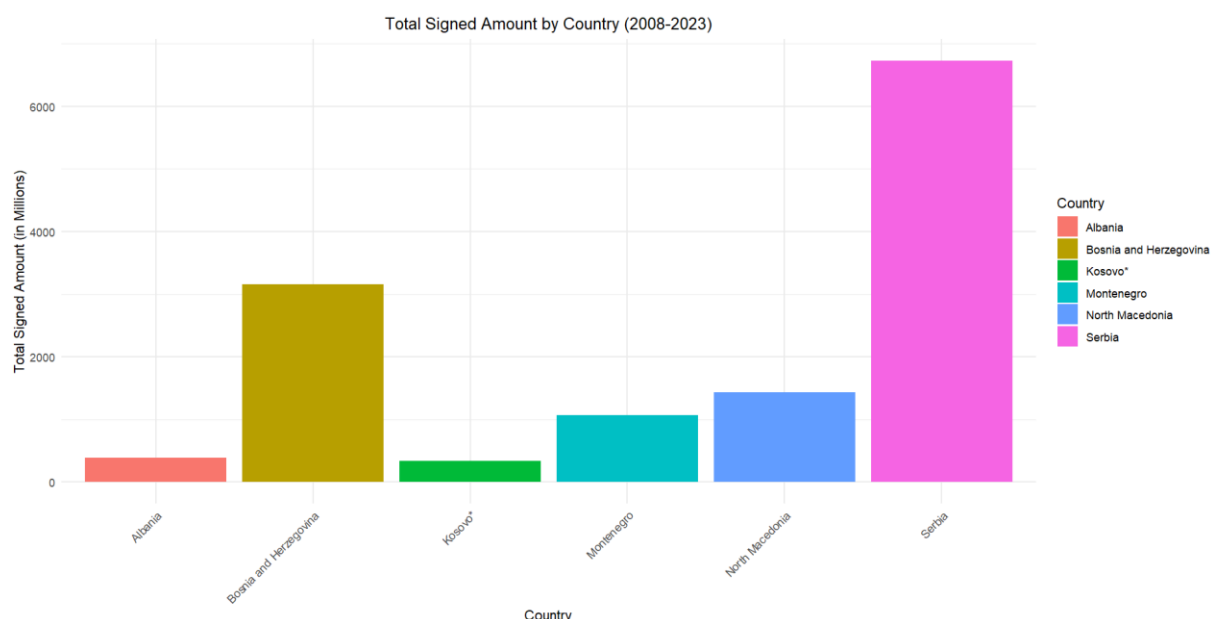


FIGURE 4-4: TOTAL SIGNED AMOUNT BY COUNTRY

However, when we adjust for the size of each economy, as detailed in Table 4-3 which lists the GDP of each country, a better picture emerges. For instance, Montenegro's GDP is approximately \$7.5 billion, whereas Serbia's GDP is significantly larger at \$81,343 million in 2023. When considering this disparity, we conclude that Montenegro has received a higher amount of funding in proportion to its GDP.

Country	ISO2C	ISO3C	Year	GDP (Million USD)
Albania	AL	ALB	2023	23,547
Bosnia and Herzegovina	BA	BIH	2023	27,515
Kosovo	XK	XXX	2023	10,468
Montenegro	ME	MNE	2023	7,531
North Macedonia	MK	MKD	2023	15,764
Serbia	RS	SRB	2023	81,343

TABLE 4-3: GDP OF WESTERN BALKAN COUNTRIES IN 2023 (IN MILLIONS USD)

Figure 4-5 then goes on to depict the loans issued by the EIB as a percentage of each country's GDP for the year 2023. This representation not only contextualizes the economic impact of the EIB's investments but also shows how the loans are significant relative to the economies of the recipient countries. Through this lens, the visualization offers insights into how the bank's allocations reflect an understanding of each country's financial needs and their roles within broader regional dynamics.

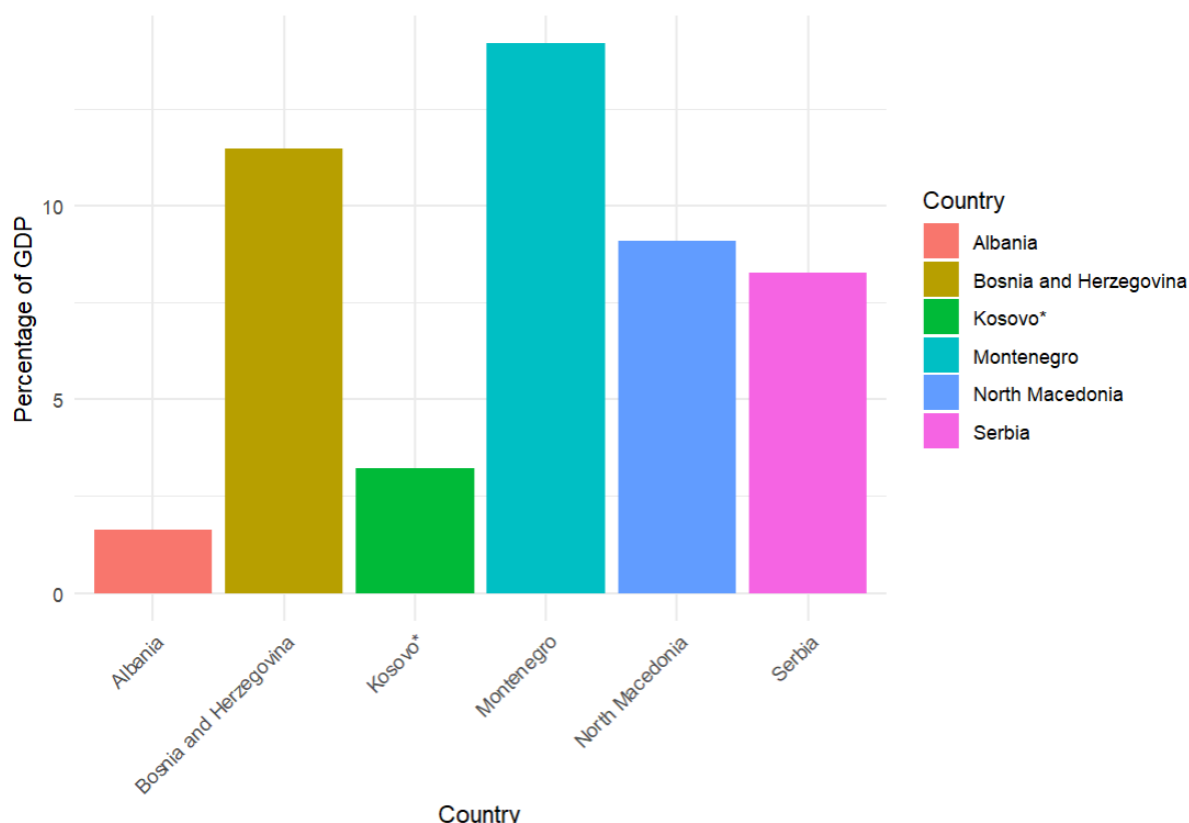


FIGURE 4-5: LOANS AS A % OF GDP BY COUNTRY IN 2023

4.1.1. EIB lending activity in Montenegro

Having explored the dynamics of lending in the Western Balkans, I find it particularly crucial to go deeper into how Montenegro stands out in this context. The European Investment Bank (EIB) has played a big role in shaping Montenegro's economic landscape through financing a range of development projects. This section aims to examine the mechanisms of this financial support and assess their impact on the country's development trajectory.

Figure 4-6 illustrates the EIB's investments in Montenegro as a percentage of the country's GDP from 2008 to 2023. This graph highlights the variability in EIB's financial engagement, which closely mirrors the nation's shifting economic priorities and needs. Further, Figure 4-7 presents the annual fluctuations in the amounts of loans signed between Montenegro and the EIB from 2008 to 2024. Notably, the years 2017, 2018, and 2020 saw the highest amounts of loans granted, coinciding with the signing of some of the most impactful contracts. These include the rehabilitation of railway infrastructure along the main North-South trunk line crossing Montenegro, part of the extended core TEN-T, Orient/East Med Corridor, and loans for financing small and medium-sized projects carried out primarily by SMEs and other final beneficiaries, including local authorities. Additionally, two significant loans in 2018, each amounting to €40 million, were allocated for the rehabilitation and improvement of about 180 km of main roads in Montenegro.

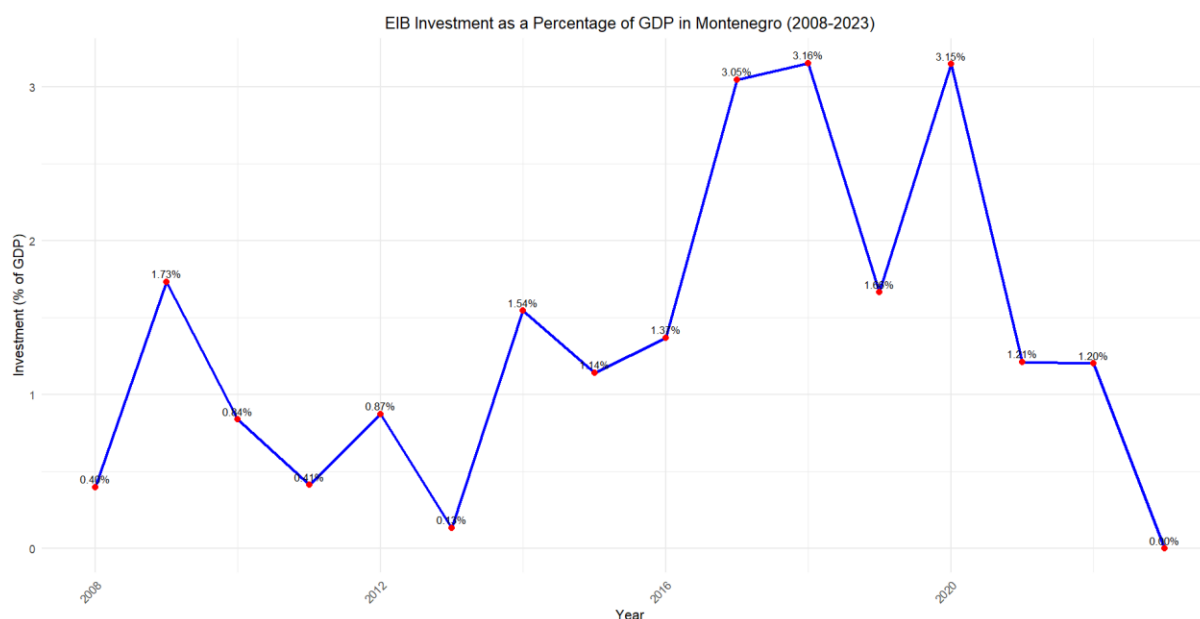


FIGURE 4-6: EIB INVESTMENTS AS % OF GDP OF MONTENEGRO (2008-2023)

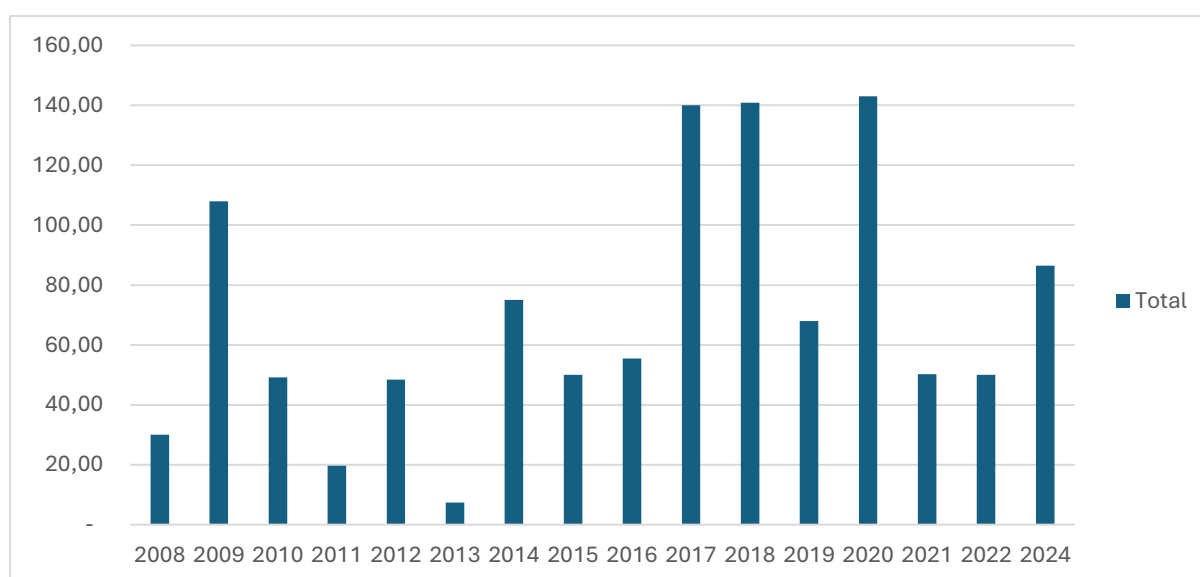


FIGURE 4-7: TOTAL AMOUNT OF LOANS SINGED BETWEEN MONTENEGRO AND EIB (2008-2024)

Unlike commercial banks, the EIB, as a nonprofit entity, is committed to financing projects for the greater good, even when these projects may not be financially appealing. In such cases, there also needs to be security for these types of loans. Based on the region, country, and type of projects, risk is assessed typically higher in developing regions like the Western Balkans. Therefore, the EIB is trusted with funds approved by the Commission. In cases of potential loan default, around 60% of the risk is covered by the European Commission. Even though the EIB is not alone in taking on the risk, it is still responsible for estimating the nature of the projects and their overall profitability. As shown in Figure 4-8, approximately 89.11% of the funding was allocated under mandates, suggesting a strategic alignment with specific mandates related to EU initiatives under climate policies or regional development programs. The Own Risk Facility is also substantial, indicating that the EIB is willing to engage directly in risk-sharing arrangements to promote development.

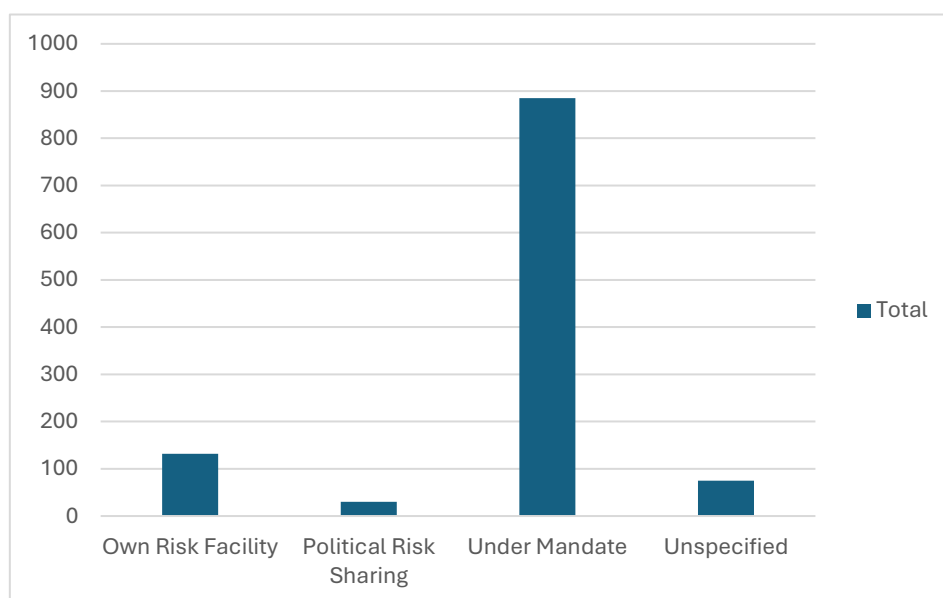


FIGURE 4-8: EIB LENDING ACTIVITY PORTFOLIO ALLOCATION IN MONTENEGRO

4.1.1.1. Sector level distribution

As we explore the sector-level distribution of the European Investment Bank's (EIB) financing, it's clear that the bank's strategy encompasses more than just developmental finance; it crucially aims to strengthen key economic sectors within Montenegro. This targeted approach is essential for understanding how the EIB's financial interventions align with broader economic development objectives.

Figure 4-9 and Figure 4-10 highlight the spread of the EIB's investments across various sectors, ranging from infrastructure to financial services. The significant allocations to credit lines and infrastructure emphasize the EIB's role in bolstering Montenegro's economic base, especially in sectors that drive private-sector growth and enhance public services.

Credit Lines and Financial Support: Dominating the sector distribution with a 63% share, investments in credit lines are critical in fostering the growth of financial institutions and SMEs, thereby enhancing liquidity.

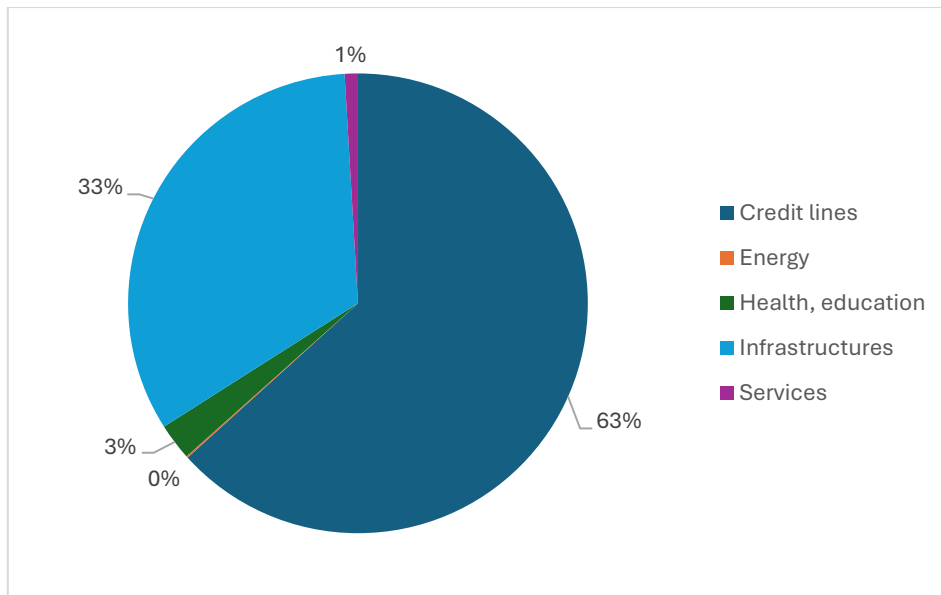


FIGURE 4-9: SECTOR DISTRIBUTION OF EIB ACTIVITIES IN MONTENEGRO

Figure 4-10 This figure shows the distribution of EIB funds across different sectors. While credit lines represent the largest portion of the funding, approximately €700 million, they provide essential liquidity and financial support for small and medium-sized enterprises (SMEs). Additionally, the chart underscores substantial investments in infrastructure sectors crucial for developing and enhancing Montenegro's transportation and utility networks. Significant funding has thus been directed towards:

Railways: A considerable investment to modernize and maintain vital railway connections, supporting both freight and passenger transport.

Roads and Motorways: Another prominent area of investment, aimed at improving road infrastructure, which is critical for national connectivity and regional trade.

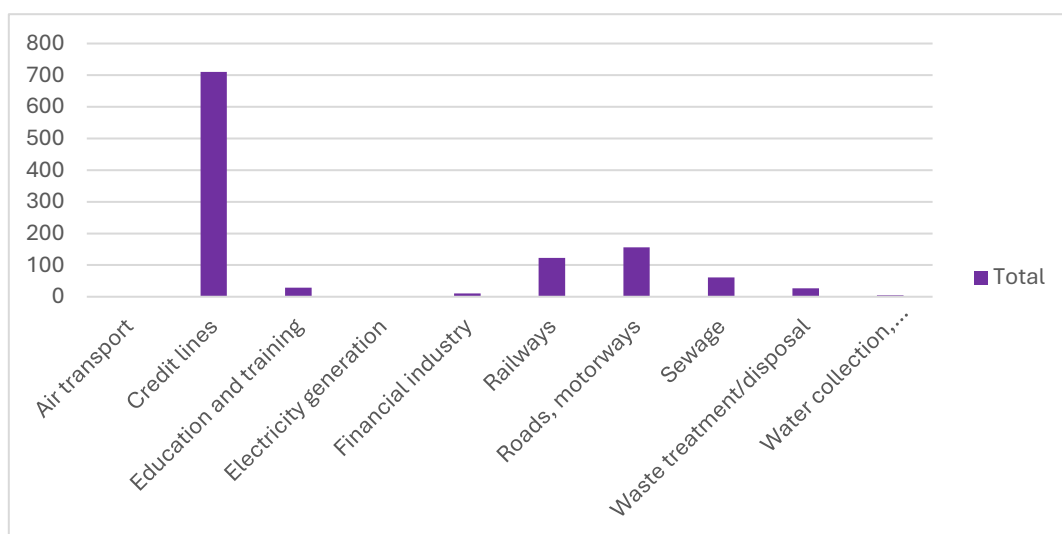


FIGURE 4-10: DETAILED BREAKDOWN OF EIB INFRASTRUCTURE LOANS IN MONTENEGRO

As we progress, the next subsection will provide an overview of the current economic landscape in the Western Balkans, with a particular focus on Montenegro's position relative to its neighbouring countries.

4.2. Comparative analysis of economic situation in the Western Balkan vs. EU countries

In this section, I examine the economic performance of the Western Balkans from 2008 to 2023, with a special focus on Montenegro's development and its comparative positioning within the region and against EU benchmarks. This period is notably significant as it follows closely on the heels of Montenegro's independence in 2006 and aligns with the initiation of EIB funding activities in 2008.

The Figure 4-11 displays the GDP per capita, adjusted for purchasing power parity (PPP), across Western Balkan countries from 2008 to 2023. Montenegro exhibits the most dramatic increase, with its GDP per capita rising sharply from around \$6,000 in 2008 to approximately \$12,500 by 2023. Kosovo, despite consistent growth, remains the lowest throughout the period, moving from about \$2,500 to \$5,250.

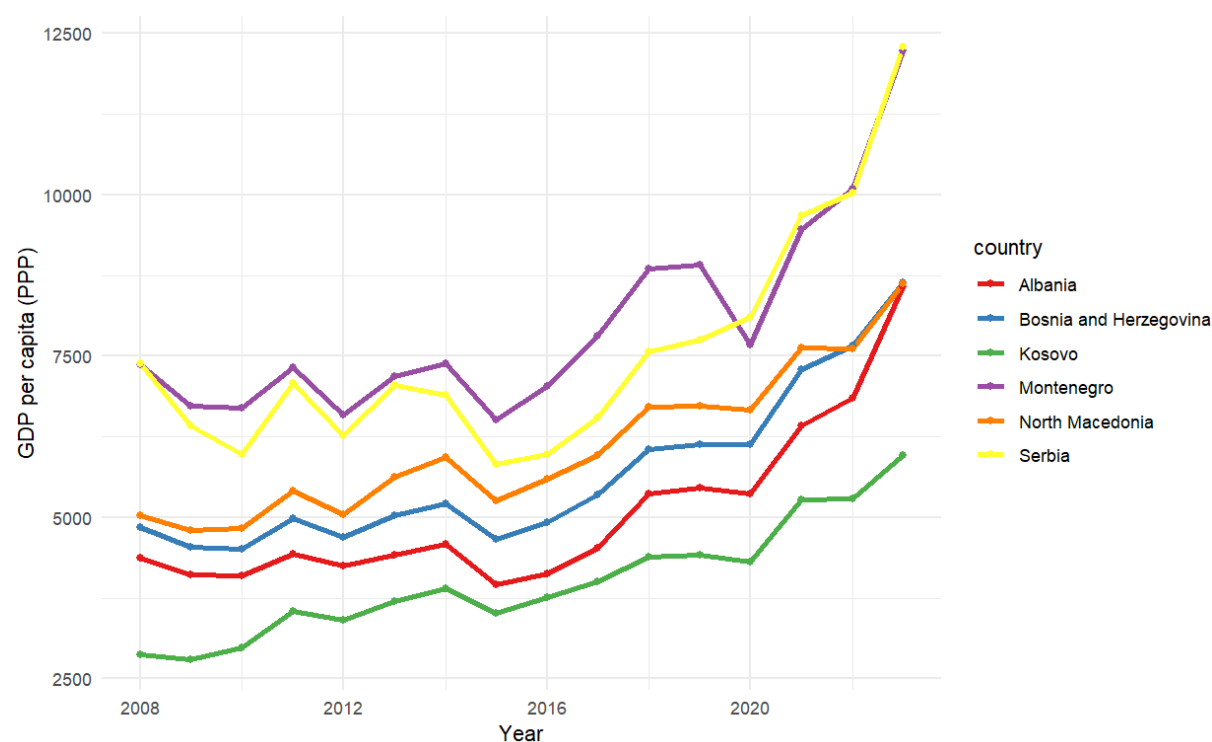


FIGURE 4-11: GDP PER CAPITA (PPP, CURRENT INTERNATIONAL \$)

In a broader European context, the GDP per capita relative to Germany offers a valuable perspective on the economic convergence of the Western Balkans towards more developed EU economies. Since 2000 the Western Balkan region has seen income per-capita convergence towards Western European levels, represented in our analysis by Germany. (Dabrowski, Marek; Myachenkova, Yana (2018): The Western Balkans on the road to the European Union, Bruegel Policy Contribution, No. 2018/04, Bruegel, Brussels). As indicated in the paper Germany was chosen as a benchmark because of its roles as the largest EU national economy and as a major economic and trade partner of Western Balkan economies. Germany also had a largely positive but rather modest rate of growth in the 2000s and 2010s. To compute the GDP per capita relative to Germany, the formula applied is: GDP Relative=

$(\text{GDP Per Capita}/\text{Germany GDP}) \times 100$. This calculation expresses the GDP per capita of each Western Balkan country as a percentage of German GDP per capita. The analysis underscores a gradual but uneven alignment with Germany's economic stability. Montenegro exhibits a GDP per capita at 45% of the German level in 2023 (Figure 4-12).

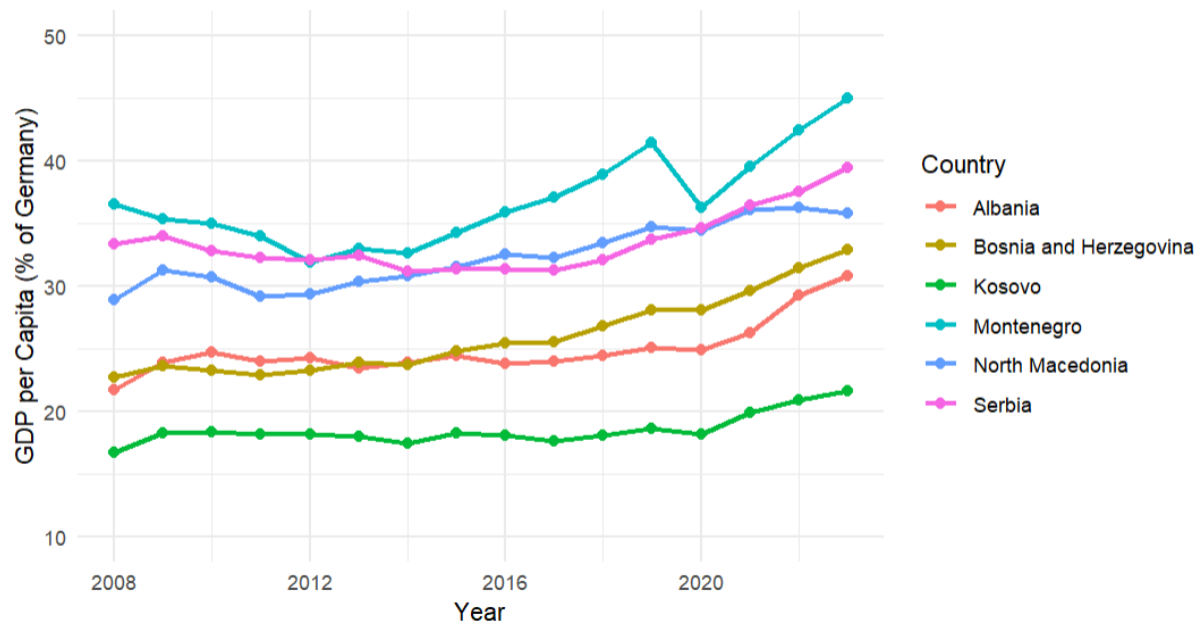


FIGURE 4-12: GDP PER CAPITA RELATIVE TO GERMANY (100%)

Looking at the real GDP growth, Figure 4-13, illustrates the economic dynamics of the Western Balkans. The data reveal patterns of economic fluctuation, marked by peaks and troughs, which mirror global economic influences and regional policy impacts over the years. The analysis of real GDP growth from 2008 to 2023 reveals significant fluctuations that highlight the economic volatility and resilience of the Western Balkan countries. For instance, Albania exhibited a robust growth recovery in 2021 with a rate of 8.91% after a contraction of -3.30% in 2020 due to global economic pressures. Similarly, Montenegro, despite facing a sharp decline of -15.31% in 2020, rebounded with a remarkable growth rate of 13.04% in 2021, demonstrating the volatile yet dynamic nature of its economy. Conversely, Bosnia and Herzegovina and North Macedonia showed steadier yet modest growth patterns, with average annual increases that generally reflect gradual economic improvements without sharp fluctuations. Serbia and Kosovo also mirrored this trend of recovery post-2020, showcasing growth rates of 2.55% and 3.34% in 2023, respectively, indicative of gradual economic stabilization and growth.

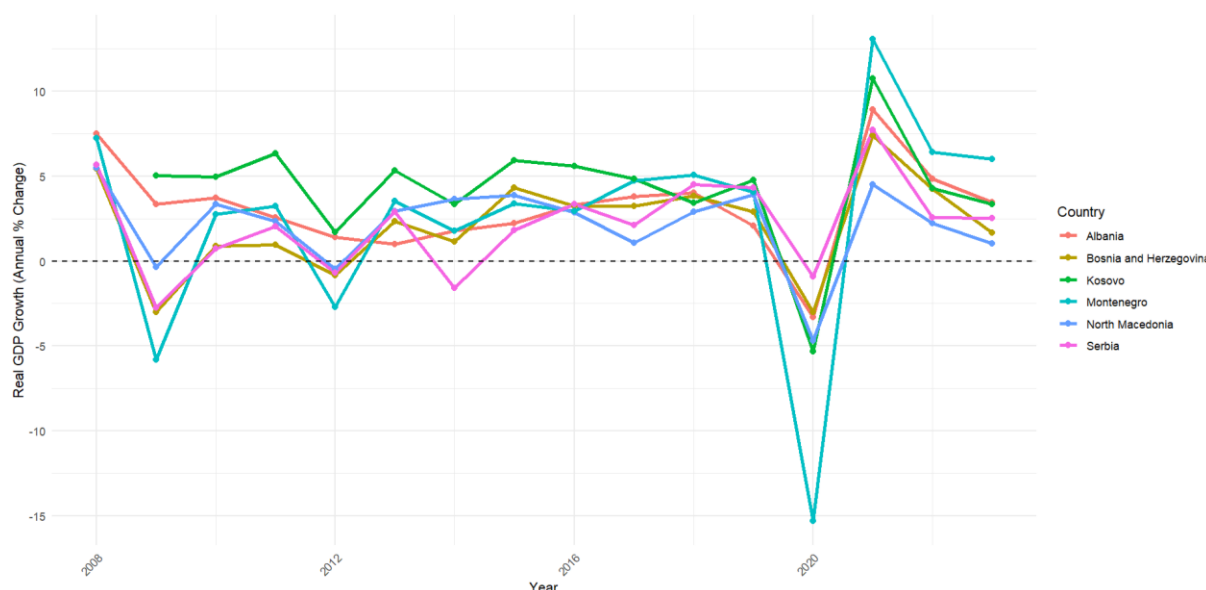


FIGURE 4-13: REAL GDP GROWTH IN WESTERN BALKAN COUNTRIES (2008- 2023)

Throughout the fifteen-year period, most countries in the Western Balkans experienced a general decline in unemployment rates, reflecting gradual labour market improvements (Figure 4-14). Albania's unemployment rate, for instance, reduced from 13.06% in 2008 to 11.58% in 2023, signalling steady economic progress. Similarly, Montenegro showed a decrease from 17.15% in 2008 to 15.25% in 2023, though with some fluctuations. As indicated in OECD (2024), Western Balkans Competitiveness Outlook 2024: Montenegro, Competitiveness and Private Sector Development, OECD Publishing, Paris: Unemployment in Montenegro has declined from 18.4% in 2020 to 15.1% in 2022 and reached a historic low of 13.1% in July 2023. Furthermore, based on predictions done in World Banks report from October 2024. In contrast, North Macedonia and Bosnia and Herzegovina displayed higher volatility but followed a downward trend, emphasizing slow but positive labour market recoveries. Furthermore, Serbia exhibited the most substantial improvement, with unemployment decreasing from 13.67% in 2008 to 8.68% in 2023, marking significant economic advancements and effective labour policies. This downward trend across the region suggests enhancements in economic policies and labour market conditions, crucial for attracting investments and supporting EU integration goals.

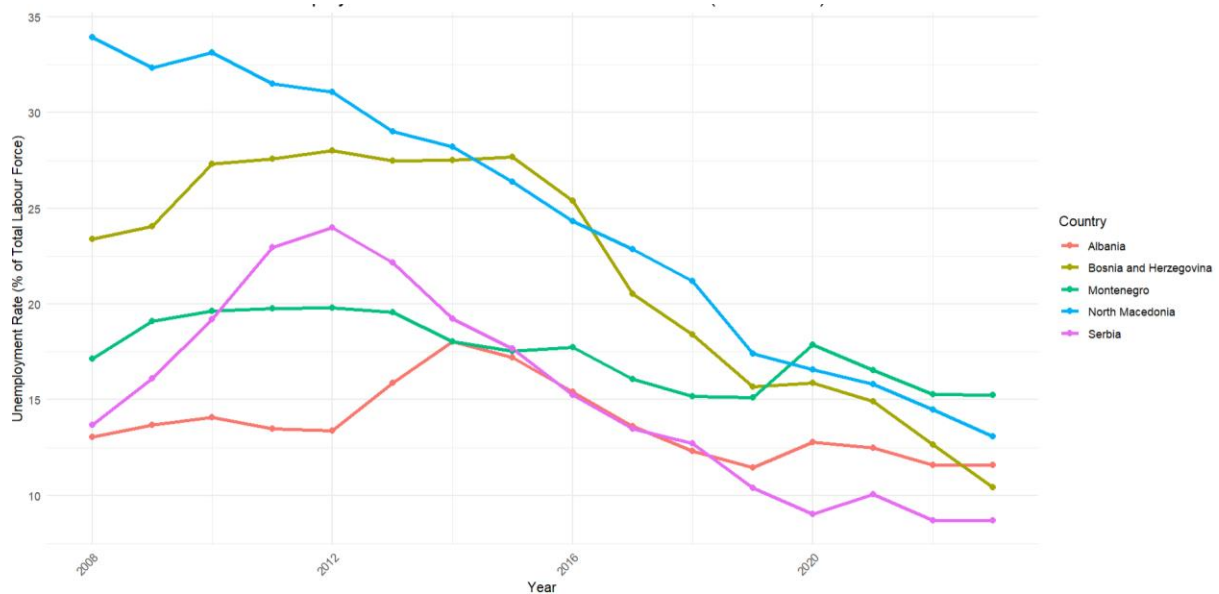


FIGURE 4-14: UNEMPLOYMENT RATE IN WESTERN BALKAN COUNTRIES (2008-2023)

Lastly, the inflation rate across the Western Balkans, Figure 4-15, reveals the inflationary pressures that have been a challenge for economic stability in the region. The varying rates of inflation reflect the diverse fiscal and monetary policies among these countries. For example, Albania showed a peak inflation rate of 6.73% in 2022, decreasing from higher levels in earlier years, reflecting tightening monetary policies and stabilization efforts. Conversely, Montenegro and Serbia experienced significant spikes in inflation in 2022, recording rates of 13.04% and 11.98%, respectively, indicative of economic pressures and possibly delayed effects of pandemic-related disruptions. Overall, recent surges in inflation rates point to external economic pressures and the responsiveness of national policies in managing economic stability.

However, based on the prediction reported in the Worlds Bank report from October 2024 inflation is expected to soften slightly to 3.7 percent in 2025 and further to 2.7 percent in 2026 (World Bank, Macro Poverty Outlook, 2023).

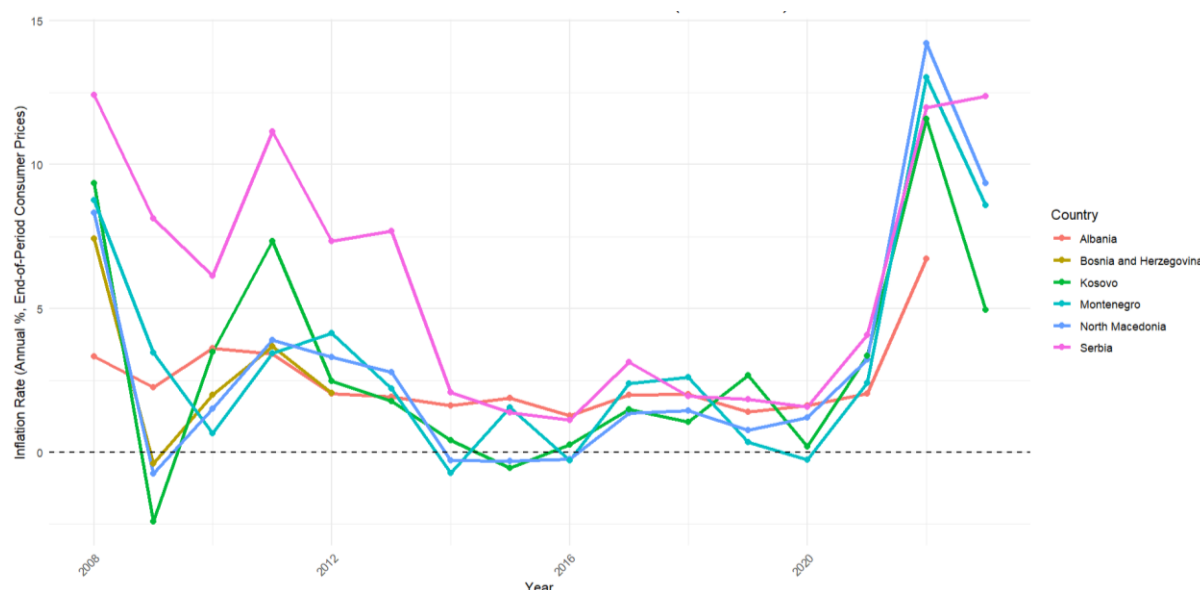


FIGURE 4-15: INFLATION RATE IN WESTERN BALKAN COUNTRIES (2008-2023)

4.2.1. Montenegro vs. Croatia / Bulgaria

Beyond the Western Balkans, comparing Montenegro with Croatia and Bulgaria—EU members with different economic trajectories—sheds light on the impact of EU membership on economic growth.

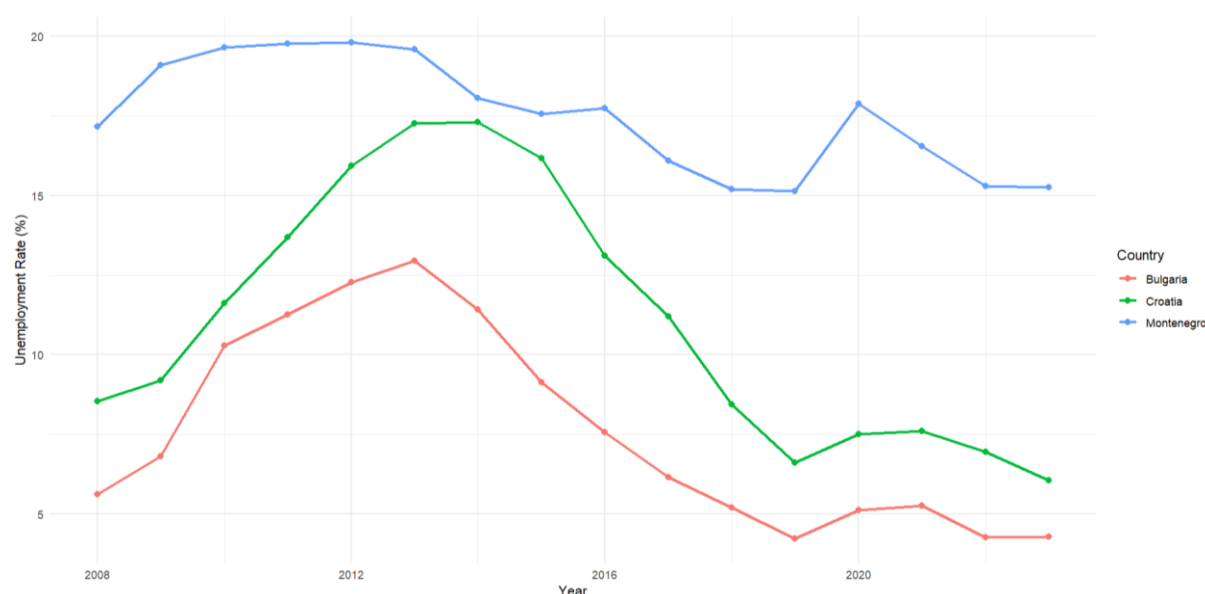


FIGURE 4-16: COMPARATIVE ANALYSIS OF UNEMPLOYMENT RATES IN MONTENEGRO, CROATIA, AND BULGARIA (2008-2023)

Figure 4-16 illustrates the unemployment trends in Montenegro, Croatia, and Bulgaria from 2008 to 2023. Notably, Croatia's unemployment rate, after peaking at 17.29% in 2014 following its EU accession in 2013, declined significantly to 6.06% by 2023. This reduction highlights the positive impact of EU membership on economic stability and job creation, facilitated by access to new markets, structural reforms, and increased investment.

Montenegro, with its unemployment rate decreasing from a high of 19.8% in 2012 to 15.3% in 2023, demonstrates ongoing economic improvement. Despite higher initial unemployment rates compared to its neighbours, these trends reveal Montenegro's promising economic potential, particularly as it pursues similar structural reforms and seeks closer integration with the EU, akin to Croatia's successful model.

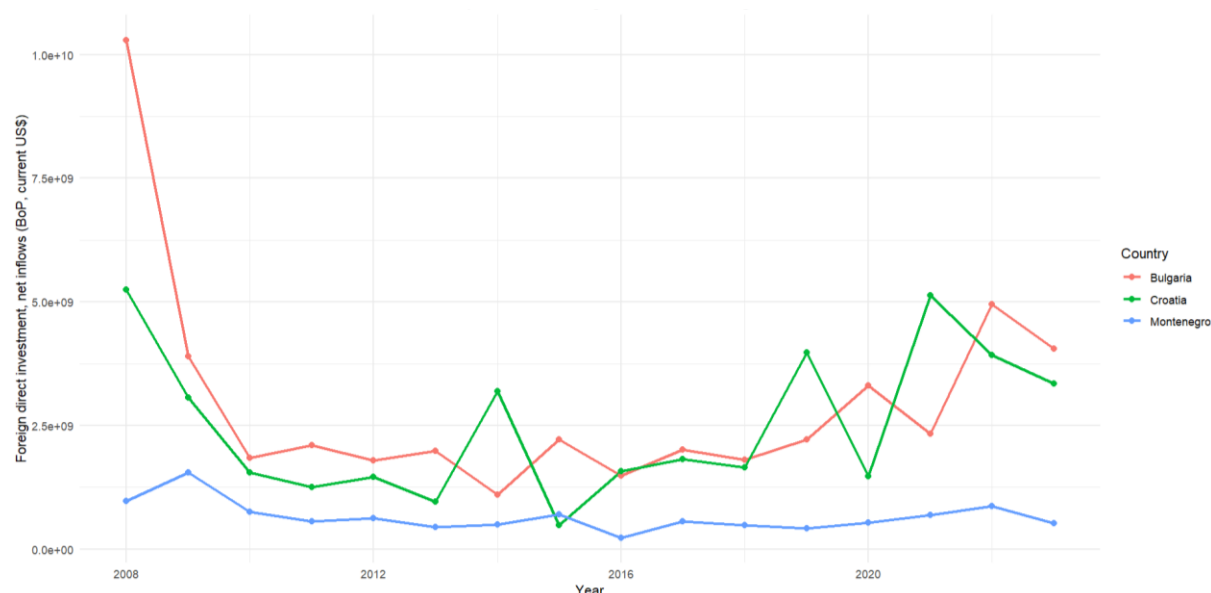


FIGURE 4-17: FDI COMPARISON: MONTENEGRO, CROATIA AND BULGARIA

Further, Figure 4-17 displays the trends in Foreign Direct Investment (FDI) in Montenegro, Croatia, and Bulgaria from 2008 to 2023. This captures the fluctuations in investment these transitioning economies have experienced over the years. The y-axis quantifies FDI in current US dollars, and the x-axis marks the timeline by year. The focus on FDI is particularly relevant for these countries, notably tourism-driven economies like Montenegro and Croatia, where attracting foreign investment plays a critical role in their economic development. This data helps to understand the extent to which these nations have been successful in drawing international capital.

Montenegro, depicted in blue, shows a relatively stable but modest FDI influx compared to its peers, peaking in 2009 with \$1.55 billion but settling to around \$526 million by 2023. Despite smaller absolute numbers, the consistent inflow underscores a steady investor interest in Montenegro.

Croatia, shown in green, experienced significant fluctuations, with a notable peak in 2021 at over \$5.12 billion. Croatia's EU membership, granted in 2013, likely bolstered investor confidence, leading to increased FDI, particularly post-accession. This illustrates the positive impact that integration into larger economic blocs can have on attracting investment.

Bulgaria, in red, presents the most dramatic shift, starting with over \$10.29 billion in 2008 and experiencing a steep decline, thereafter, stabilizing around \$4.05 billion by 2023. The high initial values may reflect a period of intense privatization and investment which normalized over time as the market matured.

In reviewing the economic performance from 2008 to 2023, it's clear that Montenegro has made significant strides, outpacing its neighbours with the highest GDP per capita in the region. This analysis reveals the critical role of FDI, especially in tourism-driven economies like Montenegro and Croatia, where integration into larger economic blocs, such as the EU, has proven beneficial in attracting

substantial investments. These insights establish a solid groundwork for the next phase of my analysis, where I will use panel regression techniques to examine how various factors influence unemployment rates.

4.3. Panel regression analysis of EIB loans in the Western Balkan

As level of unemployment is still quite high in whole region, and manly in Montenegro, BIH and North Macedonia. Those countries with its limited opportunities struggle with creating more job opportunities. As mentioned before, they are dependent on the help of neighbouring countries. Here the great help is EIB loans, as they are targeted to the areas lacking investments and projects which are from greater cause and otherwise would not be possible. Therefore, it is interesting to measure the real effect so far that EIB loans have shown on the employment level.

This section examines the impact of EIB loans on unemployment rates in the Western Balkans (excluding Kosovo as there is too many variables missing) using a fixed effects panel regression model. The main objective is to determine whether investments financed by the EIB contribute to reducing unemployment and how other economic variables, such as GDP growth, inflation, and gross capital formation, influence employment levels in the region.

Considering the methodology, measuring the real impact of EIB grants and loans presents a challenge. To address this, I first conducted a comparative analysis in the initial part of my research, followed by a panel regression approach in this section. A detailed overview of the variables used in the analysis is provided in the Table 4-4 below:

TABLE 4-4: DESCRIPTION OF THE VARIABLES

Variable	Variable Short Name	Explanation	Source
GDP growth	GDP_Growth	Measures the annual percentage increase in real GDP, reflecting economic expansion or contraction. Higher GDP growth indicates a growing economy, while negative growth suggests a recession.	World Bank (WDI)
Inflation Rate	Inflation_Rate	Represents the annual percentage change in the Consumer Price Index (CPI), indicating how quickly prices of goods and services are rising. Moderate inflation supports economic stability, while high inflation reduces purchasing power.	World Bank (WDI)
Unemployment Rate	Unemployment_Rate	The percentage of the labor force that is unemployed but actively seeking work. A high unemployment rate signals economic distress, while a lower rate indicates job market strength.	World Bank (WDI)
Gross Capital Formation	Gross_Capital_Formation	Measures the total investment in physical assets, such as	World Bank (WDI)

		infrastructure, machinery, and business development. Higher capital formation supports economic growth and employment generation.	
Loans granted by EIB	EIB_loans	EIB loans represent the total amount of financial support provided by the European Investment Bank (EIB) to a given country within a specific year. These loans are primarily allocated for infrastructure projects, business investments, and economic development initiatives aimed at fostering growth and employment.	European Investment Banks (EIB)

Econometrically, the general form of the panel data regression model can be expressed as follows (Brooks, 2014):

$$Y_{it} = \alpha + \beta X_{it} + u_{it}$$

where Y_{it} represents the dependent variable (unemployment rate) for country i at time t , α is the intercept, β is a $k \times 1$ vector of coefficients for explanatory variables, X_{it} is a $1 \times k$ vector of observations for independent variables, and u_{it} is the error term.

A simple pooled regression approach could be used by stacking all cross-sectional and time-series observations into a single dataset and estimating one equation for all data points using ordinary least squares (OLS). However, this method assumes that the relationships between variables remain constant across countries and over time, which may not be realistic. Instead, panel data estimation techniques, fixed effects (FE) and random effects (RE) models, are more appropriate for capturing country-specific variations and time effects (Brooks, 2014).

To determine the most suitable estimation method, we consider two primary panel regression models: the fixed effects (FE) model and the random effects (RE) model. The fixed effects model controls for time-invariant differences across countries by allowing each entity to have its own unique intercept. The equation for the fixed effects model is (Brooks, 2014):

$$Y_{it} = \alpha + \beta X_{it} + u_{it} + v_{it}$$

where u_{it} represents country-specific fixed effects that do not change over time, and v_{it} is the remainder disturbance term capturing all other unexplained variations. This model assumes that differences between countries are correlated with the explanatory variables and thus need to be accounted for. It is particularly useful in controlling for unobservable factors such as labour market policies, institutional quality, or geographic conditions that may influence unemployment rates but do not vary over time.

The random effects model, on the other hand, assumes that country-specific variations are random and uncorrelated with the independent variables. The model takes the form (Brooks, 2014):

$$Y_{it} = \alpha + \beta X_{it} + \omega_{it}, \text{ where } \omega_{it} = \epsilon_i + v_{it}$$

where ϵ_i captures random variations in the intercept across countries, while v_{it} represents the usual error term. A key distinction is that the random effects model does not include country-specific dummy variables, instead assuming that the unobserved heterogeneity is random and normally distributed across entities. Based on the Hausman test, it has a lower value of 5% or 1%, meaning I can reject the null hypothesis and find that in my case the fixed effects model is recommended.

I have estimated the following fixed effects regression model:

$$\begin{aligned} \text{Unemployment_Rate}_{it} &= \alpha + \beta_1 \text{EIB_Loans}_{it} + \beta_2 \text{Inflation_Rate}_{it} + \beta_3 \text{GDP_Growth}_{it} \\ &+ \beta_4 \text{Gross_Capital_Formation}_{it} + u_{it} + v_{it} \end{aligned}$$

where EIB_Loans_{it} represents the European Investment Bank loans as a key explanatory variable, $\text{Inflation_Rate}_{it}$ accounts for macroeconomic price stability, GDP_Growth_{it} captures economic performance, $\text{Gross_Capital_Formation}_{it}$ measures investment activity, u_{it} represents the fixed effects for each country, v_{it} is the error term, and $\beta_1, \beta_2, \beta_3, \beta_4$ are the coefficients of interest.

Before running the regression analysis, it is important to understand the structure and distribution of my key variables. The table below presents summary statistics for the dataset:

Descriptive Statistics					
Statistic	N	Mean	St. Dev.	Min	Max
GDP_Growth	80	2.43	3.65	-15.31	13.04
Inflation_Rate	80	3.42	3.84	-1.58	14.20
Unemployment_Rate	80	18.43	6.41	8.27	33.93
Gross_Capital_Formation	80	25.96	5.05	16.48	41.18
FDI	80	1,219,454,298.00	1,213,561,455.00	7,693,780.00	4,930,532,020.00
Labor_Force_Participation	80	52.80	3.26	48.10	60.43
Public_Debt_Per_GDP	23	59.94	15.09	40.42	83.45
eib_loans	80	148,282,816.00	217,799,387.00	0.00	1,084,116,498.00

Source: own calculations

TABLE 4-5: DESCRIPTIVE STATISTICS OF THE VARIABLES

From these statistics, Table 4-5, I observe that unemployment rates vary significantly across the region (from 8.27% to 33.93%), while GDP growth fluctuates between -15.31% and 13.04%, reflecting economic volatility in the Western Balkans. Additionally, as seen before EIB loans variate, with some countries receiving no funding in certain years, while others have received over €1 billion in total loans.

4.3.1. Results and discussion

Dependent variable:	
Unemployment_Rate	
eib_loans	-0.000* (0.000)
Inflation_Rate	-0.108 (0.148)
GDP_Growth	-0.086 (0.142)
Gross_Capital_Formation	-0.552*** (0.135)
Observations	80
R2	0.287
Adjusted R2	0.207
F Statistic	7.161*** (df = 4; 71)
Note: *p<0.1; **p<0.05; ***p<0.01	

Source: own calculations

TABLE 4-6: RESULTS FOR THE ESTIMATED COEFFICIENTS BASED ON THE MODEL WITH FIXED EFFECTS

The panel regression model, despite its many limitations, provided valuable insights into the economic dynamics of the Western Balkans. While interpreting these results, it's crucial to consider the model's constraints, which could influence the accuracy of the findings. The results from Table 4-6 suggest that gross capital formation has the most significant impact on unemployment, with a high level of statistical significance ($p < 0.01$). A 1% increase in gross capital formation leads to a 0.55% reduction in unemployment. This would confirm the crucial role that investment-driven growth strategies play in employment generation across the Western Balkans. EIB loans, while statistically significant at the 10% level, have only a small negative effect on unemployment. This means that, although these loans do contribute to job creation, their impact alone is limited. It is evident that additional economic measures are necessary to maximize the effectiveness of these investments. Further, in my analysis, the absence of statistically significant relationships between variables like inflation and GDP growth with unemployment may point to limitations in the model itself. This outcome suggests that structural factors, rather than immediate economic fluctuations, play a more significant role in influencing labour market dynamics within the region. Such findings put a degree of scepticism regarding the model's efficacy in capturing the impact of economic growth on employment. It underscores the need for further refinement and consideration of additional variables that could more accurately reflect the complex interplay affecting unemployment rates.

The coefficient of determination R^2 has a value of 0.287, suggesting that approximately 28.7% of the variation in unemployment rates can be explained by the independent variables in the model. While this indicates a moderate explanatory power, the adjusted R-squared value of 0.207 suggests that the model's predictive ability is slightly lower when accounting for the number of explanatory variables. This

implies that while factors such as EIB loans and gross capital formation have a role in explaining unemployment trends, other macroeconomic and structural factors not included in the model may have a significant impact on unemployment in this region. The p-value of the F statistics of the evaluated model is lower than 5% (0%) and we accept the hypothesis that the explanatory variables have a significant impact on the movement of the dependent variable. Multicollinearity has been tested through the variance-inflation factor (VIF). The VIF score of that model is 1.18; and it is generally accepted that if VIF is greater than 5 then multicollinearity should be treated as a problem. There is no significant multicollinearity in model, meaning that independent variables are not highly correlated. Also, many experts consider that if the absolute value of the simple correlation coefficients (r) are higher than 0.80, it is already a sign of strong multicollinearity. In my case, I can say that multicollinearity by both criteria should not be treated as a problem. Furthermore, the correlation coefficient between Unemployment Rate and EIB Loans is -0.179. The negative sign indicates an inverse relationship between the two variables. This means that as EIB loans increase, the unemployment rate tends to decrease. However, the correlation is weak (-0.179 close to 0), suggesting that EIB loans have only a slight negative association with unemployment. This implies that while there may be some relationship, other factors likely play a more significant role in influencing unemployment levels. Correlation does not imply causation, meaning that while there is an observed relationship, we cannot conclude that EIB loans directly cause changes in unemployment without further regression analysis. Also, I conducted the Jarque-Bera test to test whether random errors follow a normal distribution. The test returned a test statistic of 0.78372 with a p-value of 0.6758. Since the p-value is greater than 0.05, we fail to reject the null hypothesis, indicating that the residuals are normally distributed. This suggests that the assumption of normality is met, supporting the reliability of the model's estimations.

4.4. Long-Term Employment Projections: When Will the Western Balkans Reach EU Employment Levels?

I have already mentioned and concluded from the previous analysis that unemployment is a significant issue in the region. Based on the work of Claude Berthomieu, Massimo Cingolani, and Anastasia Ri (2016), there is no doubt that employment remains the ultimate challenge for the region's development. To examine this crucial aspect, I aim to establish a relationship between the proposed investment stimulus and its potential impact on employment levels, which is an indirect one, operating through economic growth.

To do so, we may rely on Okun's law and its developments. The law provides a useful framework for understanding the link between economic growth and unemployment. Okun's law suggests a negative correlation between GDP growth and unemployment, meaning that economic expansion generally leads to job creation. However, the strength of this relationship varies by country, time period, and labour market structure. (Okun, 1962).

Research by Ball et al. (2013) confirms that Okun's law remains a strong and stable relationship across most countries. However, the key challenge lies in accurately estimating the employment elasticity, the responsiveness of job creation to GDP growth. Studies indicate that employment elasticity can differ significantly depending on labour market characteristics. For instance, it is estimated at 0.15 in Japan, where lifetime employment is common, 0.45 in the USA, and 0.85 in Spain. A global study by Kapsos (2005) found that, between 1999 and 2003, employment elasticity averaged 0.30 worldwide, but sectoral and demographic differences had significant effects on the elasticity levels.

For transition economies, labour market trends have shown mixed results. A study by Kovtun et al. (2014) found that employment elasticity for Central and Eastern European (CEE) countries was 0.32, while for the Western Balkans, it was only 0.17, indicating weaker job creation in response to GDP

growth. More recent estimates suggest that employment elasticity in the Balkans has increased, with some calculations reaching 0.68, making it a reasonable upper-bound estimate for projections in the analysis by Claude Berthomieu, Massimo Cingolani, Anastasia Ri (2016), as well as mine here. I am putting that level in comparison with more modest but still realistic figures of 0.5 and 0.3.

Considering measuring and choosing the right level of growth in my projection. I considered using Incremental Capital-Output Ratio (ICOR), as it is commonly used to measure the efficiency of investment in generating GDP growth. If EIB funded investments are able to increase GDP while simultaneously reducing unemployment, they can be considered successful. However, if they fail to produce significant economic expansion, policy adjustments may be necessary. Although ICOR is a useful tool, its application in the Western Balkans comes with several limitations. Data inconsistencies and short time series make ICOR estimates less reliable for the region. Furthermore, many countries still rely on capital stock inherited from the socialist era, which distorts ICOR values. Given these challenges, investment needs based on ICOR risk being underestimated, making it necessary to consider alternative models (Claude Berthomieu, Massimo Cingolani, Anastasia Ri , 2016).

Therefore, a more practical approach is the steady-state growth model. This method assumes that investment-driven employment growth will stabilize over time. The emphasis should be placed on ensuring that policies supporting job creation remain consistent and sustainable [Claude Berthomieu, Massimo Cingolani, Anastasia Ri (2016)]. By using this approach, I have estimated the number of years required for unemployment in the region to fall below 10%, taking into account different employment elasticity scenarios.

4.4.1. Results and discussion

The Table 4-7 provides my estimation of how long it would take for the Western Balkans to reduce unemployment below 10% under different economic growth scenarios. It considers various levels of GDP growth and employment elasticity, which measure how responsive employment is to changes in economic activity.

The first column presents three different GDP growth scenarios: 2%, 4%, and 6%, reflecting different levels of economic expansion. Employment elasticity, shown in the second column, indicates the extent to which economic growth translates into job creation. Higher elasticity values suggest that employment increases more significantly in response to GDP growth. Based on these values, the employment growth rate is calculated by multiplying GDP growth with the elasticity coefficient. The final column estimates the number of years required for the region to reach an unemployment rate below 10%, using the formula:

$$\text{Employment Growth} = \text{Elasticity} * \text{GDP Growth}$$

$$\text{Years_Needed} = \frac{\text{Current Unemployment Rate} - \text{Target Unemployment Rate}}{\text{Employment Growth Rate}}$$

The projections indicate that if GDP grows at only 2% annually, it could take over 14 years for unemployment to reach sustainable levels. With moderate economic expansion of 4%, this timeframe is reduced to around seven years, while under a high-growth scenario of 6% GDP growth per year, the region could achieve the target within approximately two to five years, depending on employment elasticity.

The results highlight the importance of maintaining steady economic growth and implementing policies that enhance labour market responsiveness. Without strong and sustained investment, unemployment is likely to persist as a structural issue. If GDP growth remains at lower levels, reducing unemployment will be a long-term challenge. However, with accelerated growth and increased efficiency in

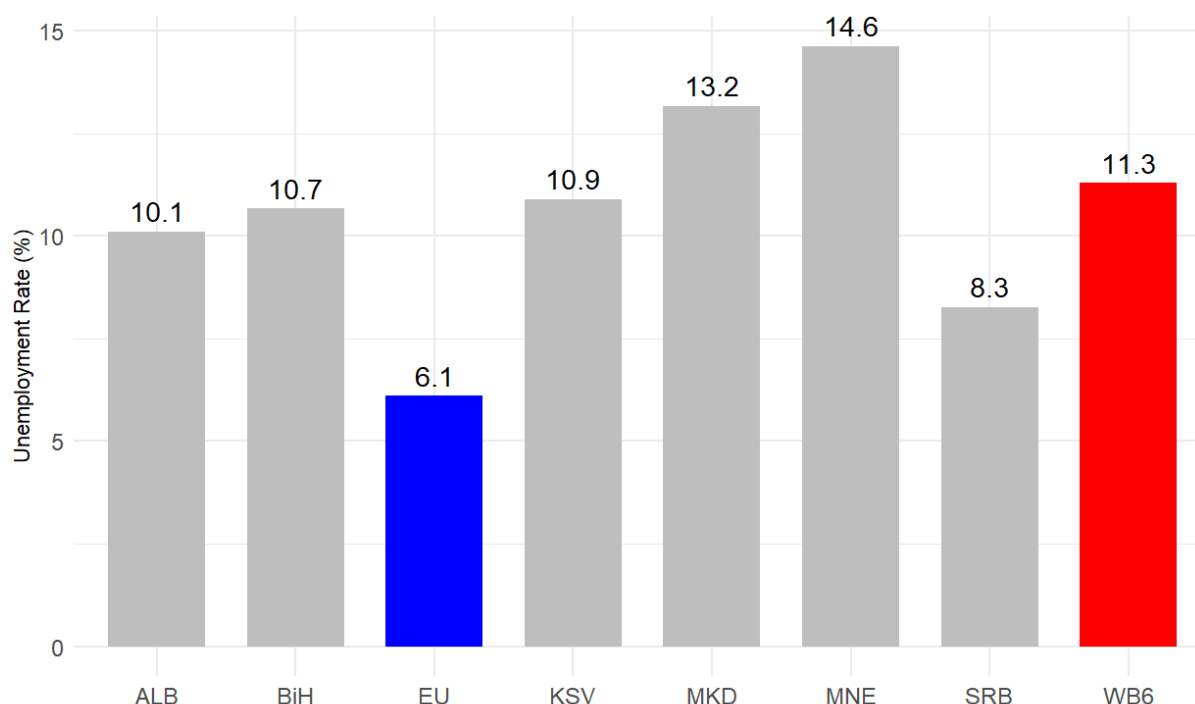
investment, the Western Balkans could reach the target much sooner, aligning more closely with EU employment levels.

GDP_Growth	Employment elasticity	Employment growth rate	Number of years needed
2%	0.30	0.6%	14.1
	0.50	1%	8.4
	0.68	1.36%	6.2
4%	0.30	1.2%	7.0
	0.50	2%	4.2
	0.68	2.72%	3.1
6%	0.30	1.8%	4.7
	0.50	3%	2.8
	0.68	4.08%	2.1

Source: own calculation

TABLE 4-7: POTENTIAL EMPLOYMENT IMPACT OF INVESTMENT STIMULUS SCENARIOS IN WB5

The Figure 4-18 illustrates the unemployment rate across the Western Balkans in 2023, highlighting the disparities among the region's economies. While Serbia has the lowest unemployment rate at 8.3%, Montenegro records the highest at 14.6%. Other countries, such as North Macedonia (13.2%) and Kosovo (10.9%), also show relatively high unemployment rates. The average unemployment rate for the WB6 stands at 11.3%, marked in red, indicating that the region is still significantly above the EU average of 6.1%, represented in blue.



Source: own calculations

FIGURE 4-18: UNEMPLOYMENT RATE IN 2023 IN WB6 AND EU AVERAGE

To further deepen my analysis below in the Figure 4-19 to Figure 4-23, I have provided calculations for country-specific projections for reducing unemployment below 10% in Albania, Bosnia and Herzegovina, Montenegro, North Macedonia, and Serbia (respectively). They illustrate how long each country would take to achieve this target based on different economic growth scenarios. Each table considers three levels of GDP growth- 2%, 4%, and 6% - to reflect varying economic conditions. The employment elasticity values of 0.3, 0.5, and 0.68 indicate how responsive job creation is to economic expansion. The years needed for unemployment reduction are then calculated based on these assumptions.

In Albania, due to a lower starting unemployment rate, the transition to below 10% is relatively short, requiring between 0.4 and 2.5 years depending on the scenario. In contrast, Bosnia and Herzegovina and Montenegro, where unemployment levels are higher, would need significantly more time, with estimates ranging from 1.3 to 8.7 years for Bosnia and 1.5 to 10.5 years for Montenegro.

North Macedonia has the longest projected timeframe among the five, with estimates ranging from 1.7 years in the most optimistic scenario to 11.7 years in a low-growth environment. Meanwhile, Serbia, which starts with a relatively lower unemployment rate, is projected to meet the 10% target within 1.2 to 8 years, depending on economic conditions.

These projections emphasize the significant role economic growth plays in reducing unemployment. Higher growth rates, combined with policies that enhance job creation, could accelerate the process, bringing unemployment levels closer to EU standards much faster. However, if economic expansion remains slow or employment elasticity remains low, achieving the target could take a decade or more.

GDP Growth (%)	Elasticity	Years Needed
2%	0.30	2.5
	0.50	1.5
	0.68	1.1
4%	0.30	1.2
	0.50	0.8
	0.68	0.6
6%	0.30	0.8
	0.50	0.5
	0.68	0.4

FIGURE 4-19: POTENTIAL IMPACT OF INVESTMENT ON UNEMPLOYMENT- ALBANIA

GDP Growth (%)	Elasticity	Years Needed
2%	0.30	8.7
	0.50	5.2
	0.68	3.8
4%	0.30	4.3
	0.50	2.6
	0.68	1.9
6%	0.30	2.9
	0.50	1.7
	0.68	1.3

FIGURE 4-20: POTENTIAL IMPACT OF INVESTMENT ON UNEMPLOYMENT- BOSNIA AND HERZEGOVINA

GDP Growth (%)	Elasticity	Years Needed
2%	0.30	10.5
	0.50	6.3
	0.68	4.6
4%	0.30	5.3
	0.50	3.2
	0.68	2.3
6%	0.30	3.5
	0.50	2.1
	0.68	1.5

FIGURE 4-21: POTENTIAL IMPACT OF INVESTMENT ON UNEMPLOYMENT- MONTENEGRO

GDP Growth (%)	Elasticity	Years Needed
2%	0.30	11.7
	0.50	7
	0.68	5.1
4%	0.30	5.8
	0.50	3.5
	0.68	2.6
6%	0.30	3.9
	0.50	2.3
	0.68	1.7

FIGURE 4-22: POTENTIAL IMPACT OF INVESTMENT ON UNEMPLOYMENT- NORTH MACEDONIA

GDP Growth (%)	Elasticity	Years Needed
2%	0.30	8
	0.50	4.8
	0.68	3.5
4%	0.30	4
	0.50	2.4
	0.68	1.8
6%	0.30	2.7
	0.50	1.6
	0.68	1.2

FIGURE 4-23: POTENTIAL IMPACT OF INVESTMENT ON UNEMPLOYMENT-SERBIA

5. Conclusion

Throughout this thesis, I explored the role of the European Investment Bank (EIB) in the economic development of the Western Balkans, particularly through its financial support for infrastructure and development projects. The analysis reveals that EIB loans have likely influenced unemployment and overall economic conditions, although quantifying the exact magnitude and causality of these effects remains challenging due to model limitations. Meanwhile, the region made significant economic progress in recent years, and financial interventions of this kind are undoubtedly crucial, not only for accelerating growth but also for ensuring that development moves in the right direction.

From the data and conducted analysis, it is evident that there is a notable improvement in economic indicators such as GDP growth, where countries like Montenegro showed substantial progress. This growth aligns with the infusion of capital from EIB loans, which appears to support broader economic advancements and structural enhancements within the region. Furthermore, the findings suggest that gross capital formation holds the strongest relationship with employment trends, supporting the broader economic theory that investment drives job creation. While the effect of EIB loans on employment shows statistical significance, it is relatively modest, indicating that these loans may act more as facilitators of broader economic trends rather than as direct catalysts for change. The connections between other macroeconomic variables, such as GDP growth and inflation with unemployment, were weaker than anticipated, underscoring the persistent structural challenges that influence labour markets in the Western Balkans.

Considering the limitations of this study, it is important to recognize the influence of the broader institutional and policy environment, which was not fully captured in the model. Additionally, the indirect effects of EIB investments, such as improvements in business confidence, private sector engagement, and long-term productivity growth, were not directly observable due to data constraints. These factors, along with the complexities of regional economic conditions and the granularity of loan distribution data, temper the conclusions that can be drawn regarding the direct impact of EIB loans.

Despite these limitations, the projections based on different economic growth scenarios and employment elasticity assumptions illustrate the critical need for sustained economic expansion and strategic investment policies to achieve significant reductions in unemployment. For instance, under scenarios ranging from low growth (2% GDP growth) to high growth (6% GDP), the timeframe for reducing unemployment below 10% varies dramatically, with some countries potentially meeting this target within five years under more favourable conditions.

Finally, this thesis strongly supports the notion that well-structured investment initiatives are vital for helping transition economies in the Western Balkans progress toward EU standards. Future research should build on these findings by conducting a more detailed sectoral analysis, exploring the specific impacts of foreign direct investment (FDI) alongside EIB funding, and examining the long-term structural changes facilitated by these investments. Furthermore, future studies could investigate the local impacts of specific projects on unemployment rates, something that was beyond the scope of this thesis due to limitations in data availability. This would provide even better understanding of how targeted investments can foster localized economic development and integration into the European economic sphere.

6. References

- Ball, Laurence M., Leigh, Daniel, & Loungani, Prakash. (2013). Okun's Law: Fit at Fifty?, NBER Working Paper, No. 18668.
- Berthomieu, C., Cingolani, M., & Ri, A. (2016). Investment for Growth and Development in the Western Balkans. STAREBEI Research Project, EIB Institute, University of Nice – Sophia Antipolis, France. <https://institute.eib.org/wp-content/uploads/2019/02/STAREBEI-Sophiaall.pdf>
- Bulow, Jeremy, and Kenneth Rogoff. 2005. Grants versus loans for development banks. American Economic Review 95, no. 2: 393-397.
- Brooks, C. (2014). Introductory Econometrics for Finance. Cambridge: Cambridge University Press.
- Dabrowski, Marek & Myachenkova, Yana. (2018). The Western Balkans on the road to the European Union. Bruegel Policy Contribution, No. 2018/04, Bruegel, Brussels.
- Daniel Mertens, Matthias Thiemann. (2019). Building a hidden investment state? The European Investment Bank, national development banks and European economic governance. Journal of European Public Policy, 26 (1), pp.P. 23-43. <https://sciencespo.hal.science/hal-01621785/document>
- Directorate-General for Enlargement and Eastern Neighbourhood, European Commission. (2025). Enlargement policy. Retrieved February 9, 2025, from: <https://enlargement.ec.europa.eu/enlargement-policy>
- Doe, J. (2023). Financial innovation, stock market development, and economic growth: An application of ARDL model.
- DFI Working Group on Blended Concessional Finance for Private Sector Projects. (2021). Joint Report. <https://www.eib.org/attachments/documents/mdb-dfi-working-group-blended-concessional-finance-private-sector-joint-reoprt-dec-2021.pdf>
- European Bank for Reconstruction and Development. (2021). Montenegro Country Strategy 2021-2026. Retrieved December 25, 2024, from: <https://www.ebrd.com/documents/strategy-and-policy-coordination/strategy-in-montenegro.pdf>
- European Investment Bank. (2019). The European Investment Bank in the Western Balkans. Retrieved January 5 from: https://www.eib.org/attachments/country/the_eib_in_the_western_balkans_en.pdf
- European Investment Bank. (2023). Impact of the EIB's intermediated lending to businesses in the Western Balkans. Retrieved December 25, 2024 from: https://www.eib.org/attachments/lucalli/20230344_impact_of_the_eibs_intermediated_lending_to_bu_sinesses_in_the_western_balkans_en.pdf
- European Investment Bank. (2025). Projects. Retrieved January 5, 2025, from: <https://www.eib.org/en/projects>
- European Parliament. (2024). Fact Sheet. Retrieved from February 3, 2025 from: <https://www.europarl.europa.eu/factsheets/en/sheet/17/the-european-investment-bank>

Kovtun, D., Meyer Cirkel, A., Murgasova, Z., Smith, D., & Tambunlertchai, S. (2014). Boosting Job Growth in the Western Balkans. IMF Working Paper, WP/14/16, IMF.

Marzinotto, B. (2011). A European fund for economic revival in crisis countries. Bruegel Policy Contribution, No. 2011/01, Bruegel, Brussels.

Montenegro MPO. (2023). Monstat. Retrieved on December 2, 2024 from:
<https://thedocs.worldbank.org/en/doc/d5f32ef28464d01f195827b7e020a3e8-0500022021/related/mpo-mne.pdf>

OECD. (2024). Western Balkans Competitiveness Outlook 2024: Montenegro, Competitiveness and Private Sector Development. OECD Publishing, Paris. Retrieved from:

<https://doi.org/10.1787/ead1588e-en>.

Pereira, J. (2017). Blended Finance: What it is, how it works and how it is used. Oxfam International

<https://oxfamlibrary.openrepository.com/bitstream/handle/10546/620186/rr-blended-finance-130217-en.pdf>

Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of Applied Econometrics*.

Sucubasi, B., Trenovski, B., Imeri, B., & Merdzan, G. (2021) The Effects of FDI on Domestic Investments in Western Balkans. Working Paper No. 241. Institute of World Economics, Centre for Economic and Regional Studies, Hungarian Academy of Sciences.

World Development Indicators. (2025). Retrieved January 5, 2025, from:
<https://databank.worldbank.org/reports.aspx?source=2&series>

Zhong, S. (2024). The Research and Forecasts on Real GDP Growth and the Unemployment Rate in the United States.

Zakharov, V., & Kušić, S. (2003). The Role of FDI in the EU Accession Process: The Case of the Western Balkans. Johann Wolfgang Goethe University Frankfurt am Main, Faculty of Economics, Chair for Comparison and Transition of Economic Systems