External Action, Internal Gains: How EIB investments outside the EU affect the EU's markets and economy

Rita Santos Mendes

Dissertation written under the supervision of Professor Carla Soares

Dissertation submitted in partial fulfilment of requirements for the International MSc in Management, at the Universidade Católica Portuguesa, June 2025.

Abstract

As the European Union increasingly positions itself as a global actor through development finance, the European Investment Bank's external role has expanded. This shift raises questions about whether this strategy positively impacts the Union and how it aligns with its mission of supporting the internal market's development.

The analysis combines event studies – examining financial market reactions of European stocks and European Investment Bank bonds – with a Propensity Score Matching staggered Difference-in-Differences approach that evaluates trade and investment flow changes between the Union and the non-European Union countries supported by the bank.

The results suggest that European firms responded positively, whereas the bank's bond investors exhibited some caution, possibly reflecting concerns over the increased risk associated with a global mandate. On the macroeconomic side, there are indications of positive trends in exports and outward foreign direct investment flows to the European Union, as well as imports from the Union. However, the lack of statistical significance limits the confirmation of measurable effects. These findings challenge the idea that the bank might support Aid for Trade outcomes.

This research contributes to the literature on development finance, European Union foreign policy and the effects in donor regions. Overall, this study provides valuable insight into how the European Union reacts to changes in the European Investment Bank's external strategy and suggests that the bank's external operations may serve geopolitical objectives more than direct economic gains to the European Union.

Keywords: European Investment Bank, EIB Global, European Union, Development Finance, External Lending, Development Policy

Title: External Action, Internal Gains - How EIB investments outside the EU affect the EU's markets and economy

Author: Rita Santos Mendes

Resumo

À medida que a União Europeia se consolida como ator global no financiamento ao desenvolvimento, o papel externo do Banco Europeu de Investimento expande-se. Esta mudança levanta questões sobre os impactos positivos da estratégia na União e como se alinha com a sua missão de promover o desenvolvimento do mercado interno.

A análise combina estudos de eventos – examinando as reações do mercado financeiro das ações europeias e títulos do Banco Europeu de Investimento – com um modelo de Diferenças-em-Diferenças escalonadas com emparelhamento por pontuação de propensão que avalia mudanças nos fluxos de comércio e investimento entre a União e os países não pertencentes à União Europeia apoiados pelo banco.

Os resultados sugerem reações positivas das empresas, enquanto os investidores de títulos demonstraram cautela, possivelmente refletindo preocupações com o aumento do risco de um mandato global. Macroeconomicamente, observam-se tendências positivas nas exportações e nos fluxos de investimento direto externo para a União Europeia, bem como nas importações provenientes da União Europeia. No entanto, a falta de significância estatística limita a confirmação de efeitos mensuráveis. Estes resultados questionam a ideia de que o banco promove os objetivos da Ajuda para o Comércio.

Esta pesquisa contribui para a literatura sobre financiamento ao desenvolvimento, política externa da União Europeia e efeitos nas regiões doadoras. Em geral, sugere como a União Europeia reage às mudanças na estratégia externa do Banco Europeu de Investimento e como as operações externas do banco podem servir mais os objetivos geopolíticos do que retornos económicos diretos para a União Europeia.

Palavras-chave: Banco Europeu de Investimento, BEI Global, União Europeia, Financiamento ao Desenvolvimento, Empréstimos Externos, Política de Desenvolvimento

Título: Ação Externa, Ganhos Internos – Como é que os investimentos do BEI fora da UE afetam os mercados e a economia da UE

Autora: Rita Santos Mendes

Acknowledgments

First and foremost, I would like to express my deepest gratitude to my thesis advisor, Professor Carla Soares, whose guidance, support and continuous encouragement were crucial to completing this thesis.

I thank my family, especially my parents and my sister, for their unconditional love and support throughout my academic journey and all my life's moments. Thank you, Luís and Sofia, for your hard work and dedication, which allowed me to pursue this master's degree.

I also want to thank all my closest friends, whose support and shared moments motivated me during this period.

Joana Martins, Leonor Silva, Leonor Gomes, Marta Francisco and Miguel Pascoal, thank you for the friendship during our academic journey. A degree is more enjoyable with you by my side.

I am also grateful to Ana Soares, Carolina Cosme, and Rita Mestre for their friendship, but primarily for your understanding and flexibility in addressing board responsibilities and my master's commitments.

To my colleagues in Rotterdam, thank you for making my time there an enjoyable memory of this degree, during which we made the most of the Erasmus Program.

Furthermore, I would like to thank Maria Ferreira for her availability to support me in accessing the necessary data for this study.

Lastly, I want to highlight the resilience and consistency I demonstrated at Católica. Here's to the next chapter!

Table of Contents

List of Tables, Figures, Graphs, Appendixes and Abbreviations

List of Tables

List of Figures

List of Graphs

List of Appendixes

List of Abbreviations

ACS – Abnormal Change in Spread

AR – Abnormal Returns

ATT - Average Treatment Effect for the Treated

CACS – Cumulative Abnormal Change in Spread

CAR – Cumulative Abnormal Returns

CPI – Consumer Price Index

DiD - Difference-in-Differences

EIB – European Investment Bank

EU – European Union

FDI – Foreign Direct Investment

GDP – Gross Domestic Product

GHG – Greenhouse Gases

MDB – Multilateral Development Bank

MFF – Multiannual Financial Framework

NACE – Statistical Classification of Economic Activities

ODA - Official Development Assistance

OECD – Organisation for Economic Cooperation and Development

PSM - Propensity Score Matching

TWFE – Two-way Fixed Effects

"Development is not charity. It is one of the smartest investments we can make in our shared future."
- Barack Obama

1. Introduction

Investment plays a crucial role in developing companies and countries by fostering job creation, innovation, economic growth and competitiveness. In a moment where the European Union (EU) and the global economy face various structural challenges, it is essential to ensure that resources are being invested in projects that bring strategic value and ensure the region's prosperity.

According to the Article 309 of the Treaty on the Functioning of the EU, the European Investment Bank (EIB) has the mission, under non-profit operations, to contribute to the "balanced and steady development of the internal market in the interest of the Union". With the increase in investments outside the EU, this paradigm invites reflection on how the bank's evolving role continues contributing to the EU's development.

Research has been done analysing how Multilateral Development Bank (MDB) investments impact country stock markets (Kersting & Kilby, 2024), what causes reactions in MDB bonds (Kolasa et al., 2024a; Kolasa et al., 2024b) and how aid contributes to trade (Wagner, 2003; Nowak-Lehmann et al., 2009). To my knowledge, studies evaluating how the strategic reorientation of MDBs impacts donor countries and how it can impact their macroeconomic and capital flow indicators have never been made.

Considering these factors, under an empirical analysis, this thesis explores how companies and EIB investors react to the shift to investments outside EU boundaries under an event-study approach. Further, this study explores how these investments contribute to the EU's mission by analysing how macroeconomic and capital flow indicators evolve with EIB investments under a Propensity Score Matching (PSM) Staggered Difference-in-Differences (DiD) approach. The main goal is to understand how EIB investments in non-EU countries impact the EU.

The remainder of this project is structured as follows. Section 2 provides an institutional framing and a comprehensive review of relevant literature. Section 3 explores the methodology applied in the study. Section 4 summarizes the data collected. Section 5 explains the analysis conducted and the respective empirical findings. Section 6 presents the conclusions, discusses the limitations of the results and suggests future research on the topic.

2. Literature Review

2.1. Institutional Background

2.1.1. Multilateral Development Banks

MDBs, such as the EIB, are institutions owned by two or more sovereign nations. The mandates typically promote sustainable economic development, regional cooperation and economic integration through loans (Engen & Prizzon, 2018). In addition, these institutions face increasing expectations to support policymakers in addressing a growing list of global challenges, such as debt distress, health crises, and the climate emergency (Engen & Prizzon, 2018; European Investment Bank, 2023a). MDBs have been expanding their lending operations, mobilizing $220.1B in 2023 – a 35% increase since 2017. Notably, $87.9B was allocated to low- and middle-income countries, a growth of 48% over the same period (Multilateral Development Banks, 2018, 2025). Depending on its scope and mission, a MDB may operate on a global, regional or sub-regional scale (Engen & Prizzon, 2018).

2.1.2. European Investment Bank

The EIB was established in 1958 under the Treaty of Rome, being both an investment bank and a global development bank. Due to its investment volume (a trillion € since its establishment), it has been referenced several times as the biggest MDB. The EIB collaborates with other EU institutions to promote European integration and development. It also works as a policy enforcer by supporting EU policies in over 160 countries due to its global strategy (European Investment Bank Group, n.d.a).

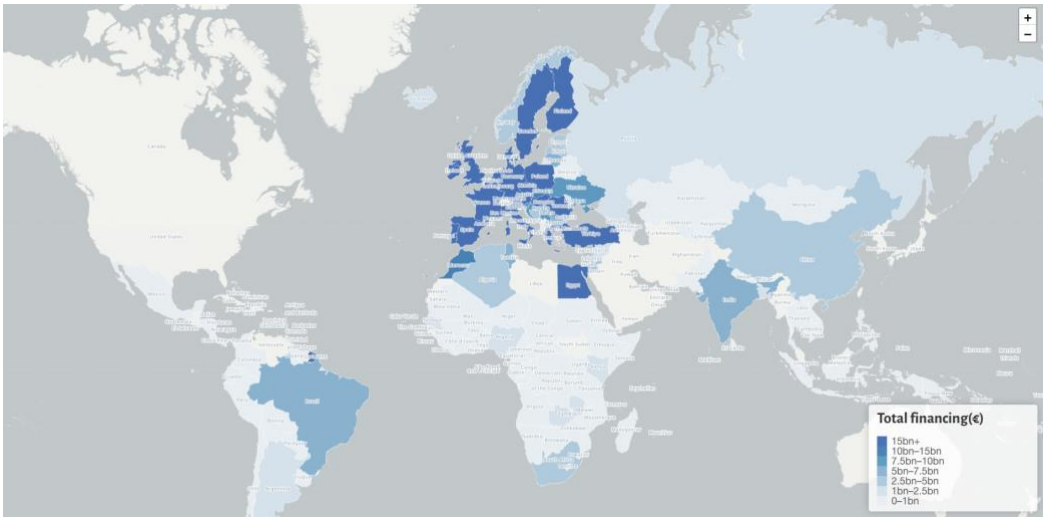
The bank's shareholders are the 27 Member States of the EU, with each country's capital share determined by its gross domestic product (GDP) at the time of admission to the Union (European Investment Bank Group, n.d.c). The EIB's funding model relies on the capital markets (European Investment Bank Group, n.d.b). The EU bank follows a funding strategy common in this type of bank, a plan where it can maintain its AAA credit rating to keep borrowing costs low (Humphrey, 2018).

Since 2024, the EIB has been focused on projects in the following core priority areas: (1) climate action and environmental sustainability; (2) digitalisation and technological innovation; (3) security and defence; (4) a modern cohesion policy; (5) agriculture and bioeconomy; (6) social infrastructure; (7) high-impact global investment and (8) capital markets union (European Investment Bank Group, n.d.a; European Investment Bank, 2024b). The EU bank invests evenly in the public and private sectors, directly in a project or through financial intermediaries.

The geographic lending activity is divided into projects inside and outside the EU. Initially, the EIB focused on supporting projects in EU countries, but its strategy has evolved (see Erforth and Keijzer

(2025) for a detailed discussion of this change). Currently, the bank has a global presence, especially after the launch of EIB Global in 2022.

Figure 1: Geographic distribution of EIB loans since 1958



In 2023, the investment landscape comprised €68.2 billion invested inside the EU and €8.4 billion (~11%) outside the EU. To date, it has mobilized about €80 billion for the EU Global Gateway and it is expected to contribute to one-third of the Gateway's total investment target by 2027 (European Investment Bank Group, n.d.d).

The external activity of the bank is subdivided into geographical areas – from Enlargement Countries to Sub-Saharan Africa. This subdivision occurs because the EIB has different strategic priorities, financing instruments and partnership approaches in each region, allowing it to tailor EIB's activity better (European Investment Bank, 2023a).

2.2. Theoretical Role of EIB Global

The EIB makes loans to promote development and integration over investment and capital constraints (Clifton et al., 2018). During the Multiannual Financial Framework (MFF) 2021–2027 negotiations, a broader reshaping of the EU development financing landscape was discussed, challenging the EIB's traditional privileged position. In response, the bank launched EIB Global, a new branch designed to better align its external operations with EU foreign policies such as the Global Gateway, Green Deal and specific regional policies (Erforth & Keijzer, 2025; European Investment Bank, 2023a). EIB Global emerges not only as a development actor but also as a geopolitical instrument of the EU. This dual identity and the effectiveness of external investments are an understudied area in literature (Bougrea, 2025).

2.3. Evolution of the External Strategy

Contextualizing the EIB within the broader external strategy of EU institutions is important as the strategy of other EU institutions can significantly influence the EIB due to their close cooperation. The EIB was conceptualized as a policy-taker (Erforth, 2020) and continues to align its strategy based on EU priorities (Erforth & Keijzer, 2025; European Investment Bank, 2023a). So, understanding the broader framework of the EU's external strategy is crucial to understanding the EIB's growing role as an instrument of external actions.

The evolution of the EU foreign policy is a complex process. For the sake of clarity and relevance, this study focuses on recent milestones. On June 14th, 2018 (1), the European Commission proposed an increase to €123 billion in the external action budget - MFF 2021-2027 (European Commission, 2018), guaranteeing the importance of this increase for higher flexibility and better address today's global challenges. In the meantime, COVID-19 started, and the EU launched a major recovery plan – Next Generation EU. On June 2nd, 2020 (2), the European Commission proposed an amendment to reinforce the support of external countries in fighting and recovering from the impact of the pandemic (European Commission, 2020a). To finalize the process of the EU's long-term budget for 2021-2027, on 17th December 2020 (3), the European Commission welcomes the Council to adopt it (European Commission, 2020b).

One of the most recent significant developments in the EU external policy is the launch of the Global Gateway strategy on December 1st, 2021 (5). This initiative aims to mobilize up to €300 billion in investments to support connections globally in digital infrastructure, climate, energy, transport, health, education, and research. Part of the amount will be invested in partnership with the EIB (European Commission, 2021).

The EU has been shaping policies relative to its global presence, and in June of 2021, it challenged the EIB to contribute to those efforts. On the 15th of September 2021 (4), the EIB responded by announcing a new branch focused on global development finance (European Investment Bank, 2021). The official launch of the new branch happened on January 27th, 2022 (6):

> "(…) we have embarked on a process to reform EIB's activities outside the EU and establish a specialised development finance arm. This will be called EIB Global. A strong brand." said Werner Hoyer, EIB President (European Investment Bank, 2022)

Events (1), (2), (3), (4), (5) and (6) mark significant shifts in foreign policies by an increase of funds allocated to external partners or strategy adjustments and so will be considered later as the events to study investors and firms' reactions.

2.4. Financial Market Reactions to MDB Activity

Previous studies on the external strategies of MDBs have been mainly focused on the financial market reactions in recipient countries to investment announcements or disbursements. For example, equity markets in emerging economies tend to react positively to World Bank loan approvals, with heterogeneity based on the type of loan (Kersting & Kilby, 2024). Reactions might be interpreted as signals of anticipated improvements in firm performance due to MDB lending activity. In the case of the EIB, recent research shows that its loans can improve firm-level financial indicators, particularly when regions are less developed (Gereben et al., 2019; Amamou et al., 2020). Further, EIB investments in non-EU countries signal private borrowers that loans in emerging and developing countries are safe (Gatti et al., 2023).

To my knowledge, studies that shift the lens from recipient market benefits to donor country effects remain largely unexplored. This study contributes a new angle on market responses to MDB actions and how such investments translate into tangible returns for the donor region - in this case, the EU.

Adjacent literature on cross-border capital flows suggests that shocks in emerging markets can spill over into advanced economies (International Monetary Fund, 2016). While MDBs differ from global commercial banks in purpose, developed financial markets may still react to changes in EIB capital allocation. This could imply a reduced focus on domestic lending, affecting expectations about future support for EU-based projects. Although modest in magnitude, the EIB's 2023-2025 financing program foresees a decline in lending within the EU, while the EIB Global branch is expected to expand (European Investment Bank, 2023c).

In parallel, recent literature has begun to explore the bond yield spreads of MDBs. For example, Kolasa et al.'s (2024a) analyse that factors such as credit rating, government indicators and shareholders conflict condition MDB yield spread at issuance. Relatively to what influences the bond spread over time, Kolasa et al.'s (2024b) find that credit rating downgrades have a slightly positive impact on average CACS, although statistically insignificant. Despite these contributions, studies on bond reactions to strategic changes in MDBs remain scarce.

This literature gap is relevant to address because these institutions raise capital by issuing a considerable amount of bonds. Currently, it has up to 900 bonds with a face value of $100 billion by quarter (Kolasa et al., 2024a). For MDBs such as the EIB, preserving a low cost of funding is essential to maintain their lending capacity (Kolasa et al., 2024b; Erforth & Keijzer, 2025). Since MDBs depend on the AAA credit rating, a sustained increase in yield spreads due to concerns about strategic shifts can signal higher risk and eventually impact credit rating.

2.5. Development Finance and EU Economic Interests

There is theoretical and empirical recognition that donor regions may pursue strategic economic interests through external development finance. A noted perspective is Aid for Trade, which suggests that development finance can enhance trade capacities in recipient countries, ultimately increasing exports to donor economies (Wagner, 2003; Nowak-Lehmann et al., 2009). However, the direction of the causality remains debated: Does aid cause trade or does trade cause aid? While Wagner (2003) concludes that it is a reciprocal agreement, others present evidence that aid comes first (Nowak-Lehmann et al., 2009).

In 2024, 65% of the total official development assistance (ODA) was channeled through multilateral development organizations (OECD, 2024). The EIB contributes to this trend, with EIB Global having a considerable proportion of the financing qualified as ODA. In 2022, 77.4% of disbursements to recipients in countries listed by the Organisation for Economic Cooperation and Development (OECD) Development Assistance Committee were qualified as ODA (European Investment Bank, 2024a).

Trade finance is an important mechanism in this context. It is crucial in enabling developing countries to be integrated into global trade (Auboin, 2007). Development finance institutions have made various efforts to mobilize trade finance for these countries (Auboin, 2007). EIB Global is developing trade finance as one of its products (European Investment Bank, 2023a). Access to this mechanism might influence trade flows. When constraints happen during a financial crisis, it leads to a decrease in trade flows, both in exports and imports (Ronci, 2004).

This provides an opportunity to evaluate whether the overall EIB investments in non-EU countries function similarly to aid in fostering trade links on top of its development mission.

3. Methodology

The analytical approach of this study is twofold, reflecting both short- and long-term dimensions.

3.1. Impact of EIB Announcements

3.1.1. Event Study Methodology

For the short-term analysis, event studies are the standard method for identifying abnormal returns (AR) in response to a specific event. These studies are used when authors want to measure the impact of a specific event on the value of common equity and possibly on other types of financial instruments, such as debt securities (MacKinlay, 1997). The most commonly used model for estimating normal returns is the market model, used in Brown and Warner (1985) with daily data, which regresses asset returns against a market portfolio.

The event study methodology has focused on firms in a single country. However, for event studies with several countries, literature discusses adapting the single-country methodology to a multi-country methodology (Park, 2004). My daily return analysis is not country-specific or focused on the macro-level, such as national indexes return, but instead focuses on firm-level stock returns within a single integrated market (the EU), so this study adopts the single country methodology present in MacKinlay (1997) and Brown and Warner (1985).

In the context of MDBs, stock market event studies have been used to examine investor's reactions to institutional lending (Kersting & Kilby, 2024). Regarding bond markets, the event study methodology has been applied to corporate bonds (Maul & Schiereck, 2017) and MDBs bonds (Kolasa et al., 2024b). The bonds' study adapts the methodological approach of Collin-Dufresn et al.'s (2001), who analyse changes in credit spreads to capture abnormal movements in bond yields relative to benchmarks, to the context of supranational bond markets.

3.1.2. Stock Market Event Study

This part follows Brown and Warner (1985) event study method with the market model for estimating the expected returns. The daily AR are computed as follows:

$$AR_{i,t} = R_{i,t} - \widehat{\propto_i} - \widehat{\beta_i} R_{m,t} \quad (1)$$

where AR_{it} is the abnormal return for firm i on day t, R_{it} is the actual return for firm i on date t. $\propto_i$ and β_i are the estimators of the ordinary least squares regression model of firm i. The estimators are calculated based on the market model. This statistical model relates the return of a stock to the return of the market portfolio, in this case, the return of the index STOXX Europe 600. To calculate the

parameters, an estimation window needs to be defined. Given the specifics of this event study, an estimation window of 120 days prior to the oldest day of any event window by event will be used (MacKinlay, 1997). R_{mt} is the return of the market portfolio on day t.

To ensure robustness in the results, two event windows were computed. Following Kersting and Kilby (2024), the primary event window of interest is [-3; +3]. For robustness, another event was considered [-5; +5]. Figure A-1 displays the timeline of the windows.

Due to heterogeneity in reactions to MBD investments (Kersting & Kilby, 2024), panel regressions were applied to find how firm-specific characteristics - exposure to EIB investments, greenhouse gases (GHG) and industry - might have reacted differently to EIB's strategy.

Following other finance studies (e.g., Bauer et al., 2025), this study measures firm-level of greenness based on carbon emissions – the sum of scope 1 (direct) and scope 2 (indirect) total GHG emissions in tons of total CO_2 equivalents – as a % of total revenues. Reflecting EIB Global's commitment to the Global Gateway strategy (European Investment Bank, 2024a), the industry categorisation is aligned with its priority sectors. Each firm's industry is assigned based on its Statistical Classification of Economic Activities (NACE) code (table A-1).

Earnings announcements are consistently considered in the literature to cause significant AR over short event windows due to the release of value-relevant information (Beaver, 1968; MacKinlay, 1997). A control variable for earnings announcements with a [-2; +2] window was added to the study to guarantee that the event effects estimates are not biased by earnings announcements.

To analyse the reactions over the days, the following equation was used:

$$\begin{aligned} y_{i,t} = \ & \alpha + \beta_1 ED_{i,-5} + \beta_2 ED_{i,-4} + \beta_3 ED_{i,-3} + \beta_4 ED_{i,-2} + \beta_5 ED_{i,-1} + \beta_6 ED_{i,1} + \beta_7 ED_{i,2} + \\ & \beta_8 ED_{i,3} + \beta_9 ED_{i,4} + \beta_{10} ED_{i,5} + \beta_{11} \text{Earnings Announcement}_{i,t} + \mu_i + \varepsilon_{it} \end{aligned} \quad (2)$$

where $y_{i,t}$ is the AR or the cumulative abnormal returns (CAR) of stock i in time t. α is the constant term that measures the effect on the day of the event t=0. β_k with $k \in \{1;10\}$ measures the average effect on a day compared to the event day. μ_i are firm i fixed effects. Table 1 provides the definition and description of each variable.

To assess each event-specific effect, the following equation was computed:

$$\mathrm{AR_{i,t}} = \alpha + \beta_1 \mathrm{Post\_Event_{i,t}} + \beta_2 \mathrm{Earnings\ Announcement_{i,t}} + \mu_i + \varepsilon_{it} \quad (3)$$

where $AR_{i,t}$ is the abnormal return of firm i in time t. α is the constant term that measures the AR in the pre-period window (e.g., t <= 0). The coefficient β_1 tells the average impact of the event in the post-event period.

For the heterogeneity analyses, three regressions were computed:

$$\begin{aligned}\mathrm{AR_{i,t}} = {} & \alpha + \beta_1 \mathrm{Post\_Event_{i,t}} + \beta_2 \mathrm{Transport}_i * \mathrm{Post\_Event_{i,t}} + \beta_3 \mathrm{Climate\&Energy}_i \\ & * \mathrm{Post\_Event_{i,t}} + \beta_4 \mathrm{Health}_i * \mathrm{Post\_Event_{i,t}} + \beta_5 \mathrm{Education}_i * \mathrm{Post\_Event_{i,t}} \\ & + \beta_6 \mathrm{Digital}_i * \mathrm{Post\_Event_{i,t}} + \beta_7 \mathrm{Earnings\ Announcement_{i,t}} + \mu_i + \varepsilon_{it}\end{aligned} \quad (4)$$

where $AR_{i,t}$ is the abnormal return of firm i in time t. The coefficient β_k with $k \in \{2;6\}$ tells the average impact of the event in the post-event period in each of the Global Gateway's priority industries. β_1 is the post-event reaction of firms in non-priority industries.

$$\begin{aligned}\mathrm{AR_{i,t}} = {} & \alpha + \beta_1 \mathrm{Post\_Event_{i,t}} + \beta_2 \mathrm{GHG}_{i,t} * \mathrm{Pre\_Event_{i,t}} + \beta_3 \mathrm{GHG}_{i,t} * \mathrm{Post\_Event_{i,t}} \\ & + \beta_4 \mathrm{Earnings\ Announcement_{i,t}} + \mu_i + \varepsilon_{it}\end{aligned} \quad (5)$$

where $AR_{i,t}$ is the abnormal return of firm i in time t. The coefficient β_2 captures the marginal change in AR for each unit increase in GHG exposure above the average during the pre-event window. β_3 reflect the same marginal effect but during the post-event window.

$$\begin{aligned}\mathrm{AR_{i,t}} = {} & \alpha + \beta_1 \mathrm{Post\_Event_{i,t}} + \beta_2 \mathrm{EIB\ Exposure}_i * \mathrm{Post\_Event_{i,t}} \\ & + \beta_3 \mathrm{Earnings\ Announcement_{i,t}} + \mu_i + \varepsilon_{it}\end{aligned} \quad (6)$$

where $AR_{i,t}$ is the abnormal return of firm i in time t. The coefficient β_1 captures AR of firms not exposed to EIB investments in the post-event period. β_2 reflects the reaction of firms exposed to EIB investments during the same period.

Table 1: Definition of variables (stock event study)

Variable	Abbreviation	Description
Event Day	ED_k	Dummy equals 1 if the observation falls on day $t = k$ within the event window [−k; +k] and 0 otherwise
Pre-Event	Pre_Event	Dummy equals 1 if day t ∈ [-k; 0] and 0 otherwise
Post-Event	Post_Event	Dummy equals 1 if day t ∈ [1; +k] and 0 otherwise
Transport Industry	Transport	Dummy equals 1 if NACE code of transport industry and 0 otherwise
Climate and Energy Industry	Climate&Energy	Dummy equals 1 if NACE code of climate and energy industry and 0 otherwise
Health Industry	Health	Dummy equals 1 if NACE code of health industry and 0 otherwise
Education Industry	Education	Dummy equals 1 if NACE code of education industry and 0 otherwise
Digital Industry	Digital	Dummy equals 1 if the NACE code of digital industry and 0 otherwise
Centered GHG (% revenues)	GHG	Center of GHG (% revenues). Positive if GHG (%) is higher than the average and negative otherwise
EIB Exposure	EIB Exposure	Dummy equals 1 for a firm with the NACE code that EIB invests and 0 otherwise.
Earnings Announcement	Earnings Announcement	Dummy equals 1 if the day is in the [-2; +2] event window of earnings announcement day and 0 otherwise

3.1.3. Bond Market Event Study

This study relies on an event study methodology to test whether changes in EIB's external strategy influenced bond yields. Following Collin-Dufresn et al. (2001), the measure used to analyse the market reaction to the events was the abnormal change in spread (ACS):

$$\mathrm{ACS}_{i,t} = (\gamma_{i,t} - \gamma_{i,t-1}) - (\gamma_{\mathrm{benchmark},t} - \gamma_{\mathrm{benchmark},t-1}) \quad (7)$$

where γ_i is the yield to maturity of bond i and $\gamma_{\mathrm{benchmark}}$ refers to the yield of a government bond with similar characteristics - maturity and credit rating - to bond i. Since EIB bonds hold a triple-A credit rating, the Euro Area AAA government bonds' yield curve spot rate is the benchmark. The maturity is based on three groups: maturity on the day of the event is lower than 5 years, between 5 and 10 years, and above 10 years. Benchmarking bond yields aims to assess whether changes in EIB bond yields are abnormal compared to Euro Area AAA bonds.

To ensure robustness in the results, two event windows were computed. The event windows are [-3; +3] and [-5; +5].

Panel regressions were applied to find how bond-specific characteristics - bond maturity, liquidity, and green bond classification - might have reacted differently to EIB's strategy. The amount issued is used as a proxy for liquidity.

Factors that might affect yield spread changes, such as market volatility and bund yield changes, were added as control variables to guarantee that the effects associated with reactions to EIB events are not biased by these factors (Collin-Dufresn et al., 2001; Kolasa et al., 2024b). Credit rating changes were not added as a control variable because the EIB has consistently maintained its triple-A rating (Collin-Dufresn et al., 2001; Kolasa et al., 2024b).

Following the stocks' methodology, equation (2) was now computed with $y_{i,t}$ corresponding to ACS or cumulative abnormal change in spread (CACS). In equation (3), AR are replaced with ACS. The variable Earnings Announcement was replaced by the bond's control variables: Δ Volatility and Δ Bund yield. Table 2 provides the definition and description of each variable.

For the heterogeneity analyses, three regressions were computed:

$$\begin{aligned} \mathrm{ACS_{i,t}} = \; & \alpha + \beta_1 \mathrm{Post\_Event_{i,t}} + \beta_2 \mathrm{Amount\ Issued}_i * \mathrm{Pre\_Event_{i,t}} + \; \beta_3 \mathrm{Amount\ Issued}_i \\ & * \mathrm{Post\_Event_{i,t}} + \beta_4 \Delta\ \mathrm{Volatility_t} + \beta_5 \Delta\ \mathrm{Bund\ yield_t} + \varepsilon_{it} \end{aligned} \quad (8)$$

where $ACS_{i,t}$ is the abnormal change in the spread of bond i in time t. The coefficient β_2 reflects the marginal change in ACS for each unit increase in the amount issued above average during the pre-event window. Coefficient β_3 expresses the same but in the post-event window. Bond fixed effects were omitted because the variable of interest, Amount Issued, does not vary over time, which would make it impossible to estimate coefficients β_2 and β_3 if included.

$$\begin{aligned} \mathrm{ACS_{i,t}} = \; & \alpha + \beta_1 \mathrm{Post\_Event_{i,t}} + \beta_2 \mathrm{Medium\ Mat}_{i,t} * \mathrm{Post\_Event_{i,t}} \\ & + \beta_3 \mathrm{Long\ Mat}_{i,t} * \; \mathrm{Post\_Event_{i,t}} + \beta_4\, \Delta\ \mathrm{Volatility_t} + \beta_5\ \Delta\ \mathrm{Bund\ yield_t} + \mu_i + \varepsilon_{it} \end{aligned} \quad (9)$$

$ACS_{i,t}$ is the abnormal change in the spread of bond i in time t. β_k with $k \in \{1;3\}$ captures the post-event effect of bonds, depending on its maturity. β_1 is the effect for bonds with maturity lower than 5 years. β_2 reflects the effect for bonds with maturity between 5 and 10 years and β_3 is for bonds with a maturity higher than 10 years.

$$\mathrm{ACS_{i,t}} = \alpha + \beta_1 \mathrm{Post\_Event_{i,t}} + \beta_2 \mathrm{Green}_i * \mathrm{Post\_Event_{i,t}} + \beta_3\, \Delta\, \mathrm{Volatility_t} + \beta_4\, \Delta\, \mathrm{Bund\ yield_t} + \mu_i + \varepsilon_{it} \quad (10)$$

$ACS_{i,t}$ is the abnormal change in the spread of bond i in time t. The coefficient β_2 captures the post-event effect of green bonds and β_1 reflect the effect of non-green bonds in the same period.

Table 2: Definition of variables (bond event study)

Variable	Abbreviation	Description
Pre-Event	Pre_Event	Dummy equal 1 if day t ∈ [-k; 0] and 0 otherwise
Post-Event	Post_Event	Dummy equal 1 if day t ∈ [1; +k] and 0 otherwise
Centered ln(Amount Issued)	Amount Issued	Center of ln (Amount Issued). Positive if the amount issued is higher than the average of the log and negative otherwise
Medium Maturity	Medium Mat	Dummy equals 1 if bond i at time t has a maturity between 5 and 10 years and 0 otherwise
Long Maturity	Long Mat	Dummy equals 1 if bond i at time t has a maturity above 10 years and 0 otherwise
Green Bond	Green	Dummy equals 1 if bond i is a green bond and 0 otherwise
VSTOXX	Δ Volatility	Difference between day t and day t-1of VSTOXX price
Change in Bund yield	Δ Bund yield	Difference between day t and day t-1 of the 10-year Germany bond yield

3.2. Long-term Impact on the EU of EIB External Activity

3.2.1. PSM with Staggered DiD Methodology

While much of the Aid for Trade literature relies on gravity models to estimate trade flows based on country characteristics and bilateral ties (Wagner, 2003; Nowak-Lehmann et al., 2009), these models are less suitable to measure the causal effect that EIB investments might generate. Due to the focus of my research - how EIB investments in non-EU countries impact the EU - I aim to isolate changes in macroeconomic indicators in treated countries, compared to non-recipients over time. For that, this study adopts a quasi-experimental design combination of PSM with a staggered DiD approach.

The challenge of impact assessments is when the counterfactual cannot be detected. The aim is to measure the difference between the average performance of EIB-funded countries and their average performance without EIB loans. However, the last group is unobservable and cannot be measured. Under certain assumptions, Randomized Control Trials can answer an impact question (Glennerster

& Takavarasha, 2013), by randomizing countries receiving and not receiving EIB loans. However, the Randomized Control Trials methodology does not apply to this study as it is impossible to randomize countries because EIB does not randomly select borrowers. EIB follows a structured project appraisal and economic analysis process (see European Investment Bank, 2023b).

PSM addresses the selection bias of the treatment group by grouping treated and control units with similar observable characteristics at the time of treatment (Rosenbaum & Rubin, 1983). After this, the Conditional Independence Assumption implies that once observable characteristics are accounted for, the differences in outcomes can be explained by treatment (Caliendo & Kopeinig, 2008). In addition, the Common Support Condition must also hold, requiring a positive probability of a country receiving or not receiving an EIB loan. The effect of the impact is measured in the region of common support (Caliendo & Kopeinig, 2008). With these assumptions, it is possible to create an unbiased counterfactual for the countries receiving an EIB loan.

To assess the effects, PSM is complemented with a staggered DiD estimator. DiD is a common methodology to evaluate the causal effects of policy interventions (Callaway & Sant'Anna, 2021).

The standard canonical format assumes there are two time periods – "pre" and "post" - and two groups - "treatment" and "control" - where treatment is assessed in a two-way fixed effects (TWFE). The TWFE estimate the overall effect of being treated among groups and periods (Callaway & Sant'Anna, 2021). In situations where there is variation in treatment timing over units, TWFE produce misleading results due to contamination by effects from other periods and what appears to be pre-trends can result from variation in how the treatment affects different units (Sun & Abraham, 2021).

Callaway and Sant'Anna (2021) propose an alternative estimator that does not have the pitfalls associated with TWFE. The approach presents a framework with multiple periods allowing for group-time average treatment effects, i.e., the average treatment effect for the treated (ATT) for group g at time t, where a "group" is defined by the time when units were treated.

The methodology considers two possible comparison groups for the parallel trends: the "Never-Treated" Group or the "Not-Yet Treated" Group. In line with the methodology's preference, this study adopts the "Never-Treated" group as the comparison group. Relatively to the DiD estimator, the suggestion is to use a doubly robust estimator (Callaway & Sant'Anna, 2021). As the initial EIB investment occurs at different times across countries (see table A-2), this study adopts a staggered DiD approach due to the rationale previously discussed.

3.2.2. Propensity Score Matching

To reduce the selection bias, countries should be matched based on the factors that influence EIB investments and the outcome variables, making the treatment assignment as close to random as possible (Caliendo & Kopeinig, 2008).

The PSM method used was K-nearest neighbor matching. Allowing for replacement increases the quality of the match and decreases bias (Caliendo & Kopeinig, 2008), so each treated unit was matched with up to five control units (K=5). The propensity score (probability of being selected into treatment) was estimated using a probit regression based on five covariates. To guarantee that variables are unaffected by participation, the value of each covariate corresponds to the average over pre-treatment years (Caliendo & Kopeinig, 2008), in this case, the last three years. The model specification is as follows:

$$\begin{aligned}\Pr(T_{it} = 1 | T_{i,0}) \\ &= \Phi(\beta_0 + \beta_1 \text{ Innovation} + \beta_2 \text{ Sustainability} + \beta_3 \text{Distance} \\ &+ \beta_4 \text{Political Stability} + \beta_5 \text{ GDP per capita})\end{aligned} \quad (11)$$

where Pr() is the probability of a country being treated, Φ is the cumulative normal distribution, and variable T is a dummy determining if a country was ever treated. The covariates are innovation, sustainability, distance, political stability and GDP per capita.

Covariate choice aims to include all the important variables influencing the likelihood of receiving EIB investments (i.e., selection into treatment). For that, it was necessary to understand the EIB's decision process to approve a loan. According to the European Investment Bank (2023b), sustainable index and innovation are key project measures. For innovation, the number of patent applications per capita was used. The proxy used to measure sustainability was CO_2 emissions per capita (lower emissions indicating higher sustainability).

The descriptive statistics in table 3 show that the regions with higher signed amounts - Enlargement and Mediterranean Countries - are the regions closest to the EU. This empirical evidence suggests that closer countries are more likely to be selected for EIB support, so distance to the EU was considered a relevant covariate.

Table 3: EIB's signed amount by region between 1965 and 2024 (in millions of €)

	Signed Amount	
Region	**Total**	**%**
Africa, Caribbean, Pacific countries	21 366	13%
Asia and Latin America	27 621	17%
EFTA Countries	5 591	3%
Eastern Europe, Southern Caucasus	14 256	9%
Enlargement Countries	46 384	28%
Mediterranean Countries	47 279	28%
South Africa	3 906	2%
Total	**166 404**	**100%**

Country stability is essential for the EIB, as it represents a favorable environment for long-term development and mitigates the risks associated with unstable investments that could affect the bank's triple-A credit rating. A political stability indicator was considered to assess that. Credit ratings were initially considered a relevant covariate, however, due to the limited availability of credit rating data across the full sample of countries in pre-treatment years (44 countries with data), credit ratings were excluded from the PSM.

EIB often targets less developed regions to promote economic development and integration (Clifton et al., 2018), so GDP per capita was considered a proxy for economic development level.

3.2.3. Staggered DiD

The timing of EIB's first intervention varies across countries. In table A-2, it is possible to explore when the first investment was signed, based on countries that signed the first investment until 2019. This allows for an analysis of economic trends in the five years preceding and following the EIB's first investment in all countries.

Following Callaway and Sant'Anna (2021), group-time ATT were estimated, where each group consists of units that receive treatment in the same period g, and compares their outcomes in period t to an appropriate control group, in this case of never-treated units:

$$\mathrm{ATT_{g,t}} = \mathrm{E}[\mathrm{Y_t(g)} - \mathrm{Y_t(0)} \mid \mathrm{G} = 1] \tag{12}$$

where $ATT_{g,t}$ is the average treatment effect for group g (treated in year g) in period t. Period t is between 5 years prior to treatment and 5 years post-treatment. $\mathrm{Y_t(g)}$ is the potential outcome under treatment and $Y_t(0)$ is the counterfactual outcome without treatment. G indicates the treatment group. Then, these effects are aggregated into a final ATT, calculated as a weighted average over group-time

ATTs. Following Sant'Anna and Zhao (2020) process, ATT is estimated based on a doubly robust DiD estimator with never-treated countries as controllers.

Relatively to the economic variables, the study focuses on macroeconomic and capital flows between non-EU countries and the EU. It studies the changes in imports from the EU to non-EU countries, exports to the EU by non-EU countries and outward foreign direct investment (FDI) flows of non-EU countries. Using absolute values of those variables would give higher weight to countries with higher levels, potentially biasing the ATT. To address that concern, the log of those variables will be used as the dependent variables.

The ATT of the three dependent variables – Exports (in logs[1]), Imports (in logs) and Outward FDI Flows (in logs) were controlled for the variables presented in table 4.

Table 4: Control variables in staggered DiD

Variables	**Exports**	**Imports**	**Outward FDI Flows**	**Variable Description**
Population	X	X		Log the population of country i in year t
GDP growth	X	X	X	% change in GDP (constant $) of country i from year t-1 to t
Consumer Price Index (CPI) Inflation	X	X		% change in CPI of country i from t-1 to year t
Trade Openness	X	X		Sum of imports and exports as a % of GDP of country i in year t
Trade Agreements	X	X		Dummy equals 1 if country i at year t has an active trade agreement with the EU and 0 otherwise
Final Consumption		X		Final consumption as a % of GDP (constant $) of country i in year t
Candidate Country	X	X	X	Dummy equals 1 if country i at year t was an EU candidate country and 0 otherwise
Country Fixed Effects	X	X	X	
Year Fixed Effects	X	X	X	

[1] log refers to the natural logarithm. Throughout this paper, all logarithmic transformations use the natural logarithm.

4. Data

This section describes the data used in the empirical study.

4.1. Data Collection

In the first two sections, the data was collected for 6 years between 2017 (stocks) / 2018 (bonds) and 2022 to cover all the events considered. Brown and Warner (1980, 1985) analyse the attributes of using different data frequencies in event study methodologies. Based on the conclusion that daily data poses minimal challenges (Brown & Warner, 1985), I opted for that type of frequency in my panel dataset.

The third section considers data from 1960 (5 years before the first EIB investment to a non-EU country) to 2024. In this case, the panel dataset is annual, which is the common frequency for macroeconomic indicators.

4.2. Stock Returns

The sample was constructed based on the current constituents of the STOXX Europe 600. This stock index has a fixed number of 600 components of small, mid and large capitalization companies from 17 countries and 11 industries (STOXX Ltd., n.d.a). STOXX Europe 600 represents 90% of the underlying investable market and is considered the continent's benchmark, motivating the use of this index to assess the reaction of the EU to changes in EIB's external strategy (STOXX Ltd., n.d.b).

The stock returns of a firm derive from the change in the stock prices, calculated as follows:

$$R_{it} = \frac{P_{i,t} - P_{i,t-1}}{P_{i,t-1}} \tag{13}$$

The stock prices of the constituents of STOXX Europe 600 and of the stock itself, from 2017 to 2022, were collected from LSEG. The constituents were filtered to consider stocks continuously listed since the 14th of December 2017, the oldest day of the estimation window of event one. As a result, the overall sample size consists of N = 559 stocks.

Sectors or activities not exposed to EIB investments are based on a Sensitivity list of NACE codes obtained from EIB's website. Scope 1 and 2 of GHG emissions as a % of total revenues, the NACE code of each firm and dates of earnings announcements were collected from LSEG. Table A-3 presents the descriptive characteristics of the firms in the sample.

4.3. Bond Yields

The study of investors' reaction to EIB's external strategy was based on outstanding bonds of EIB with maturity after June 2018 (the date of the first event). The bond yield to maturity from 2018 to 2022 and attributes, such as the coupon type, maturity, currency, amount issued and greenness, were obtained from LSEG.

Due to the objective of the study and to avoid confounding effects from exchange rate volatility, the sample was filtered only to include bonds issued in euros (44.2% of the total amount issued). Of those 44.2%, only plain vanilla fixed coupon and zero-coupon bonds were considered (Collin-Dufresn et al., 2001). A summary of the total amount issued by currency and coupon type can be found in table A-4 and table A-5 in the appendix. Due to limitations in trade data or bonds not traded in at least one event, the final sample consists of N = 98 bonds. Table A-6 presents the descriptive characteristics of the bonds in the sample.

The Euro Area government bonds with AAA credit rating were collected from the ECB Data Portal for the bonds benchmark. Relative to the control variables, the price history of VSTOXX was obtained from LSEG and the 10-year German bond yield was extracted from Investing.

4.4. Events of EIB's External Strategy

As explained in Section 2.3, this study identifies six events as the key moments that directly or indirectly impact EIB's external strategy.

Table 5: Events of the EU external strategy

	Event	Institution	Date
(1)	Presentation of EU Budget Proposal	European Commission	14 June 2018
(2)	Amendment – Next Generation	European Commission	2 June 2020
(3)	Approval of EU Budget 2021-2027	European Commission	17 December 2020
(4)	Announcement of a new branch of EIB	European Investment Bank	15 September 2021
(5)	Launch of Global Gateway	European Commission	1 December 2021
(6)	Launch of EIB Global	European Investment Bank	27 January 2022

Events (1) and (3) represent broader institutional planning led by the European Commission. While the EU budget is often co-financed or supported by financial institutions, with EIB contributing through loans (Ferrer & Katarivas, 2014), market reactions to these events may not solely be due to the consequences of EIB's strategy. Events (2) and (5), although also led by the European

Commission, are only focused on the external mandate of the EU. The EU initiative of event (5) relies significantly on EIB Global involvement for its implementation (European Investment Bank, 2024a). Events (4) and (6) reflect internal decisions by the bank in repositioning its external strategy.

This differentiation is relevant for interpreting the empirical results as this helps clarify the extent to which observed impacts can be attributed to the EIB's evolving external role.

As Kersting and Kilby (2024) noted, a key empirical limitation is the potential anticipation of events by market participants, for example, due to prior discussions at the European level. However, the anticipation effect was not tested due to the lack of precise timing.

4.5. EIB Investments, Trade and Capital Flows

The countries considered as non-EU countries were based on the list published by the European Commission (European Commission, n.d.a) with some adjustments. Overseas territories of other countries were excluded, as their economies and financial flows are not autonomously governed. The United Kingdom was not considered because, in part, it was an EU country (until 2020). Monaco was added to the list because it is an independent country outside of the EU. The 169 countries considered non-EU countries are described in table A-7 in the appendix.

Regarding EIB loans, data on signed projects up to 2018 were retrieved from EIB Open Data (European Investment Bank, n.d.). The values of exports to the EU, imports from the EU, and outward FDI flows to the EU, which are necessary for the dependent variables, were exported from Eurostat.

For the geographic distance variable used in the PSM, the coordinates of the EU's center were obtained from the IGN (*Institut national de l'information géographique et forestière*) and the coordinates of the capital cities were sourced from GitHub. The variables GDP per capita (constant 2015 US$), political stability (indicator: political stability and absence of violence/terrorism) and population were retrieved from the dataset World Development Indicators of WorldBank. CO_2 emissions per capita were exported from Our World in Data and patent applications were exported from World Intellectual Property Organization. Country credit ratings were obtained from LSEG.

Relatively to the control variables, the population per country considered is the one exported from WorldBank. GDP at constant 2015 US$ (used to compute GDP growth), CPI inflation, trade openness and final consumption were collected from the dataset World Development Indicators of WorldBank. Trade policy is retrieved from the European Commission website, based on the table agreements in place (European Commission, n.d.b). The dates when a country was accepted as an EU candidate were collected from the EU website (European Union, n.d.).

5. Results

This section presents the empirical findings of the thesis, structured around the three analyses: the reaction of EU firms to key EIB external strategy events, the response of EIB bond yields to them and broader macroeconomic impacts on the EU.

Reactions to MDBs investments are heterogeneous across multiple dimensions (Kersting & Kilby, 2024). Accordingly, EU firms may respond differently to announcements depending on whether external investments are perceived as an opportunity for international growth and cooperation or a source of uncertainty, particularly concerning the potential dilution of financing.

The expansion of EIB's external lending increases its exposure to countries with higher economic and political risk (European Investment Bank, 2024a). A global mandate may raise market concerns regarding EIB's creditworthiness and overall risk profile (Erforth, 2020). Since the EIB's AAA rating is fundamental to its borrowing strategy, markets may perceive this as increasing the probability of future downgrades in credit rating, reflecting a rise in bond yields around announcements.

Regarding the macroeconomic impacts on the EU, the EIB operates under an integration mandate (Clifton et al., 2018), which suggests that deeper economic ties between the EU and non-EU countries might be expected following similar results of Aid for Trade. However, the political mandate of EIB Global or the lending volume may limit measurable macroeconomic impacts.

5.1. Stock Event Study

5.1.1. Full sample results

The results presented in graph 1 are the AR of 559 stocks, plotted using equation (2) for each day of the event window [-5; +5], with 95% confidence intervals. Additionally, the CAR over the same event window is plotted in graph 2, using equation (2), to capture the aggregate effect of the event.

In the period prior to the event, AR are consistently negative and statistically significant ($p<5\%$, except on day -1, which is not significant), declining CAR to -0.6% by day -1.

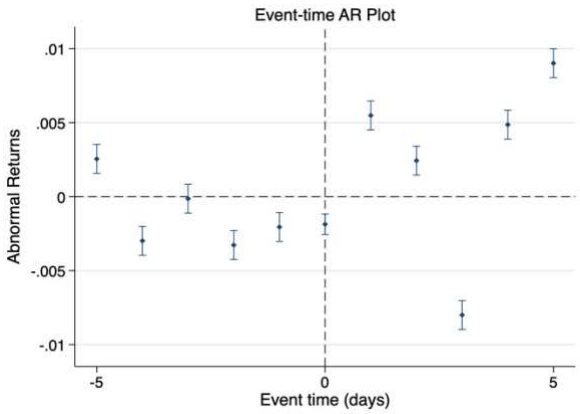
On the day of the event, AR = -0.19%, suggesting a small but significantly negative reaction. In the post-event, the results suggest a moderated and significant ($p<1\%$) trend of AR of +0.55%, +0.24%, +0.49%, +0.9%, day 3 is an outlier with an AR of -0.8%. On day 5, the CAR reaches a peak of 0.62%; if excluded day 3, it would be 1.4%. Coefficients are presented in appendix A-8.

The results show a statistically significant negative movement in stock prices prior to and on the day of external strategy announcements. However, this is followed by a reversal, with significant positive

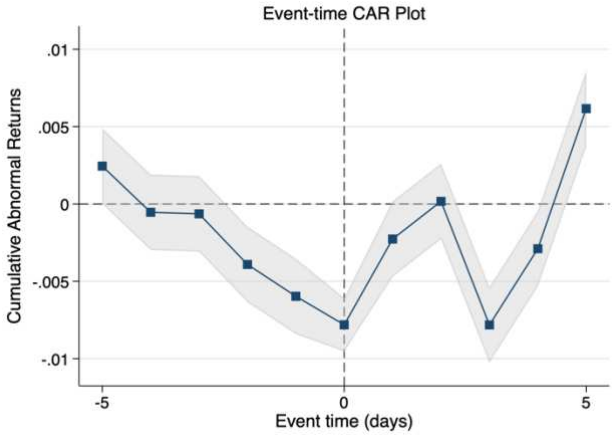
AR post-announcement, leading to a cumulative abnormal return of approximately +0.62% by day 5. This pattern suggests an initial market skepticism that is later corrected as more information is absorbed or that investors ultimately interpret EIB's external strategy positively.

The remainder of section 5.1. explores how these effects vary by event and with firm characteristics.

Graph 1: Event-time AR plot (stocks)



Graph 2: Event-time CAR plot (stocks)



Note: As AR and CAR are derived from regression coefficients, their values do not represent strict arithmetic sums but rather estimated average effects over the sample.

5.1.2. Disaggregated Results by Event

Table 6 is computed using equation (3). Overall, firms exhibited a statistically significant positive reaction after the events, with an average AR of 0.18% (table 6, regression overall, coefficient Post-Event [+1; +3]). When analysing the results by individual event, the majority show a significant positive reaction (table 6, regression (1), (2), (5) and (6)). In contrast, regression (3) and (4) show statistically significant negative reactions.

These heterogeneous responses might be caused by each event's scope and institutional origin, as initially discussed in Section 4.4. Events (1) and (3) may reflect general expectations about the EU's priorities rather than specific implications for EIB investments. Due to the powerlessness to isolate EIB-specific reactions, the negative reaction to event (3) could be attributed to market uncertainty regarding the overall allocation of EU financial resources. Events (2) and (5) appear to have sent clearer signals to the market about expanded external investment opportunities and a stronger commitment by EU institutions to external engagement. Reactions to EIB-specific events are aligned with the evolution of the reaction within the event window [-5; +5] (graph 1). There was an initial

negative reaction (event (4)), possibly due to uncertainty about internal restructuring and potential redirection of EIB resources. However, by the time of the official launch (event (6)), a better understanding of potential benefits for EU firms existed, contributing to the positive reaction. Subsequent EIB communications have emphasized its commitment to investments that support EU companies, such as building up capacity in the raw material value chains and supporting EU clients aiming to grow their activity in non-EU countries (European Investment Bank, 2023a).

Table 6: Event-specific stock results - EW [-3; +3]

	Overall	(1)	(2)	(3)	(4)	(5)	(6)
Post-Event [+1; +3]	**0.0018*****	**0.0012****	**0.0031*****	**-0.0077*****	**-0.0059*****	**0.0057*****	**0.0146*****
	(0.0003)	(0.0006)	(0.0008)	(0.0006)	(0.0006)	(0.0007)	(0.0007)
Earnings Announcements	**0.0024****	**0.0139****	**0.0002**	**-0.0114**	**0.0005**	**-0.0016**	**-0.0023**
	(0.0011)	(0.0064)	(0.0052)	(0.0078)	(0.0050)	(0.0054)	(0.0021)
Constant	**-0.0018*****	**-0.0014*****	**0.0022*****	**0.0016*****	**-0.0001**	**-0.0054*****	**-0.0076*****
	(0.0002)	(0.0004)	(0.0005)	(0.0004)	(0.0004)	(0.0005)	(0.0005)
Observations	23478	3913	3913	3913	3913	3913	3913
R^2	0.20%	0.20%	0.36%	4.08%	2.74%	1.85%	9.85%

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

5.1.3. Heterogeneity results

To assess whether firm-specific characteristics influence reactions, the following section estimates regressions that interact AR with industry (equation (4)), GHG intensity (equation (5)) and EIB exposure (equation (6)) (results in table 7, regressions (1), (2), and (3), respectively).

Industry

When segmenting by industry, results suggest that four out of the five Global Gateway priority sectors - Climate & Energy (-0.13%, p<10%), Health (-0.23%, p<10%), Education (-0.13%, not significant) and Digital (-0.11%, not significant) - reacted negatively to the event. In contrast, the Transport sector shows a significant positive coefficient, indicating that firms in this sector reacted positively (+0.39%, p<1%). Firms outside of the priority sectors reacted positively to the events (coefficient Post-Event [+1; +3] of +0.21%, p<1%).

These results suggest sectoral heterogeneity in market responses, consistent with existing literature on the differentiated impact of financial aid across sectors (Kersting & Kilby, 2024). The priority sectors are the most exposed to the new external strategy of EIB. In 2023, 6.1€ billion (73%) of the 8.4€ billion financed by the EIB Global was directed to support these sectors (European Investment Bank, 2024a). The observed heterogeneity suggests that investors perceived sector-specific exposure differently. While some sectors may have seen it as an opportunity (positive reaction), others may have viewed it cautiously, possibly due to uncertainty regarding the reallocation of EIB resources. Additionally, the appraisal methods used to evaluate EIB investments vary across sectors (European Investment Bank, 2023b), which can further shape different companies' expectations regarding the EIB's external strategy across sectors.

GHG

Given the EIB's mandate as a climate-focused institution, companies with above-average GHG are less exposed to EIB investments and might react less to such announcements. Firms with lower GHG levels might not see an increase in uncertainty because less developed countries have a lower capacity to demand green investments (Erforth & Keijzer, 2025). These conclusions cannot be taken as there is no difference in reaction based on the GHG of a firm (analysis of coefficient GHG * Pre-Event and GHG * Post-Event, where both are not statistically significant).

EIB Exposure

Firms classified under NACE codes with exposure to EIB investment activities might react differently than firms not eligible for EIB investments. The coefficient of EIB Exposure * Post-Event suggests a negative reaction of firms exposed to investments. However, it is not statistically significant, indicating no evidence of a differential reaction.

Table 7: Heterogeneity in stock reactions - EW [-3; +3]

	(1)	(2)	(3)
Post-Event [+1; +3]	**0.0021*****	**0.0018*****	**0.0019*****
	(0.0003)	(0.0003)	(0.0005)
Transport * Post-Event	**0.0039*****		
	(0.0013)		
Climate & Energy * Post-Event	**-0.0013***		
	(0.0008)		
Health * Post-Event	**-0.0023***		
	(0.0014)		
Education * Post-Event	**-0.0013**		
	(0.0029)		
Digital * Post-Event	**-0.0011**		
	(0.0009)		
GHG * Pre-Event		**0.0001**	
		(0.0001)	
GHG * Post-Event		**0.0001**	
		(0.0001)	
EIB Exposure * Post-Event			**-0.0000**
			(0.0006)
Earnings Announcements	**0.0023****	**0.0024****	**0.0023****
	(0.0011)	(0.0011)	(0.0011)
Constant	**-0.0018*****	**-0.0018*****	**-0.0019*****
	(0.0002)	(0.0002)	(0.0005)
Observations	23058	23170	23058
R^2	0.28%	0.18%	0.20%

Standard errors in parentheses; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

5.1.4. Robustness tests

To ensure the reliability of the results, I performed some robustness analysis by changing the event window considered in the baseline study [-3; +3] to [-5; +5].

Table 8 is computed using equation (3). The results of event-specific effects are consistent with the baseline event window. The only change in the variable of interest (Post-Event [+1; +5]) is in regression (4), where now the coefficient is positive but not statistically significant.

Table 8: Robustness tests in event-specific stock results - EW [-5; +5]

	Overall	(1)	(2)	(3)	(4)	(5)	(6)
Post-Event [+1; +5]	**0.0041*****	**0.0029*****	**0.0028*****	**-0.0013*****	**0.0005**	**0.0082*****	**0.0113*****
	(0.0002)	(0.0004)	(0.0007)	(0.0005)	(0.0005)	(0.0005)	(0.0005)
Earnings Announcements	**0.0015***	**0.0115*****	**-0.0021**	**-0.0158*****	**-0.0061***	**0.0009**	**-0.0017**
	(0.0009)	(0.0042)	(0.0038)	(0.0052)	(0.0033)	(0.0031)	(0.0013)
Constant	**-0.0013*****	**-0.0015*****	**0.0054*****	**0.0004**	**-0.0033*****	**-0.0043*****	**-0.0042*****
	(0.0001)	(0.0003)	(0.0004)	(0.0003)	(0.0003)	(0.0004)	(0.0004)
Observations	36894	6149	6149	6149	6149	6149	6149
R^2	0.95%	0.93%	0.26%	0.28%	0.01%	4.06%	6.9%

Standard errors in parentheses; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Industry-specific effects remain consistent across event windows (equation (4), table 9, regression (1)). The suggestion of a negative reaction for the Climate & Energy, Health, Education, and Digital industries is robust in the new event window. However, the Health industry is no longer significant.

In the robustness model, it remains inconclusive that the GHG level of a firm impacted its reaction to the events, with coefficient GHG * Pre-Event and GHG * Post-Event not significant (equation (5), table 9, regression (2)).

The heterogeneity due to EIB Exposure (equation (5), table 9, regression (3)) remains consistent with the previous result. Although the coefficient increased its magnitude (from -0.00% to -0.06%), it continues not to be statistically significant.

Table 9: Robustness tests of heterogeneity in stock returns - EW [-5; +5]

	(1)	(2)	(3)
Post-Event [+1;+5]	**0.0042*****	**0.0041*****	**0.0045*****
	(0.0003)	(0.0002)	(0.0004)
Transport * Post-Event	**0.0045*****		
	(0.0010)		
Climate & Energy * Post-Event	**-0.0013****		
	(0.0006)		
Health * Post-Event	**-0.0016**		
	(0.0011)		
Education * Post-Event	**-0.0017**		
	(0.0023)		
Digital * Post-Event	**-0.0009**		
	(0.0007)		
GHG * Post-Event = 0		**0.0000**	
		(0.0001)	
GHG * Post-Event = 1		**0.0001**	
		(0.0001)	
EIB Exposure * Post-Event			**-0.0006**
			(0.0005)
Earnings Announcements	**0.0014***	**0.0016***	**0.0014***
	(0.0009)	(0.0009)	(0.0009)
Constant	**-0.0013*****	**-0.0013*****	**-0.0013*****
	(0.0001)	(0.0001)	(0.0001)
Observations	36234	36410	36234
R^2	1.14%	0.96%	0.98%

Standard errors in parentheses; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

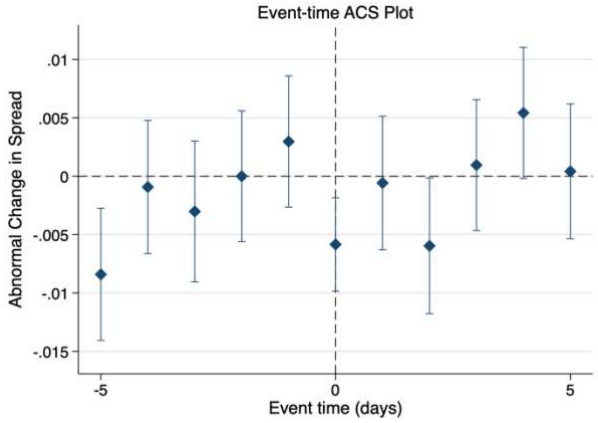
5.2. Bond Event Study

5.2.1. Full sample results

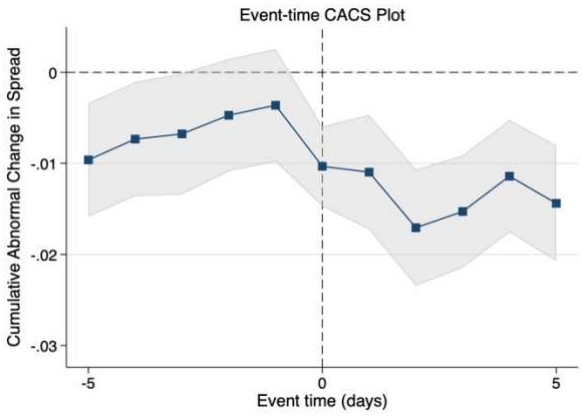
The effects presented in graph 3 are the ACS of the 98 bonds, plotted using equation (2) for each day of the event window [-5; +5], with 95% confidence intervals. Additionally, the CACS over the same event window is plotted in graph 4, using equation (2), to capture the aggregate effect of the event. Both measures are estimated using regressions that include Δ volatility and Δ bund yield as control variables.

A negative (positive) ACS typically signals that EIB bond yields are decreasing (increasing) relative to the benchmark bonds, indicating lower (higher) perceived risk toward EIB bonds.

Graph 3: Event-time ACS plot (bonds)



Graph 4: Event-time CACS plot (bonds)



Note: As ACS and CACS are derived from regression coefficients, their values do not represent strict arithmetic sums but rather estimated average effects over the sample.

Preceding the event (days -5 to -1), EIB yields have been exhibiting a downward trend relative to the benchmark, as reflected in consistently negative ACS coefficients (-0.8%, not significant; -0.09%, p<10%; -0.3%, not significant; -0.00%, p<5%). However, these daily changes are partially offset due to the positive ACS on day -1 (+0.3%, p<1%), indicating a brief reversal in yield movements and resulting in a CACS gradually approaching zero by day -1. This suggests that bond investors viewed the announcement cautiously, focusing on credit risk and global exposure.

On the day of the event, the ACS is -0.58% (p<1%), suggesting an immediate positive market reaction. This effect intensifies in the subsequent days, with the lowest cumulative observed on day +2, where the CACS reaches -1.7%. Although partial reversals are observed from day 3 onwards, the

CACS remains negative but not statistically significant throughout the five-day post-event window (CACS = -1.4% on day 5). Coefficients are presented in appendix A-9.

The remainder of section 5.2. explores how these effects vary by event and with bond characteristics.

5.2.2. Disaggregated Results by Event

Table 10 is computed using equation (3). Overall, bond yields had a positive reaction, but this is only suggestive as the Post-Event [+1; +3] coefficient is not significant (table 10, regression overall). When analysing the results by individual event, the majority show a statistically significant decrease in bond yields – reflected in negative coefficients in regressions (1), (2), (3) and (4) – indicating a positive market reaction. In contrast, the launch of Global Gateway (regression (5)) and the launch of EIB Global (regression (6)) are associated with significantly positive coefficients, indicating a negative reaction from investors. This may reflect increased perceived risk due to the irreversibility of these events and the possibility of increased future bond issuance to implement the strategies. Similar reactions have been observed in sovereign bond markets, where supply shocks tend to drive yields in the same direction as the shock (Greenwood & Vayanos, 2014).

Table 10: Event-specific bonds results - EW [-3; +3]

	Overall	(1)	(2)	(3)	(4)	(5)	(6)
Post-Event [+1; +3]	**-0.0002**	**-0.0187*****	**-0.0271***	**-0.0212*****	**-0.0045*****	**0.0112*****	**0.0039***
	(0.0017)	(0.0047)	(0.0142)	(0.0037)	(0.0013)	(0.0020)	(0.0020)
△ Volatility	**0.0009****	**0.0122*****	**-0.0066**	**0.0032*****	**0.0068*****	**-0.0096*****	**0.0005**
	(0.0004)	(0.0020)	(0.0058)	(0.0007)	(0.0006)	(0.0011)	(0.0004)
△ Bund yield	**-0.1030*****	**-0.2305*****	**-0.0405**	**-0.7459*****	**0.1707*****	**-1.6632*****	**-0.1269****
	(0.0351)	(0.0352)	(0.2854)	(0.0930)	(0.0263)	(0.1681)	(0.0603)
Constant	**-0.0013**	**0.0015**	**0.0031**	**0.0129*****	**-0.0034*****	**-0.0213*****	**-0.0007**
	(0.0011)	(0.0020)	(0.0067)	(0.0024)	(0.0009)	(0.0023)	(0.0011)
Observations	4116	686	686	686	686	686	686
	0.98%	12.04%	1.04%	13.21%	20.02%	19.93%	5.02%

Standard errors in parentheses; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

5.2.3. Heterogeneity Results

To assess whether bond-specific characteristics influence reactions, the following section estimates regressions that interact with abnormal changes in spread with amount issued (equation (8)), bond maturity (equation (9)) and green bond (equation (10)) (results in table 11, regressions (1), (2), and (3), respectively).

Amount Issued

Based on table 11 regression (1), the Amount Issued * Post-Event coefficient is positive, suggesting that EIB bonds with an amount issued larger than the average reacted negatively to the events. However, it is not possible to conclude that there is a relationship between the reaction and the amount issued because this coefficient and the Amount Issued * Pre-Event are not significant.

Maturity

Regression (2) reports the heterogeneity of bond market reactions across maturities. Asset and liability management principles guide EIB maturity preferences and align with the average maturity of the loan portfolio. In 2024, the average maturity of bonds issued was 7 years. The baseline group consists of short-maturity bonds (maturity <5 years; coefficient Post-Event [+1; +3]), which exhibit positive non-significant increases in yield changes of 0.09%. Contrarily, maturities more affected by the consequences of these events - Medium Maturity and Long Maturity - have a negative coefficient, -0.19% and -0.14%, respectively, suggesting that longer maturity bonds reacted positively to the event. The coefficients are insignificant, so it is not possible to conclude that different maturities affect the reaction.

Green Bonds

In regression (3), green bonds had a positive ACS of 0.18%, compared with a coefficient of non-green bonds of -0.04% (Post-Event [+1; +3] coefficient). The results suggest that green bonds negatively reacted to the external strategy. This may reflect investors' concerns that less developed countries have a lower capacity to demand green investments (Erforth & Keijzer, 2025). Once the coefficients are not significant, it is not possible to conclude this difference in reaction.

Table 11: Heterogeneity in bond reactions - EW [-3; +3]

	(1)	(2)	(3)
Post-Event [+1; +3]	**-0.0002**	**0.0009**	**-0.0004**
	(0.0017)	(0.0027)	(0.0018)
Amount Issued * Pre-Event	**0.0000**		
	(0.0007)		
Amount Issued * Post-Event	**0.0003**		
	(0.0008)		
Medium Mat * Post-Event		**-0.0019**	
		(0.0039)	
Long Mat * Post-Event		**-0.0014**	
		(0.0039)	
Green * Post-Event			**0.0018**
			(0.0057)
△ Volatility	**0.0009****	**0.0009****	**0.0009****
	(0.0004)	(0.0004)	(0.0004)
△ Bund yield	**-0.1030*****	**-0.1034*****	**-0.1030*****
	(0.0347)	(0.0351)	(0.0351)
Constant	**-0.0013**	**-0.0013**	**-0.0013**
	(0.0011)	(0.0011)	(0.0011)
Observations	4116	4116	4116
R^2	0.98%	0.97%	0.99%

Standard errors in parentheses; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

5.2.4. Robustness Tests

To ensure the reliability of the results, I performed some robustness analysis by changing the event window considered in the baseline study [-3; +3] to [-5; +5].

Table 12 is computed using equation (3). The event-specific effects are consistent with those observed in the baseline event window. In the overall regression, the coefficient Post-Event [+1; +5] is now positive and statistically significant, suggesting a general negative market reaction. The direction of the reaction may reflect concerns about the increased risk profile associated with a global mandate in MDBs (Erforth, 2020).

Table 12: Robustness tests of event-specific bond results - EW [-5; +5]

	Overall	(1)	(2)	(3)	(4)	(5)	(6)
Post-Event [+1; +5]	**0.0027****	**-0.0023**	**0.0037**	**-0.0045**	**0.0010**	**0.0084*****	**0.0019**
	(0.0012)	(0.0018)	(0.0067)	(0.0027)	(0.0009)	(0.0016)	(0.0016)
△ Volatility	**0.0012*****	**0.0051*****	**-0.0033**	**0.0024*****	**0.0036*****	**-0.0003**	**0.0010*****
	(0.0003)	(0.0008)	(0.0034)	(0.0007)	(0.0003)	(0.0002)	(0.0002)
△ Bund yield	**-0.1147*****	**-0.2268*****	**-0.3571*****	**-0.0820**	**0.0794*****	**-0.2722*****	**-0.0508*****
	(0.0201)	(0.0266)	(0.1234)	(0.0628)	(0.0196)	(0.0314)	(0.0189)
Constant	**-0.0025*****	**-0.0038*****	**-0.0033**	**0.0002**	**-0.0012***	**-0.0063*****	**0.0030*****
	(0.0008)	(0.0011)	(0.0050)	(0.0019)	(0.0007)	(0.0011)	(0.0009)
Observations	6468	1078	1078	1078	1078	1078	1078
	1.46%	14.84%	0.97%	2.46%	14.56%	12.87%	3.84%

Standard errors in parentheses; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

When enlarging the event window, the results continue to show no conclusive evidence of differential effects related to the amount issued, bond maturity or greenness of the bonds as the coefficients of interest in table 13 remain statistically insignificant.

Table 13: Robustness tests of heterogeneity in bond results - EW [-5; +5]

	(1)	(2)	(3)
Post-Event [+1; +5]	**0.0027****	**0.0043*****	**0.0028****
	(0.0012)	(0.0015)	(0.0013)
Amount Issued * Pre-Event	**-0.0002**		
	(0.0004)		
Amount Issued * Post-Event	**0.0003**		
	(0.0007)		
Medium Mat * Post-Event		**-0.0042**	
		(0.0027)	
Long Mat * Post-Event		**-0.0041**	
		(0.0025)	
Green * Post-Event			**-0.0010**
			(0.0044)
△ Volatility	**0.0012*****	**0.0012*****	**0.0012*****
	(0.0003)	(0.0003)	(0.0003)
△ Bund yield	**-0.1147*****	**-0.1148*****	**-0.1147*****
	(0.0199)	(0.0201)	(0.0201)
Constant	**-0.0025*****	**-0.0025*****	**-0.0025*****
	(0.0008)	(0.0008)	(0.0008)
Observations	6468	6468	6468
	1.47%	1.50%	1.46%

Standard errors in parentheses; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

5.3. Macroeconomic Effects on the EU

This section examines whether EIB investments in a country strengthen macroeconomic and capital flow linkages with the EU, focusing on exports of non-EU countries to the EU, imports of non-EU countries from the EU and outward FDI flows.

5.3.1. PSM Results

This section presents the results of PSM to reduce selection bias. The PSM was calculated using equation (11) for 61 countries with complete data across all covariates (table 14).

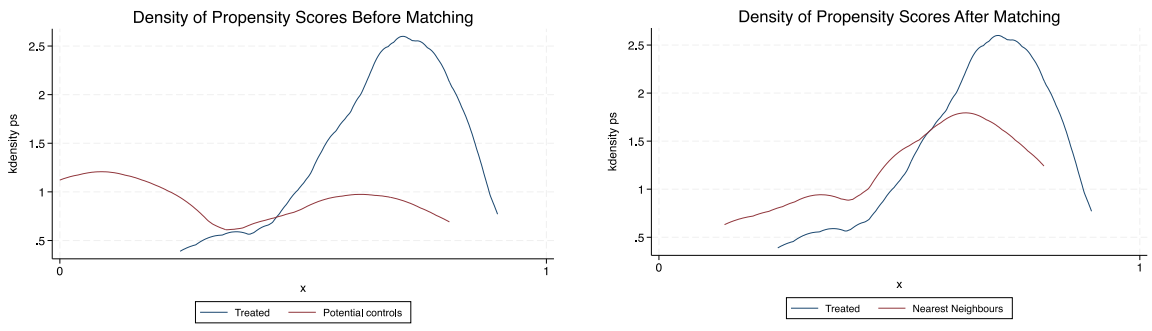
Table 14: PSM regression

Probit regression — Number of obs = 61; LR chi2(5) = 23.14; Prob > chi2 = 0.0003; Log likelihood = -30.701866; Pseudo R2 = 0.2737

ever_treated	Coefficient	Std. err.	z	P>|z|	[95% conf.	interval]
PSM_Innovation	.0000213	.0003304	0.06	0.949	-.0006264	.0006689
PSM_Sustainability	-.1170142	.0458928	-2.55	0.011	-.2069624	-.027066
PSM_Distance	-.0001108	.0000614	-1.80	0.071	-.0002311	9.59e-06
PSM_Political_Stability	.0072286	.008925	0.81	0.418	-.0102641	.0247214
PSM_GDP_per_capita	-.0000256	.0000216	-1.19	0.235	-.000068	.0000167
_cons	1.378373	.5141503	2.68	0.007	.3706572	2.386089

Then, we proceed with the PSM method, explained in Section 3.2.2. Graph 5 illustrates the quality of the matching procedure. The graph on the left shows the density curves of the estimated propensity scores on the treated countries (blue line) and potential control countries (red line). The model has discriminatory power as the distribution of the potential controllers is more skewed towards zero (lower propensity scores). The graph on the right plots the distribution of the estimated propensity score for the treated group (blue line) and the matched control group (red line). While the two lines do not overlap perfectly, the distributions are more similar than the pre-matching graph, suggesting improved balance between the groups after matching.

Graph 5: Propensity score distributions for treated and control groups before and after matching



To assess the reliability of the matching results, a comparison of the covariate balance between the treated and control groups is illustrated in table 15.

Following Rosenbaum and Rubin (1985), standardized bias indicates a substantial reduction, with % bias after matching to be almost between the [-5%; +5%] threshold, commonly accepted in the literature as sufficient (Caliendo & Kopeinig, 2008).

For robustness, t-statistic was also analysed (Rosenbaum & Rubin, 1985). The value after matching is not significant, indicating no significant difference between the matched treated and the control group. This suggests that the matching procedure successfully balanced the covariates and enhanced the credibility of the treatment effect estimates.

Table 15: PSM balance tests

Variable	Unmatched / Matched	Mean Treated	Mean Control	%bias	%reduct |bias|	t-test t	t-test p>|t|	V(T)/ V(C)
PSM_Innovation	U	100.91	451.29	-41.1		-1.60	0.116	0.13*
	M	100.91	65.952	4.1	90.0	0.34	0.735	1.14
PSM_Sustainability	U	2.9771	10.282	-105.3		-4.09	0.000	0.16*
	M	2.9771	3.1761	-2.9	97.3	-0.23	0.823	1.25
PSM_Distance	U	6720.1	7694.1	-24.9		-0.97	0.336	0.74
	M	6720.1	6926.6	-5.3	78.8	-0.23	0.819	1.16
PSM_Political_Stability	U	38.707	54.795	-57.2		-2.23	0.030	0.52
	M	38.707	39.751	-3.7	93.5	-0.14	0.888	0.49
PSM_GDP_per_capita	U	6004.7	22643	-93.9		-3.65	0.001	0.37*
	M	6004.7	6913.9	-5.1	94.5	-0.31	0.758	1.84

* if variance ratio outside [0.48; 2.10] for U and [0.48; 2.10] for M

Given the PSM-matched sample of 49 treated and control countries, ATT can be estimated by measuring the difference in performance of the macroeconomic variables over time.

5.3.2. Staggered DiD Results

This section presents the estimated impact on exports to the EU, imports from the EU, and outward FDI flows to the EU following the signing of the country's first EIB project.

Exports from non-EU countries to the EU

The dynamic treatment effects estimated using the Callaway and Sant'Anna (2021) approach reveal no statistically significant increase in exports from non-EU countries to the EU following EIB investments (N = 588). In table 16, the ATT in the post-treatment period is positive (5.3%) but statistically insignificant (p = 0.52), suggesting that, on average, EIB investments did not lead to export gains to the EU in the first five years after receiving the first loan. Moreover, only one (t = 0) of the post-treatment coefficients is significant and confidence intervals are wide, as seen in graph 6, indicating a particular uncertainty around the estimates. Coefficients are presented in table A-10.

These findings suggest that EIB investments may not have a measurable effect on exports to the EU. Loans might be focused on stimulating areas that are not export-oriented, such as infrastructure or social sectors. Furthermore, the volume of the loans may be too small to have an aggregated impact, or the effect is not immediately stimulated after signing the loans, and a longer period might need to be considered. The pre-trend assumption does not hold as the null is rejected (p = 0.000, figure 2), so results must be considered cautiously.

Figure 2: Pre-trend test of exports

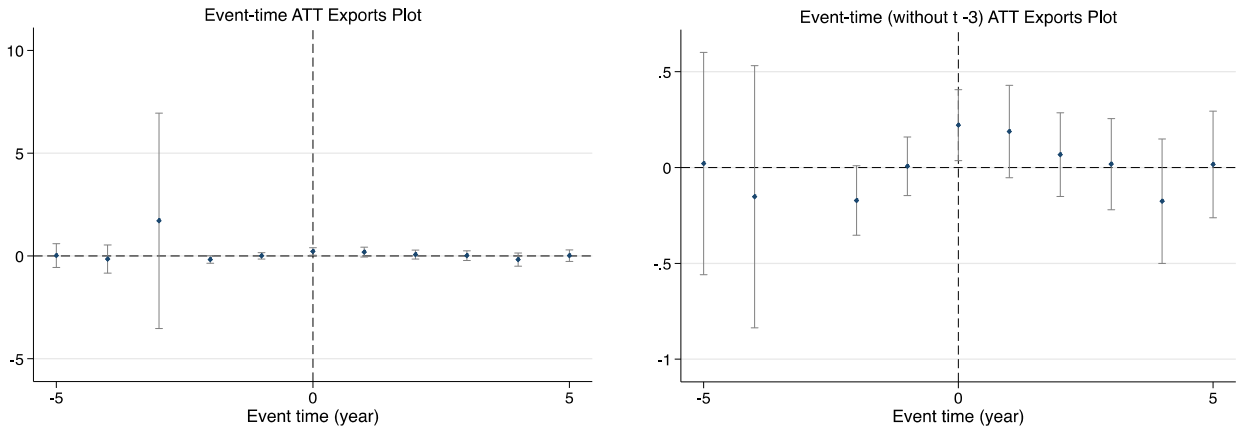
```
Pretrend Test. H0 All Pre-treatment are equal to 0
chi2(46) =  7.311e+05
p-value  =     0.0000
```

Table 16: ATT of exports

Average Treatment Effect on Treated

	Coefficient	Std. err.	z	P>|z|	[95% conf.	interval]
ATT	.0534864	.0828636	0.65	0.519	-.1089233	.2158961

Graph 6: Event-time ATT exports plot



Imports of non-EU countries from EU

Regarding imports of non-EU countries from the EU (N = 598), the ATT is positive (29.3%) but statistically insignificant (p = 0.33), indicating that, on average, EIB investments did not lead to a significant change in imports to the EU. When analysing the ATT over time, the post-treatment coefficients show mostly positive values, but all are not statistically significant. Coefficients are presented in appendix table A-11.

Moreover, the significant chi-squared statistic indicates that the pre-trend assumption does not hold (p = 0.000, figure 3), and results must be considered cautiously. In graph 7, the wide confidence intervals indicate that the estimated effects are imprecise. This imprecision may come from unbalanced panels or import changes driven by exogenous shocks that are not considered in the control variables.

Figure 3: Pre-trend test of imports

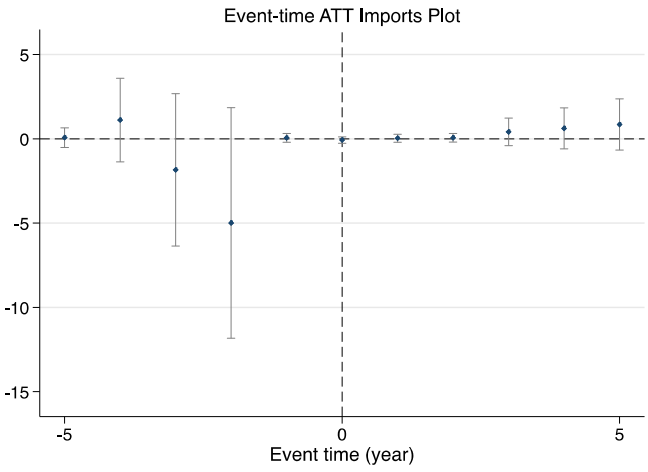
```
Pretrend Test. H0 All Pre-treatment are equal to 0
chi2(47) =  2.451e+05
p-value  =     0.0000
```

Table 17: ATT of imports

Average Treatment Effect on Treated

	Coefficient	Std. err.	z	P>|z|	[95% conf.	interval]
ATT	.2933674	.2993161	0.98	0.327	-.2932813	.8800162

Graph 7: Event-time ATT imports plot



Outward FDI Flows to the EU

When analysing outward FDI flows from non-EU countries to EU countries (N = 217), the pre-trend (p = 0.0926) indicates that we do not reject the null hypothesis of pre-trends equal to zero for a p<5%. This supports the parallel trends assumption, suggesting that subsequent results are reliable as there is no significant difference in outward FDI flow trends between the treated and control groups prior to EIB's intervention. Relatively to the dynamic effects, the pre-trend effects reinforce the parallel trends because most values are not statistically significant.

The ATT is positive (63%), though not statistically significant (p=0.21) and with a wide confidence interval (-0.35 to 1.61). When analysing ATT over time, the post-treatment coefficients always show positive values and significant results in t=3 and t=5 (0.96; p=0.094 and 1.47; p=0.001, respectively), suggesting a delayed positive impact on outward FDI flows to the EU. Coefficients are presented in appendix A-12. In graph 8, the wide confidence intervals, especially after t=0, indicate that the estimated effects are imprecise. This imprecision may come from unbalanced panels or changes in outward FDI flows driven by exogenous shocks that are not considered in the control variables.

Figure 4: Pre-trend test of outward FDI flows

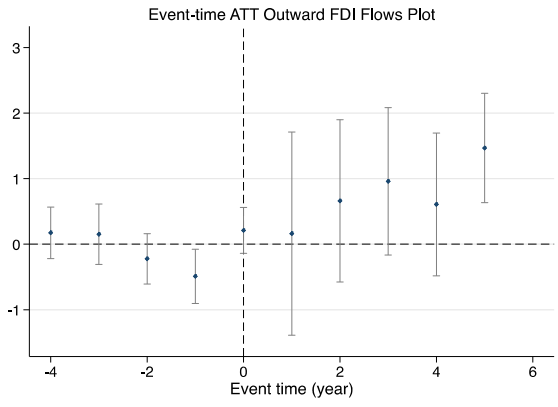
```
Pretrend Test. H0 All Pre-treatment are equal to 0
chi2(4) =     7.9711
p-value  =     0.0926
```

Table 18: ATT of outward FDI flows

Average Treatment Effect on Treated

	Coefficient	Std. err.	z	P>|z|	[95% conf.	interval]
ATT	.6295161	.4978614	1.26	0.206	-.3462743	1.605307

Graph 8: Event-time ATT outward FDI flows plot



6. General Conclusion

6.1. Conclusion of Results

The present dissertation intends to examine how EIB investments in non-EU countries impact the EU in both the short and long term. The aim is to start drawing conclusions about how the EIB's external strategy might support the internal development of the Union. This study was conducted under an empirical analysis that combines two event studies –to examine the EU stock reactions and the EIB bond spread changes – with a PSM Staggered DiD approach that assesses the impact of EIB investments in non-EU countries on three macroeconomic indicators – exports to the EU, imports from the EU and outward FDI flows to the EU.

The stock event study, covering 559 European firms and six events, revealed a distinct two-phase pattern. Initially, AR had a statistically significant negative reaction, suggesting an initial uncertainty regarding the external investment strategy. However, this was followed by a rebound in stock prices, with positive and statistically significant AR in the following days of the announcements, culminating in a CAR of +0.62% on day 5. The announcement of the new branch of EIB focused on external lending was not positively received by the market. However, after absorbing the information, the market reacted positively to the official launch of EIB Global. The heterogeneity analysis showed that reactions vary by sector (Kersting & Kilby, 2024). Firms in the Global Gateway priority sector of Climate and Energy experienced negative returns, whereas the Transport sector benefited positively. Heterogeneity in reactions due to exposure to EIB funding and GHG intensity was not possible to prove due to non-significance in coefficients.

The bond event study focused on 98 EIB bonds that showed an initial concern, but after t = -1, consistently negative ACS suggests a positive reaction to EIB's external strategy, with CACS reaching the lowest value of -1.7% by day +2. When extending the event window, results are not robust, with bond yield spread increasing, suggesting a concern about the increased risk profile of a global mandate (Erforth, 2020). The Global Gateway initiative and the launch of EIB Global appear to be the events that raised the most concerns among EIB investors. Relatively to heterogeneity based on the bond's maturity, greenness, and liquidity, it was not possible to associate different reactions. This suggests that green bonds did not react with skepticism about the EIB's capacity to deliver green investments in less developed countries (Erforth & Keijzer, 2025).

The results revealed no consistent or statistically significant ATT of EIB investments on exports to the EU, imports from the EU and outward FDI flows to the EU. Exports and outward FDI flows have significantly positive coefficients in a few periods, suggesting short-lived and imprecisely estimated

increases in economic flows. These results suggest that, while the EIB may play a strategic role in the EU's external policies, there is no clear evidence that its interventions directly translate into increased trade or investment flows between the EU and the supported non-EU countries, as would be expected under an Aid for Trade strategy (Wagner, 2003). The effects may depend on project type, amount lent, geopolitical context, or lagged responses that are not captured in this empirical analysis.

This thesis offers an initial exploration of the possible economic effects that donor regions – EU - may derive from their foreign investment activities. It deepens the relevance of understanding EIB not only as a development financier but also as an economic actor within the EU's external policies. The findings suggest that European firms positively perceived the change in strategy. EIB investors' reaction suggests that this strategy is perceived as risky and the economic benefits – measured through trade and investment flows – are not observable. Instead, the impact might be more strategic and political, reinforcing the EU's external presence rather than generating immediate and quantifiable economic returns. These findings contribute to the broader literature on MDBs by offering early empirical analysis of the potential indirect effects of donor-driven development finance. This research shifts the conversation from viewing MDBs solely as tools for recipient development to recognizing even more potential by studying the possibility of generating economic returns for donor regions.

6.2. Limitations

This study faces several limitations that qualify the interpretation of its findings.

In the stock event study, AR are calculated for firms included in the STOXX Europe 600, assuming that this index represents the financial market potentially affected by the EIB's external strategy. However, due to a lack of detailed information about the final recipients of EIB loans - particularly when funds are distributed through financial intermediaries – it was not possible to do the analysis solely on EU firms that receive EIB financing. As such, the results may be diluted or biased by including unaffected firms. Further, while the study controls for earnings announcements, it does not account for all potential events that may have influenced market reactions during the event window.

Relatively to the bond event study, the analysis excludes approximately 450 bonds due to missing yield-to-maturity data. Additionally, while bond reactions are controlled for two variables (bund yield and volatility), the literature suggests other determinates of bond spreads that are not accounted for. Moreover, due to data constraints, the proxy used to study heterogeneity in bond liquidity is a fixed variable, which does not capture changes in liquidity over time.

Regarding the economic consequences, countries are considered to be treated at the moment the first loan is signed without applying a threshold for the minimum loan amount. This could lead to over-identification of treatment and underestimation of impact. Furthermore, the pre-trend (parallel trends) assumption only holds for the outward FDI flows, which may bias the results of exports and imports.

Due to data limitations, it was not possible to include credit ratings as covariates in the PSM approach - despite their relevance given the EIB's commitment to maintaining a AAA credit rating. Additionally, pre-treatment values of the dependent variable are not included in the PSM model, which might be interesting to add to the analysis if the results improve. The staggered DiD was performed on an unbalanced panel due to inconsistent data availability across non-EU countries, particularly for long-time series since 1960. The relatively short post-treatment window (five years) may also constrain the ability to detect long-term economic impacts of EIB interventions. Finally, the scope of the analysis focuses narrowly on economic indicators, excluding broader strategic, institutional, political or environmental impacts that are also central to the EIB's development mission.

6.3. Future Research

This study lays the groundwork for several avenues of future research.

One relevant direction involves increasing the granularity of the analysis by comparing reactions across countries or regions, both in the short- and long-term. Another valuable area of exploration is the study of non-economic dimensions, such as strategic and geopolitical impacts. Adding additional variables - such as the foreign policy objectives of donor regions - could provide valuable insights. Furthermore, comparative analyses with other MDBs would explore if patterns observed in this study are specific to EIB or reflect broader trends among donor countries.

Appendix

Table A-1: NACE codes by industry

Industry	NACE Code
Transport	C30 - Manufacture of other transport equipment
	H49 - Land transport and transport via pipelines
	H50 - Water transport
	H51 - Air transport
	H52 - Warehousing and support activities for transportation
	H53 - Postal and courier activities
Climate & Energy	C20 - Manufacture of chemicals and chemical products
	C27 - Manufacture of electrical equipment
	C28 - Manufacture of machinery and equipment n.e.c.
	C33 - Repair and installation of machinery and equipment
	D35 - Electricity, gas, steam and aid conditioning supply
	E36 - Water collection, treatment and supply
	E37 - Sewerage
	E38 - Waste collection, treatment and disposal activities; materials recovery
	E39 - Remediation activities and other waste management services
Health	C21 - Manufacture of basic pharmaceutical products and pharmaceutical preparations
	Q86 - Human health activities
	Q87 - Residential care activities
	Q88 - Social work activities without accommodation
Education	M72 - Scientific research and development
	P85 - Education
Digital	C26 - Manufacture of computer, electronic and optical products
	J61 - Telecommunications
	J62 - Computer programming, consultancy and related activities
	J63 - Information service activities

Table A-2: First year of EIB investment by non-EU country

Country	Year	Country	Year	Country	Year
Cameroon	1965	Jamaica	1979	Philippines	1994
Ivory Coast	1965	Jordan	1979	Thailand	1994
Turkey	1965	Morocco	1979	Albania	1995
Congo	1966	Syrian Arab Republic	1979	China	1995
Senegal	1966	Tunisia	1979	Haiti	1995
Chad	1967	Algeria	1980	Iceland	1995
Gabon	1968	Botswana	1980	Indonesia	1995
Mauritania	1968	Comoros	1980	Palestine	1995
Suriname	1968	Guinea	1980	Paraguay	1995
Burkina Faso	1970	Lesotho	1980	Peru	1995
Congo (Dem. Republic)	1970	Somalia	1980	South Africa	1995
Madagascar	1970	Israel	1981	Brazil	1997
Benin	1972	Saint Lucia	1981	Mexico	1997
Norway	1974	Samoa	1981	Uruguay	1997
Mauritius	1975	Tonga	1981	Panama	1998
Ghana	1976	Uganda	1981	Vietnam	1998
Kenya	1976	Dominica	1982	Bangladesh	2000
Togo	1976	Ethiopia	1982	Sri Lanka	2002
Bosnia and Herzegovina	1977	Grenada	1982	Switzerland	2002
Malawi	1977	Tuvalu	1982	Russia	2003
Montenegro	1977	Vanuatu	1982	Laos	2005
North Macedonia	1977	Zimbabwe	1982	Colombia	2006
Rwanda	1977	Belize	1983	Ecuador	2006
Serbia	1977	Central African Republic	1983	Honduras	2006
Tanzania	1977	Kiribati	1983	Maldives	2006
Fiji	1978	Saint Kitts and Nevis	1983	Kosovo	2007
Guyana	1978	Guinea-Bissau	1984	Moldova	2007
Kingdom of Eswatini	1978	Saint Vincent and the Grenadines	1984	Ukraine	2007
Lebanon	1978	Sao Tome and Principe	1984	Nicaragua	2009
Liberia	1978	Solomon Islands	1985	Georgia	2010
Mali	1978	Bahamas	1986	Armenia	2011
Niger	1978	Equatorial Guinea	1986	Tajikistan	2011
Nigeria	1978	Angola	1987	Azerbaijan	2013
Papua New Guinea	1978	Mozambique	1987	Kazakhstan	2013
Seychelles	1978	Antigua and Barbuda	1989	Liechtenstein	2013
Sudan	1978	Dominican Republic	1992	Nepal	2013
Trinidad and Tobago	1978	Namibia	1992	Bolivia	2014
Zambia	1978	Sierra Leone	1992	Mongolia	2014
Barbados	1979	Costa Rica	1993	Kyrgyzstan	2015
Burundi	1979	India	1993	Belarus	2018
Cape Verde	1979	Argentina	1994	East Timor	2018
Djibouti	1979	Chile	1994	Micronesia	2018
Egypt	1979	Eritrea	1994	Uzbekistan	2018
Gambia	1979	Pakistan	1994		

Table A-3: Descriptive characteristics of firms

Variable		Value
INDUSTRY	# Transport	27
	# Climate & Energy	90
	# Health	24
	# Education	5
	# Digital	55
Average GHG (% revenues)		141%
# EIB Exposure		395

Table A-4: Total amount of EIB bonds issued by currency (in millions of USD)

Currency	Amount Issued	Percentage
Euro	559 607	44.2%
US Dollar	468 598	37.0%
British Pound	111 407	8.8%
Australian Dollar	22 989	1.8%
Canadian Dollar	21 825	1.7%
Swiss Franc	15 951	1.3%
Polish Zloty	14 875	1.2%
Swedish Krona	10 302	0.8%
Japanese Yen	10 151	0.8%
Norwegian Krone	9 644	0.8%
South African Rand	5 275	0.4%
Mexican Peso	2 642	0.2%
Chinese Yuan	2 513	0.2%
Indonesian Rupiah	2 150	0.2%
Brazilian Real	1 739	0.1%
Danish Krone	1 352	0.1%
New Zealand Dollar	1 076	0.1%
Indian Rupee	833	0.1%
Czech Koruna	753	0.1%
Turkish Lira	634	0.1%
Russian Ruble	358	0.0%
Hong Kong Dollar	337	0.0%
Hungarian Forint	302	0.0%
Egyptian Pound	117	0.0%
Romanian Leu	83	0.0%
Georgian Lari	68	0.0%
Slovak Koruna	58	0.0%
Italian Lira	57	0.0%
Argentinian Peso	4	0.0%
Portuguese Escudo	0	0.0%
Total	**1 265 698**	**100.0%**

Table A-5: Distribution of EIB bonds issued in euros by coupon type

Coupon Type	Frequency
Fixed Margin over Index	9
Fixed Resettable	1
Fixed then Floating	19
Other / Complex Floating Rate	11
Plain Vanilla Fixed Coupon	144
Range Coupon	6
Step Up / Step Down	7
Variable then Float	11
Zero Coupon	462
Total	**670**

Table A-6: Descriptive characteristics of bonds

Variable	Value
Average Amount Issued	3042.4 Millions
Average Time to Maturity	11.2 Years
Green Bonds	10

Table A-7: List of non-EU countries

Non-EU Countries			
Afghanistan	Ecuador	North Macedonia	Sao Tome and Principe
Albania	Egypt	Madagascar	Saudi Arabia
Algeria	El Salvador	Malawi	Senegal
Andorra	Equatorial Guinea	Malaysia	Serbia
Angola	Eritrea	Maldives	Seychelles
Antigua and Barbuda	Ethiopia	Mali	Sierra Leone
Argentina	Fiji	Marshall Islands	Singapore
Armenia	Gabon	Mauritania	Solomon Islands
Australia	Gambia	Mauritius	Somalia
Azerbaijan	Georgia	Mexico	South Africa
Bahamas	Ghana	Micronesia	South Sudan
Bahrain	Grenada	Moldova	Sri Lanka
Bangladesh	Guatemala	Monaco	Sudan
Barbados	Guinea	Mongolia	Suriname
Belarus	Guinea-Bissau	Montenegro	Switzerland
Belize	Guyana	Morocco	Syrian Arab Republic
Benin	Haiti	Mozambique	Taiwan
Bhutan	Honduras	Myanmar (Burma)	Tajikistan
Bolivia	Iceland	Namibia	Tanzania
Bosnia and Herzegovina	India	Nauru	Thailand
Botswana	Indonesia	Nepal	Togo
Brazil	Iran	New Zealand	Tonga
Brunei	Iraq	Nicaragua	Trinidad and Tobago
Burkina Faso	Israel	Niger	Tunisia
Burundi	Ivory Coast	Nigeria	Turkey
Cambodia	Jamaica	Norway	Turkmenistan
Cameroon	Japan	Oman	Tuvalu
Canada	Jordan	Pakistan	Uganda
Cape Verde	Kazakhstan	Palau	Ukraine
Central African Republic	Kenya	Palestine	United Arab Emirates
Chad	Kingdom of Eswatini	Panama	United States
Chile	Kiribati	Papua New Guinea	Uruguay
China	Korea North	Paraguay	Uzbekistan
Colombia	Korea South	Peru	Vanuatu
Comoros	Kosovo	Philippines	Vatican City
Congo	Kuwait	Qatar	Venezuela
Congo (Democratic Republic)	Kyrgyzstan	Russia	Vietnam
Costa Rica	Laos	Rwanda	Yemen
Cuba	Lebanon	Saint Kitts and Nevis	Zambia
Djibouti	Lesotho	Saint Lucia	Zimbabwe
Dominica	Liberia	Saint Vincent and the Grenadines	
Dominican Republic	Libya	Samoa	
East Timor	Liechtenstein	San Marino	

Table A-8: Coefficients of AR and CAR (stocks)

	AR		CAR	
Event Day	**Coefficient**	**Pr(|T| > |t|)**	**Coefficient**	**Pr(|T| > |t|)**
-5	0.0026	0.000	0.0024	0.000
-4	-0.003	0.025	-0.0005	0.000
-3	-0.0001	0.001	-0.0006	0.000
-2	-0.0033	0.005	-0.0039	0.002
-1	-0.0021	0.709	-0.006	0.139
0	-0.0019	0.000	-0.0078	0.000
1	0.0055	0.000	-0.0023	0.000
2	0.0024	0.000	0.0002	0.000
3	-0.008	0.000	-0.0078	0.995
4	0.0049	0.000	-0.0029	0.000
5	0.009	0.000	0.0062	0.000

Table A-9: Coefficients of ACS and CACS (bonds)

	ACY		CACY	
Event Day	**Coefficient**	**Pr(|T| > |t|)**	**Coefficient**	**Pr(|T| > |t|)**
-5	-0.0084	0.374	-0.01	0.824
-4	-0.0009	0.091	-0.007	0.351
-3	-0.003	0.359	-0.0068	0.294
-2	-0.0000	0.041	-0.0047	0.075
-1	0.003	0.002	-0.0036	0.034
0	-0.0058	0.004	-0.0103	0.000
1	-0.0006	0.071	-0.011	0.842
2	-0.006	0.967	-0.0171	0.039
3	0.001	0.017	-0.0153	0.115
4	0.005	0.000	-0.0114	0.731
5	0.0004	0.034	-0.0144	0.210

Table A-10: ATT of exports by periods before and after treatment

ATT by Periods Before and After treatment
Event Study:Dynamic effects

	Coefficient	Std. err.	z	P>|z|	[95% conf.	interval]
Pre_avg	.2829838	.5443081	0.52	0.603	-.7838405	1.349808
Post_avg	.055555	.080417	0.69	0.490	-.1020596	.2131695
Tm5	.0207903	.295865	0.07	0.944	-.5590944	.600675
Tm4	-.1523128	.3490566	-0.44	0.663	-.8364511	.5318254
Tm3	1.712223	2.672864	0.64	0.522	-3.526493	6.950939
Tm2	-.1722248	.0924392	-1.86	0.062	-.3534023	.0089526
Tm1	.0064435	.0780797	0.08	0.934	-.14659	.1594769
Tp0	.2208864	.0942578	2.34	0.019	.0361445	.4056283
Tp1	.187692	.1229723	1.53	0.127	-.0533292	.4287132
Tp2	.0670404	.1113353	0.60	0.547	-.1511729	.2852536
Tp3	.0174298	.1215051	0.14	0.886	-.2207158	.2555754
Tp4	-.175697	.1656029	-1.06	0.289	-.5002728	.1488788
Tp5	.0159781	.1419095	0.11	0.910	-.2621594	.2941157

Table A-11: ATT of imports by periods before and after treatment

ATT by Periods Before and After treatment
Event Study:Dynamic effects

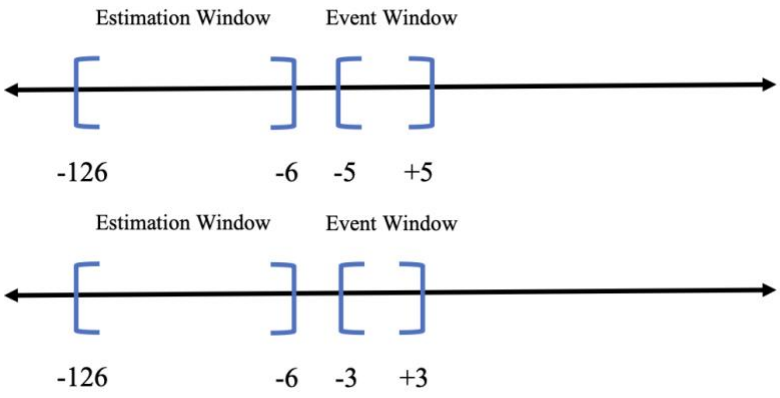
	Coefficient	Std. err.	z	P>|z|	[95% conf.	interval]
Pre_avg	-1.120664	.663297	-1.69	0.091	-2.420702	.1793744
Post_avg	.3143196	.3137431	1.00	0.316	-.3006057	.9292448
Tm5	.0690959	.2968494	0.23	0.816	-.5127183	.6509101
Tm4	1.111809	1.265759	0.88	0.380	-1.369034	3.592651
Tm3	-1.84546	2.303577	-0.80	0.423	-6.360389	2.669468
Tm2	-4.992462	3.485595	-1.43	0.152	-11.8241	1.83918
Tm1	.053698	.1310743	0.41	0.682	-.2032028	.3105989
Tp0	-.0742747	.095664	-0.78	0.438	-.2617728	.1132233
Tp1	.0324458	.1214413	0.27	0.789	-.2055749	.2704664
Tp2	.0604171	.1289009	0.47	0.639	-.1922239	.3130581
Tp3	.4065308	.4184146	0.97	0.331	-.4135468	1.226608
Tp4	.6154135	.6196455	0.99	0.321	-.5990693	1.829896
Tp5	.8453849	.7749847	1.09	0.275	-.6735572	2.364327

Table A-12: ATT of outward FDI flows by periods before and after treatment

ATT by Periods Before and After treatment
Event Study:Dynamic effects

	Coefficient	Std. err.	z	P>|z|	[95% conf.	interval]
Pre_avg	-.0971176	.0736106	-1.32	0.187	-.2413916	.0471565
Post_avg	.6771656	.4902597	1.38	0.167	-.2837258	1.638057
Tm4	.1739781	.2006151	0.87	0.386	-.2192203	.5671765
Tm3	.1512873	.2350555	0.64	0.520	-.3094131	.6119876
Tm2	-.2230664	.1959079	-1.14	0.255	-.6070388	.1609059
Tm1	-.4906692	.2116905	-2.32	0.020	-.905575	-.0757635
Tp0	.2098352	.1784772	1.18	0.240	-.1399737	.5596441
Tp1	.1610269	.7913585	0.20	0.839	-1.390007	1.712061
Tp2	.6599966	.6316306	1.04	0.296	-.5779766	1.89797
Tp3	.9587686	.5733414	1.67	0.094	-.16496	2.082497
Tp4	.6065253	.555387	1.09	0.275	-.4820133	1.695064
Tp5	1.466841	.4257503	3.45	0.001	.6323855	2.301296

Figure A-1: Time windows defined for each event



References

Amamou, R., Gereben, Á., & Wolski, M. (2020). Making a difference: Assessing the impact of the EIB's funding to SMEs (No. 2020/04). EIB Working Papers. https://doi.org/10.2867/440965

Auboin, M. (2007). Boosting trade finance in developing countries: What link with the WTO? (No. ERSD-2007-04). WTO Staff Working Paper. https://www.wto.org/english/res_e/reser_e/ersd200704_e.pdf

Bauer, M. D., Offner, E. A., & Rudebusch, G. D. (2025). Green stocks and monetary policy shocks: Evidence from Europe. *European Economic Review*, 105044. https://doi.org/10.1016/j.euroecorev.2025.105044

Beaver, W. H. (1968). The information content of annual earnings announcements. *Journal of accounting research*, 6, 67-92. https://www.jstor.org/stable/2490070

Bougrea, A. (2025). The European Investment Bank in Sub-Saharan Africa: constrained expansion, *Journal of Economic Policy Reform*, 28(1), 12-36.. https://doi.org/10.1080/17487870.2024.2352543

Brown, S. J., & Warner, J. B. (1980). Measuring security price performance. *Journal of financial economics*, *8*(3), 205-258.

Brown, S. J., & Warner, J. B. (1985). Using daily stock returns: The case of event studies. *Journal of financial economics*, *14*(1), 3-31.

Caliendo, M., & Kopeinig, S. (2008). Some practical guidance for the implementation of propensity score matching. *Journal of economic surveys*, *22*(1), 31-72. https://doi.org/10.1111/j.1467-6419.2007.00527.x

Callaway, B., & Sant'Anna, P. H. (2021). Difference-in-differences with multiple time periods. *Journal of econometrics*, *225*(2), 200-230. https://doi.org/10.1016/j.jeconom.2020.12.001

Clifton, J., Díaz-Fuentes, D., & Gómez, A. L. (2018). The European investment bank: Development, integration, investment? *JCMS: Journal of Common Market Studies*, *56*(4), 733-750. https://doi.org/10.1111/jcms.12614

Collin-Dufresn, P., Goldstein, R. S., & Martin, J. S. (2001). The determinants of credit spread changes. *The Journal of Finance*, *56*(6), 2177-2207. https://doi.org/10.1111/0022-1082.00402

Engen, L., & Prizzon, A. (2018). A guide to multilateral development banks. Overseas Development Institute. https://cdn.odi.org/media/documents/12274.pdf

Erforth, B. (2020). *The future of European development banking: What role and place for the European Investment Bank?* (Discussion Paper No. 11/2020). Deutsches Institut für Entwicklungspolitik (DIE). https://doi.org/10.23661/dp11.2020

Erforth, B., & Keijzer, N. (2025). Green and global? A policy frame analysis of the European Investment Bank's re-branding from 2018–2023. *Journal of Economic Policy Reform*, *28*(1), 55-74. https://doi.org/10.1080/17487870.2024.2387569

European Commission. (n.d.a). *List of non-EU countries*. Taxation and Customs Union. Retrieved April 5, 2025, from https://taxation-customs.ec.europa.eu/list-non-eu-countries_en

European Commission. (n.d.b). *Negotiations and agreements*. EU Trade. Retrieved April 29, 2025, from https://policy.trade.ec.europa.eu/eu-trade-relationships-country-and-region/negotiations-and-agreements_en

European Commission. (2018, June 14). *EU budget: Making the EU fit for its role as strong global actor* [Press Release]. https://ec.europa.eu/commission/presscorner/detail/en/ip_18_4086

European Commission. (2020a, June 2). *Opening remarks by Commissioner Olivér Várhelyi at the press conference on the external action finance instruments in the next EU budget* [Press Release]. https://ec.europa.eu/commission/presscorner/detail/en/speech_20_2728

European Commission. (2020b, December 17). *EU budget: European Commission welcomes the adoption of the EU's long-term budget for 2021-2027* [Press Release]. https://ec.europa.eu/commission/presscorner/detail/en/ip_20_2469

European Commission. (2021, December 1). *The Global Gateway* [Press Release]. https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52021JC0030

European Investment Bank. (n.d.). *Financed Projects*. Retrieved March 31, 2025, from https://www.eib.org/en/projects

European Investment Bank. (2021, September 15). *EIB strengthens global development focus and backs EUR 4.8 billion new financing for energy, transport, COVID vaccines and business investment* [Press Release]. European Investment Bank Group. https://www.eib.org/en/press/all/2021-304-eib-strengthens-global-development-focus-and-backs-eur-4-8-billion-new-financing-for-energy-transport-covid-vaccines-and-business-investment

European Investment Bank. (2022, January 27). *President Hoyer: Overview of 2021 activities* [Press Release]. European Investment Bank Group. https://www.eib.org/en/press/speeches/president-hoyer-overview-of-2021-activities

European Investment Bank (2023a). *EIB Global Strategic Roadmap*. European Investment Bank Group. https://www.eib.org/attachments/lucalli/20230336_eib_global_strategic_roadmap_en.pdf

European Investment Bank (2023b). *The economic appraisal of investment projects at the EIB: 2nd edition March 2023.* European Investment Bank. https://data.europa.eu/doi/10.2867/076767

European Investment Bank (2023c). *The EIB Group Operational Plan 2023-2025.* European Investment Bank Group. https://www.eib.org/en/publications/20220289-eib-group-operational-plan-2023

European Investment Bank. (2024a). *EIB Global impact report 2023/2024.* European Investment Bank. https://doi.org/10.2867/100021

European Investment Bank (2024b). *EIB Group 2024-2027 Strategic Roadmap.* European Investment Bank Group. https://www.eib.org/en/publications/20240198-eib-group-2024-2027-strategic-roadmap

European Investment Bank Group (n.d.a). *EIB at a glance.* https://www.eib.org/en/about/at-a-glance/index

European Investment Bank Group (n.d.b). *Our funding*. https://www.eib.org/en/investor-relations/products/index.htm

European Investment Bank Group (n.d.c). *Shareholders.* https://www.eib.org/en/about/governance-and-structure/shareholders/index

European Investment Bank Group (n.d.d). *The EIB Group in numbers.* https://www.eib.org/en/about/key-figures/index

European Union. (n.d.). *EU enlargement*. Retrieved April 19, 2025, from https://european-union.europa.eu/principles-countries-history/eu-enlargement_en

Ferrer, J. N., & Katarivas, M. (2014). What are the effects of the EU budget: Driving force or drop in the ocean?. CEPS Special Reports, 86. https://core.ac.uk/download/pdf/148874807.pdf

Gatti, M., Gorea, D., & Presbitero, A. (2023). The effect of EIB operations on private sector lending outside the European Union (No. 2023/03). EIB Working Papers. https://doi.org/10.2867/455760

Gereben, Á., Rop, A., Petriček, M., & Winkler, A. (2019). The impact of international financial institutions on small and medium enterprises: The case of EIB lending in Central and Eastern Europe (No. 2019/09). EIB Working Papers. https://doi.org/10.2867/122684

Glennerster, R. and Takavarasha, K. (2013). The Experimental Approach. *In Running Randomized Evaluations: A Practical Guide,* Introductory Chapters. Princeton University Press. http://assets.press.princeton.edu/chapters/s10085.pdf

Greenwood, R., & Vayanos, D. (2014). Bond supply and excess bond returns. The Review of Financial Studies, 27(3), 663-713. http://www.jstor.org/stable/24465691

Humphrey, C. (2018). The role of credit rating agencies in shaping multilateral finance: Recent developments and policy options. Intergovernmental Group of 24. https://g24.org/wp-content/uploads/2024/06/The-Role-of-Credit-Rating-Agencies-in-Shaping-Multilateral-Finance.pdf

International Monetary Fund. (2016, April). *Global Financial Stability Report: Potent Policies for a Successful Normalization.* 57-86. https://www.imf.org/en/Publications/GFSR/Issues/2016/12/31/Potent-Policies-for-a-Successful-Normalization

Kersting, E., & Kilby, C. (2024). How do stock markets in emerging economies respond to World Bank loan approvals? *Emerging Markets Review*, *63*, 101207. https://doi.org/10.1016/j.ememar.2024.101207

Kolasa, T., Ongena, S., & Humphrey, C. (2024a). Multilateral Development Bank Bonds. Swiss Finance Institute Research Paper, (24-87).

Kolasa, T., Ongena, S., & Humphrey, C. (2024b). The Resilience of MDB Bonds to Credit Rating Downgrades. *Swiss Finance Institute Research Paper*, (24-100).

MacKinlay, A. C. (1997). Event studies in economics and finance. *Journal of economic literature*, 35(1), 13-39. https://www.jstor.org/stable/2729691

Maul, D., & Schiereck, D. (2017). The bond event study methodology since 1974. *Review of Quantitative Finance and Accounting*, *48*, 749-787. https://doi.org/10.1007/s11156-016-0562-4

Multilateral Development Banks (2018). Mobilization of private finance 2017 by multilateral development banks and development finance institutions. Retrieved May 3rd, 2025, from https://www.adb.org/sites/default/files/institutional-document/521281/mobilization-private-finance-mdbs-dfis-2017.pdf

Multilateral Development Banks (2025). Mobilization of private finance 2023 by multilateral development banks and development finance institutions. Retrieved May 3rd, 2025, from https://www.adb.org/sites/default/files/institutional-document/1039456/mobilization-private-finance-mdbs-dfis-2023.pdf

Nowak-Lehmann D., F., Martínez-Zarzoso, I., Klasen, S., & Herzer, D. (2009). Aid and trade–A donor's perspective. *The Journal of Development Studies*, *45*(7), 1184-1202. https://doi.org/10.1080/00220380902952407

OECD (2024), Multilateral Development Finance 2024, OECD Publishing, Paris, https://doi.org/10.1787/8f1e2b9b-en

Park, N. K. (2004). A guide to using event study methods in multi-country settings. *Strategic Management Journal*, *25*(7), 655-668. https://doi.org/10.1002/smj.399

Ronci, M. (2004). Trade finance and trade flows: panel data evidence from 10 crises. https://www.imf.org/external/pubs/ft/wp/2004/wp04225.pdf

Rosenbaum, P. R., & Rubin, D. B. (1983). The central role of the propensity score in observational studies for causal effects. *Biometrika*, *70*(1), 41-55. https://doi.org/10.1093/biomet/70.1.41

Sant'Anna, P. H., & Zhao, J. (2020). Doubly robust difference-in-differences estimators. *Journal of econometrics*, *219*(1), 101-122. https://doi.org/10.1016/j.jeconom.2020.06.003

STOXX Ltd. (n.d.a). *STOXX® Europe 600*. https://stoxx.com/index/sxxr/

STOXX Ltd. (n.d.b). *STOXX® Europe 600: The continent's benchmark*. https://stoxx.com/index/sxxp/

Sun, L., & Abraham, S. (2021). Estimating dynamic treatment effects in event studies with heterogeneous treatment effects. Journal of econometrics, 225(2), 175-199. https://doi.org/10.1016/j.jeconom.2020.09.006

Wagner, D. (2003). Aid and trade - an empirical study. *Journal of the Japanese and international economies*, *17*(2), 153-173. https://doi.org/10.1016/S0889-1583(03)00010-8