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The impact of EU blended financing mechanisms on climate-related investments: the case of the InvestEU fund

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Abstract

This thesis explores the effectiveness of blended finance in driving climate-related investments through the InvestEU fund. It conducts a qualitative analysis to investigate how blended finance can mobilize private investments, using InvestEU as a case study. This analysis particularly highlights InvestNL's implementation at the national level, along with the roles of the European Investment Bank and the European Investment Fund. Although increasing attention is being paid to impact additionality to enhance the developmental impacts of projects, there is still a significant need to boost investor engagement in green projects. The complexity and time-consuming nature of structuring blended finance agreements often hinder the swift mobilization of private funds. This thesis recommends enhancing transparency within the InvestEU framework to better highlight its benefits and simplify the process for stakeholders to verify compliance with the EU Taxonomy. Additionally, improving the governance framework to ensure all investments strictly adhere to environmental, sustainability, and governance (ESG) criteria could strengthen compliance and boost investment confidence. Lastly, as the private sector becomes more adept at assessing and pricing risks and the impacts of their investments, the processes of blended finance can be further streamlined.

Blended Finance • Climate finance • Sustainable Investments • InvestEU • Climate change

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1. Introduction

Global climate change has been recognized amongst the biggest challenges facing humanity in the 21st century and finance is a fundamental necessity for accelerating climate action. The world is facing a climate finance gap where yearly climate flows need to increase by a factor of three to six to meet average annual needs between 2020 and 2030 (United Nations Development Programme [UNDP], 2023; Intergovernmental Panel on Climate Change [IPCC], 2022a). The growing gap to fund the climate transition equates to the difference between the $100 billion annually committed by donor countries and the more than $2.4 trillion needed per year by 2030 (World Bank, 2023a).

Climate finance can be defined as ‘’the local, national or transnational financing—drawn from public, private and alternative sources of financing—that seeks to support mitigation and adaptation actions addressing climate change’’. Large-scale investments are needed to transition to a low-carbon global economy and to help societies build resilience and adaptation methods in the context of climate change. There is especially a shortage of bankable low-carbon adaptation, and resilience projects, meaning that many projects are not yet considered secure and profitable enough to receive the necessary financial backing from the private sector (Bhandary et al., 2020; Chawla & Ghosh, 2019; Polzin, 2017).

One method of accelerating climate finance is through blended finance (United Nations Framework Convention on Climate Change [UNFCCC], n.d.). The World Bank (2023b) states that blended finance has emerged as a promising solution to help deliver the goals of the Paris Agreement and achieve the Sustainable Development Goals (SDGs). This mobilization of private investments through the strategic use of public funds for enterprises and projects aimed at sustainable development will receive attention in this thesis. Private and blended climate finance is increasing but is still short of projected requirements consistent with the Paris Agreement Goals (IPCC, 2022b).

In this context, the European Union (EU) tries with InvestEU, to mobilize the sustainable investments required to reach the EU 2030 climate and energy targets (EU, n.d.; European Investment Bank [EIB], n.d). InvestEU brings together, under one roof, the European Fund for Strategic Investments (EFSI) and thirteen other EU financial instruments and aims to leverage around 279 billion euros of private and public climate and environment-related investments over the period 2021-2030. It provides an EU

budget guarantee to allow the European Investment Bank Group (EIB Group) and other implementing partners to invest in more and higher-risk projects, crowding in private investors.

This study uses a qualitative method and a case-study approach to answer the following research question: *What is the impact of Blended Financing Mechanisms in the EU on Climate Finance, specifically in the context of the InvestEU fund?* The sub-research questions of this thesis are:

- How does blended finance work and what are the benefits and barriers?
- How does the InvestEU fund catalyze private investment in climate-related projects?
- To what extent do blended financing structures impact the scalability and sustainability of climate finance initiatives?

1.1 Scope

This thesis focuses on InvestEU for several reasons. Firstly, the substantial financial scale of the programme, aiming to mobilize approximately 279 billion euros for climate and environment-related investments by 2030, requires a detailed assessment of its efficiency and effectiveness. The concentration on the European Union and specifically on one InvestEU implementing partner provides a clear framework for analysis. This allows for a nuanced understanding of how InvestEU fits within the broader governing framework of climate finance. This focus will help delineate how InvestEU, through its innovative financial instruments and strategies, addresses the climate change funding gap within the EU's regulatory and policy environment.

1.2 Relevance

This thesis contributes to the scholarly literature in different ways. It investigates the practical implication of the climate finance gap and the role blended finance and InvestEU play. Regarding climate finance, especially global climate adaptation financing schemes represent one of the most promising developments in climate finance over the last decade (Das, 2022). Much remains to be learned about how to unlock and enable private capital to help finance national and local adaptation priorities, and how to build the business case for climate adaptation (Arame et al., 2021).

Secondly, there is a significant knowledge gap across the entire blended finance ecosystem. The Network for Greening the Financial System (NGFS) concluded, based on research on emerging markets and developing economies, that the knowledge gap leads to misperceptions of what is plausible for different blended finance stakeholders. This often results in contradictions and inconsistencies in expectations across the ecosystem, and thus in missed opportunities (NGFS, 2023). In the present literature, attention on blended finance has largely focused on the volumetric contributions of blended finance, partly because of the quantitative financial targets set by the international community. Often missing is a qualitative assessment of blended finance that examines the processes and mechanisms through which sources of capital are mobilized and operationalized (Choi et al., 2020). Blended finance is often time and effort-intensive, requiring more complex treatment by investors within their governance and investment processes, as well as by the regulator. As a result, there is also a sense of growing fatigue from blended finance initiatives overload, as they have yet to mobilize at scale the needed private financing for climate mitigation and adaptation solutions in what continues to be seen as a nascent field (NGFS, 2023). Therefore, having a clearer picture of the internal governance configuration of blended finance vehicles and their investment strategy helps to facilitate efforts for assessing and determining additionality, scalability, and transformative impact of climate finance. Only then can public and private actors effectively determine the ways to mobilize, structure, and coordinate flows of climate finance towards sustainable and decarbonized development pathways at scale (Choi et al., 2020).

Moreover, the social relevance of this thesis is significant, as the crossing of the world's planetary boundaries illustrates the enormous need for sustainable investments. In general, planetary boundaries are values for control variables that are either at a 'safe' distance from thresholds or at dangerous levels. The boundaries show the limits to the impact of human behaviour on the earth system (Rockström et al., 2009). Since 2009 this boundary framework, created by 28 scientists, has been revised several times. The most recent update shows that six of the nine boundaries are transgressed, suggesting that earth is now well outside of the safe operating space for humanity (Richardson et al., 2023). In the book Doughnut Economics, the economist Raworth (2017) emphasizes an economic model that balances essential human needs and planetary boundaries. It shows that even

if individual companies internalize social and environmental externalities, it is not certain that the planetary boundaries are not crossed (Raworth, 2017; Schoenmaker, 2017). Therefore, an integrated financing approach in ocean, biodiversity, and climate financing is needed but also faces challenges that discourage investments from the public and private sector. Blended financing provides a pathway to mobilize nature-positive related investments, addressing the prevailing environmental concerns, including the planetary boundaries (United Nations Environment Programme [UNEP], 2023). Figure 1 shows the status of control variables for all nine planetary boundaries. This inherently shows the importance of more research on potential pathways to change traditional finance towards more sustainable finance.

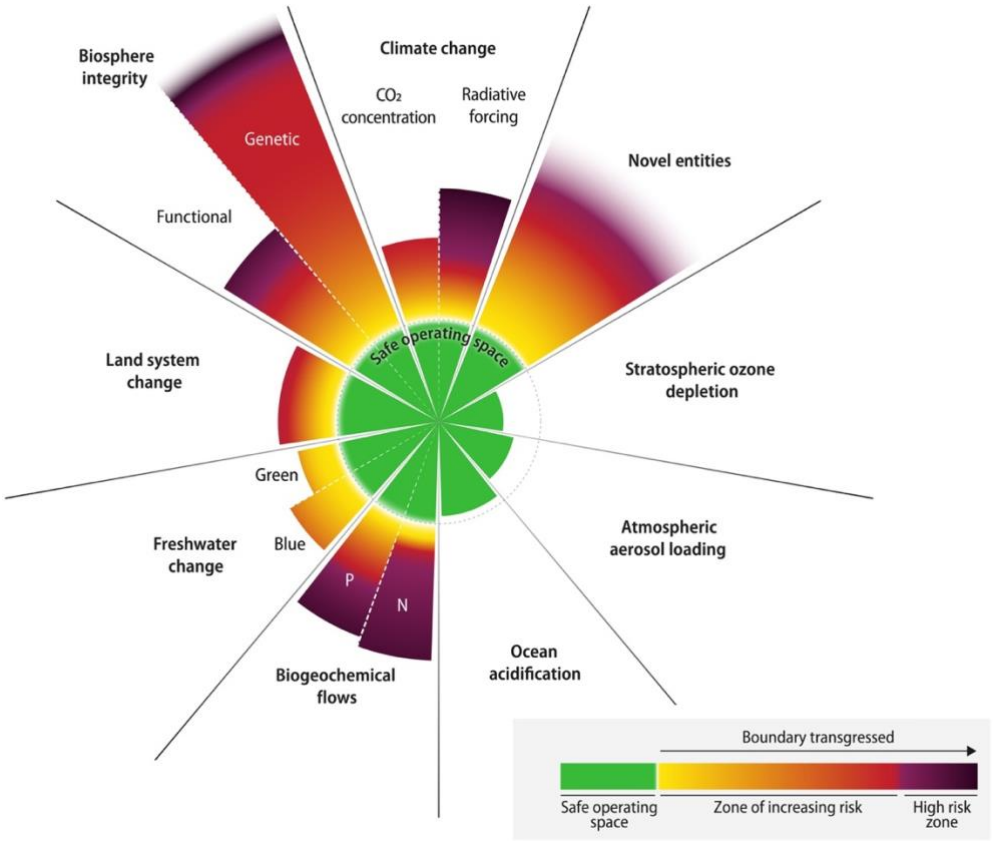

Figure 1 - The status of control variables for all nine planetary boundaries. Source: Richardson et al., 2023.

This thesis also provides a bridge between the urgent need for climate action and the EU's vision for a sustainable future. By providing guarantees and sharing risks, InvestEU allows for higher levels and more adventurous types of investments, which are essential for pioneering significant environmental and sustainable transformations in

Europe. The thesis shines a light on the relationship between finance, innovation, and green growth, showcasing how Europe's push for sustainable finance reshapes its role on the world stage. The focus on blended finance within InvestEU is particularly pertinent as it seeks to not only fill the funding shortfalls but also to improve the risk-taking capabilities of private sector investments in climate-related projects. It weaves the story of how financial innovation, embodied by the InvestEU fund, is a key player in Europe's economic evolution. This becomes even more pertinent with the elections of the European Parliament in 2024, which may influence future funding directions and priorities (European Union, n.d.; European Investment Bank, n.d.). It underscores the importance of scrutinizing and potentially expanding InvestEU's mechanisms to ensure they align with evolving policy objectives and legislative frameworks, thus maintaining a clear, effective approach toward EU's climate finance goals (European Investment Bank, n.d.; European Union, n.d.). Conversely, a more right-wing European Parliament and Commission might aim to downsize the InvestEU fund and decrease sustainable investments. The rise of far-right parties in Western democracies represents a serious threat to the fight against climate change (Jallow, 2023).

1.3 Creativity

In the growing field of sustainable finance, the combination of blended finance mechanisms within the InvestEU framework represents a relatively new area of research, especially in its application to climate change initiatives. This thesis explores a less studied territory, aiming to illuminate the complexities and innovations of mixing public and private financial resources to meet Europe's ambitious climate goals. Given the limited studies specifically focused on this context, the researcher has developed seven original figures (figure 2-8). These figures are crafted to provide a clearer visual understanding of how blended finance can be structured and implemented to support climate-related projects across the EU. By integrating these original visual aids into the research, this work not only adds to academic discussions but also provides practical insights that may inform future policy-making and investment strategies in sustainable finance. This creative approach underlines the thesis with a fresh perspective on an important but under-researched aspect of Europe's financial actions towards climate action.

2. Literature review and conceptual framework

This literature review will dive into the definition, structure, benefits, and barriers of blended finance as well as impact additionality, the climate finance dynamics and the structure of the InvestEU fund. This chapter will end with a conceptual framework.

2.1 Blended finance

2.1.1 Blended finance definition

Definitions of blended finance vary across the literature. According to the Organisation for Economic Co-operation and Development ([OECD], 2021) it can be defined as ‘’the strategic use of development finance for the mobilization of additional finance toward sustainable development in developing countries’’. The European Commission (2015) defines blending finances as ‘’the strategic use of a limited amount of grants to mobilize financing from partner financial institutions and the private sector to improve the development impact of investment projects’’. The European Investment Bank (2024) uses the same definition for ‘’blending’’ but has a slightly increased focus on development projects. The definition of the NGFS (2023) is ‘’the strategic use of a limited number of concessional resources to mobilize financing from public and private financial institutions to achieve climate impacts’’. Lastly, Convergence (2023) - the global network for blended finance - defines blended finance as ‘’the use of catalytic capital from public or philanthropic sources to increase private sector investment in developing countries to realize the SDGs’’. The majority of definitions of blended finance state that blended finance combines investment from various sources for instance combining grants with loans, equity, beneficiary resources, or other forms of financing, with the aim of de-risking projects and making them bankable.

In the present literature, most definitions of blended finance hold a predominant focus on the development finance industry whereas this research is more focused on climate finance in Europe (Convergence, 2023; NGFS, 2023). With the increasing urgency to mobilize private finance for what has predominantly been seen as the domain of development and public finance, the current discourse is increasingly oriented around the use of public resources to lever up commercial finance from private sources to where it would not have been invested otherwise (NGFS, 2023)

There are three pillars for blended finance, particularly;

1- The use of funds to attract private capital into deals (leverage);

2- Investments that drive social, environmental, and economic progress (impact);
3- Financial returns for private investors in line with market expectations, based on real and perceived risks (returns) (World Economic Forum, 2015).

Leverage is in this thesis defined as the total sum of public and private co-investments crowded in with the EU guarantee or the difference between investment targets and EU budget support (Findeisen & Mack, 2023). One of the world's largest implementers of blended concessional finance for private sector operations is the World Bank International Finance Corporation (IFC). Since 2010, the IFC has committed $4.6 billion of concessional funds from contributors to support 457 projects in over 95 countries. Over the period 2014-2023, the annual blended finance activities worldwide have increased by 242%. Sub-Saharan Africa has been the most frequently targeted region in blended finance transactions whereas only 6% of the blended finance transactions came from Europe and Central Asia.

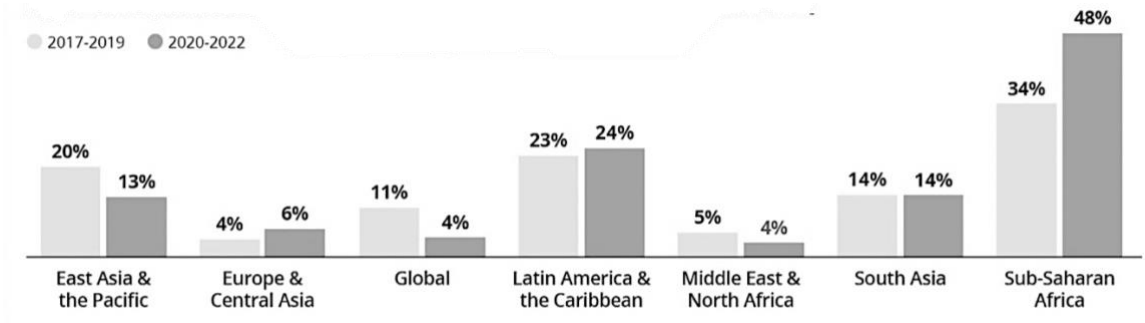

Figure 2 – Proportion of climate blended finance deals by region, 2017-2022. Source: Convergence, 2023.

2.1.2 Blended finance structure

Blended finance structures could exist in different forms. It could be structured as private equity or debt funds with concessional public funding to attract institutional investments. Concessional capital refers to finances issued on better and favourable terms compared to actual market rates and is often used to lower the risk for private investors. It could also be used to embellish returns, unlocking commercial finance that would otherwise not be forthcoming (Convergence, 2023). The nature and size of the concessional element in blended finance is, therefore, a key driver of mobilization and can include below market rates, longer payment periods, grace periods, or partial guarantees (OECD, 2020a; UN, 2023). Another option is bond or note issuances with

concessionally priced guarantees or insurance from public funders. Besides, grant funding from public funders could build capacity of investments to achieve expected financial and social returns or could be targeted toward technical assistance addressing a knowledge gap (Convergence, 2023; UN, 2023). Figure 3 shows the possible structures of blended finance mechanisms.

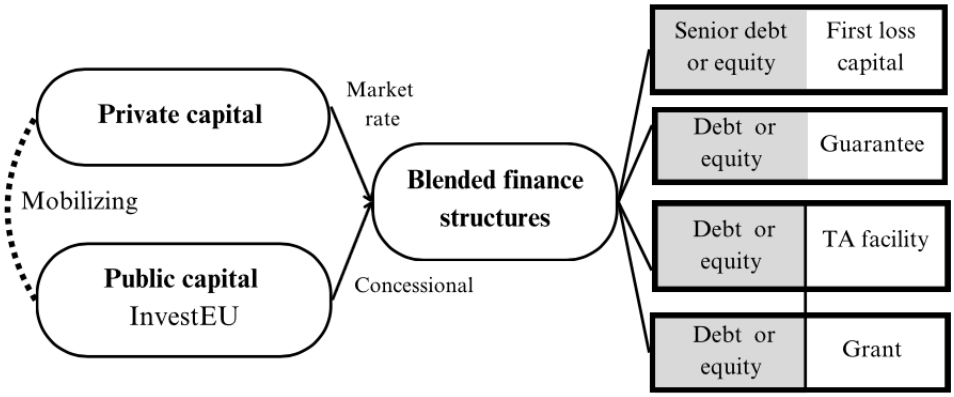

Figure 3 – Blended finance mechanisms. The figure is constructed by the author based on data from Convergence, 2023.

Different authors suggest that blended finance can be seen as a structuring approach instead of an investment approach (Choi et al., 2020; Convergence, 2023; OECD, 2018; World Economic Forum, 2015) As a structuring approach, blended finance places parties into specific roles that align with their mandates. It typically involves designing financial instruments and mechanisms to optimize project funding, manage risks, and attract diverse investors, focusing on the framework where investments are made. An investment approach, on the other hand, focuses more on the selection of investments based on expected returns, risk appetite, and strategic objectives (Convergence, 2023). The United Nations Environment Programme (2023) focuses more on blended finance as an investment approach. The authors argue that blended finance has a component of impact investments where investors are seeking for both financial returns and positive environmental impacts through their investments. Other authors identify blended finance as crowding-in because it aims to mobilize private sector investment for development purposes (International Finance Corporation, n.d.).

2.1.3 Benefits of blended finance

There are multiple benefits for the use of blended finance. Firstly, technical assistance through blended finance can offer targeted support to various aspects of climate projects, including boosting capacity, facilitating monitoring and reporting, and supporting the enabling environment for climate investments (Convergence, 2023; UNEP, 2023). Technical assistance includes skills training, development and analysis of viable products, early-stage financing preparations, and support for the development of projects (Convergence, 2023). Some of the core benefits of technical assistance as described by the UNEP (2023) include:

- Enhanced institutional and human resources capacity building and development;
- Cost savings in overall project costs through the provision of upfront costs;
- Enhanced efficiency in local markets by creating and enhancing the robustness of the market structures;
- Enhanced partnerships;
- Enhanced sustainable development targets to access certain available funds.

An example of the second aspect could be training and preparation for the project, which would otherwise have been paid for by the investors. This can increase the investment readiness of relevant investors.

Another benefit of blended finance is the crucial role in supporting transition financing and decommissioning initiatives, which typically need a nuanced financial approach due to their high costs and complexities. For example, it is a workable approach to use public funding to manage phase-out programmes and to integrate renewable transactions for carbon credits as a complementary element in a blended finance structure (Convergence, 2023; OECD, n.d.)

Moreover, risk mitigation is an important benefit. The provision of guarantees and insurance increases investor confidence to invest in high-risk areas even with negative impacts on their investments. According to Banton (2023) and the UNEP (2023), this underwriting – the process through which an individual or institution takes on financial risk for a fee – has several benefits:

- Boosting investor confidence by addressing the risk-return ratio;
- The creation of an enabling environment for investment in areas presumed to be high-risk areas;

- Increasing the ability of projects and investors to meet their goals and targets by enhancing access to funds in different sectors

On the other hand, the finance experts Barber and Talbot (2015) argue that reducing risk with blended finance is a misleading concept. The risk of an investment is not reduced but rather shifted. Initially, the risk will lie with the private party, but because it does not operate with returns below market values, a public party steps in to take over the unprofitable risks. According to the IFC, blended finance should be used to address temporary challenges in the market while encouraging the private sector to attain a position where concession funds are no longer needed (Anshori et al., 2023).

It is argued by the literature that blended finance is required because of externality, market failure, affordability constraints, or a lack of market information (Anshori et al, 2023). In the EU context, blending investments with EU grants can be necessary in some situations in order to address particular market failures or investment gaps. Such combinations can create advantages for project promoters in sectors such as transport, research, and digital. Combined vehicles can lower transaction fees, encourage innovation and target certain issues or geographic locations (Convergence, 2023). The InvestEU steering committee has set up a methodological framework for risk and a single rulebook is used for all projects using EU funding (European Commission, 2019; European Commission, 2021).

2.1.4 Barriers to blended finance

Multiple barriers have hindered the mobilization of private finance to address climate change, such as the lack of quantifiable incentives, the unwillingness of for-profit firms to internalize environmental externalities, and low or intangible returns to corporate social responsibility practices (Anshori et al., 2023; Polzin, 2017). Additionally, there remains a significant lack of awareness about blended finance, including among governmental bodies, which hinders its broader adoption and implementation (Anshori et al., 2023). Furthermore, public and private sector entities do not fully understand each other's institutional mandates and regulatory environments, motivations, and challenges, often leading to significant lead times and efforts in aligning interests and in some instances outright competition. Besides, developing consensus on a clear and consistent common definition of blended finance shared by all stakeholders would contribute to

removing some of the perception gaps that currently exist within the ecosystem (NGFS, 2023). There is no internationally agreed definition of what blended finance is (Anshori et al, 2023).

Moreover, there are high costs, both in terms of economic as well as human capital, involved in managing a blended finance transaction. Transactions involving multiple instruments can be complex at scale as structures become complicated with an increasing number of stakeholders. The cost of managing, organising and regulating a blended finance transaction should not exceed the cost of the grant (Struewer, 2022). Financial barriers like information asymmetries and bounded rationality are present because financiers typically do not possess technological or political knowledge on how to evaluate risks and returns of investments between fossil fuels and novel clean technologies. The lack of information to evaluate projects and their climate-related consequences and investing in the wrong technologies could lead to worthless assets when boundary conditions change (Bhandary et al., 2021; Chawla & Ghosh, 2019; Polzin, 2017; Struewer, 2022). An example of this change in boundary conditions is regulatory adjustments or changes in market demand (Polzin, 2017). There is also a shortage of bankable low-carbon adaptation, and resilience projects and a mismatch between long-term payback periods and the short-term horizons of investors (Bhandary et al., 2021; Chawla & Ghosh, 2019; Polzin, 2017; Struewer, 2022).

Regulatory changes and the power of incumbents applying fossil-fuel-based technologies hinder private financiers from investing even in mature technologies due to an uncertain market outlook. Similarly, they hinder the reallocation of funds from existing companies, projects, and infrastructure toward a new investment category (Chawla & Ghosh, 2019; Polzin, 2017). For instance, Allianz Group must maintain significantly more risk capital – covered via the EU Directive Solvency II - for investments associated with a securitization structure than for an investment in a vehicle not classified as a securitization. These rules are intended to ensure a fair internal market and prevent tilting the playing field in favour of domestic companies or economic sectors but pose obstacles to the financing of projects relating to the climate. This goes together with the limited availability of the instruments across the board and the EU rules on state aid (Allianz, 2023).

This relates closely to the existence of technological lock-in and path dependency, which is another barrier for sustainable investments with blended finance. This is due to insufficient technological maturity compared to fossil-fuel based technologies and translates into expectations of severe market failures and questionable commercial viability. These developments are persistent due to suboptimal investments by private firms in clean R&D compared to the carbon-intensive 'dirty' R&D investments (Polzin, 2017).

Lastly, blended finance is often time and effort-intensive, requiring more complex treatment by investors within their governance and investment processes, as well as by regulators. As a result, there is also a sense of growing fatigue from blended finance initiatives overload, as they have yet to mobilize at scale the needed private financing for climate mitigation and adaptation solutions in what continues to be seen as a nascent field (NGFS, 2023).

2.1.5 Financial and impact additionality

When constructing a blended finance transaction, the expectation is to create the highest possible ratio of leverage or financial additionality, showing that more value can be created per public euro invested (Beasley, 2022). Easterly (2001) points out that private sector investment tends to be driven by profit motives, which do not always align with the development objectives that are central to the SDGs. He states that most of the SDG-funding gap cannot be solved privately, and that only public funding can close the gap. Pistor (2021) adds to this by stating that the green transition to market mechanisms only, that is, financial intermediaries' asset allocation, may not necessarily produce a desirable outcome from an environmental perspective.

However, a major misconception of this financial additionality – which is aiming for a higher ratio of leverage – is that it does not consider the impact of these mobilised private euros (Defraye, 2012). According to the OECD (2020b) and the UNEP (2023) impact or development additionality is a key principle of blended finance, meaning adding value either financially or development-wise beyond what is available in the market or otherwise absent. The traditional finance approach as mentioned by Easterly holds the premise that investors only care about risk and return and this standard risk and return portfolio framework has been challenged by numerous approaches. Traditional 2D

thinking (risk-return) is increasingly shifting to 3D thinking (risk-return-impact) with more focus on making investment decisions based on objectives that are not strictly risk- or return-based. Examples are impact investing, socially responsible investing (SRI), or environmental, social, and corporate governance (ESG) investing (Blitz et al., 2023; Defraye, 2022; OECD, 2020b; UNEP, 2023; Schoenmaker, 2017). This 3D thinking is displayed in the figure below.

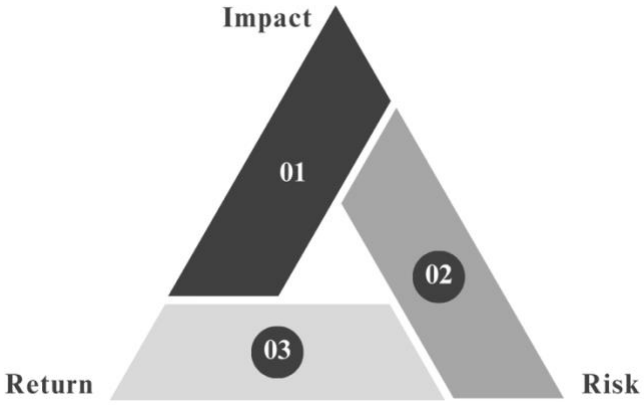

Figure 4 – The 3D sustainable investing approach considering impact, risk and return. The figure is constructed by the author.

According to Blitz et al (2023), this 3D thinking can be seen as ex-ante Pareto-optimal. The Pareto effect states that for a given level of expected return, sustainability performance, and risk level, the 3D approach achieves maximum expected sustainability performance or expected return, respectively. Importantly, the ex-ante element emphasizes a proactive approach to decision-making that seeks to minimize regrets and maximize efficiency based on available forecasts and scenarios. The authors provide evidence that 3D investing emerges as an effective way to improve portfolio sustainability that offers Pareto optimality and more flexibility. Beasley (2022) shows the disproportionate relationship between financial additionality and impact additionality. He argues that the more private euros mobilized to make an impact, the less impact is ultimately made. This is because the focus is on aiming for a high ratio of financial additionality or leverage. As a result, a movement of capital will take place from the projects where impact is the most needed, because in this position the price to mobilize private capital is more expensive than for a project where less impact can be made. This goes against the principle of impact investment by settling for a project where less impact

is realized than is feasible. This relates to the research of Palea & Santhià (2022) on environmental performance of that firms in the automotive industry. Firms with lower environmental performance exhibit lower profitability ratios and appear to be penalized by investors in terms of market value. Their findings highlight the challenges that higher-polluting firms face in raising capital or securing financing under more costly conditions, even as the necessity for these firms to transition to cleaner production methods becomes increasingly evident. With regulatory developments like the European Green Deal, the necessity to integrate alternative objectives outside of risk-return into the investment paradigm will continue to grow (Blitz et al., 2023).

2.2 Climate Finance dynamics

An early definition of climate finance is ‘’local, national, or transnational financing—drawn from public, private, and alternative sources of financing—that seeks to support mitigation and adaptation actions that will address climate change’’ (Long Cheng et al., 2022; UNFCCC, n.d.; Zhang et al., 2019). It is about investments that governments, corporations, and households have to undertake to transition the world’s economy to a low-carbon path, to reduce greenhouse gas concentration levels, and to build resilience of countries to climate change (Hong et al., 2020). In most conceptualization climate finance is seen as a subset of green finance, itself being a subset of sustainable finance (Long Cheng et al., 2022).

2.2.1 Climate adaptation and mitigation

Finance has a critical role to play in enabling a transition to a low-carbon, climate-resilient economy (Bhandary et al., 2021). Climate mitigation efforts focus on reducing greenhouse gas emissions to slow down global warming, while adaptation strategies aim to reduce vulnerability and increase resilience against the effects of climate change that are already occurring or are anticipated (Arame et al., 2021; Tall et al., 2021).

Especially global climate adaptation financing schemes represent one of the most promising developments in climate finance over the last decade (Das, 2022). Adaptation finance supports initiatives that help communities adjust to the adverse effects of climate change. This can include the development of flood defence, the implementation of water resource management to combat droughts, and the construction of climate-resilient infrastructure. Adaptation finance also supports ecological projects, such as the

restoration of mangroves, which protect coastlines from storms and rising sea levels (International Energy Agency [IEA], 2022). Although climate adaptation finance flows have increased by 35% in recent years, they still fall short of what is needed to avoid severe economic and human impacts from climate change (Arame et al., 2021). Adaptation is urgently needed to safeguard development gains and to address the needs of developing countries which are especially exposed to climate change impacts (Global Environment Facility, 2022). The UNEP (2021) highlights that adaptation costs in developing countries are likely to reach $140 to $300 billion per year by 2030, indicating a significant need for focused financial support. Currently, only 23% of the total losses caused by extreme weather and climate-related events across Europe are insured, leading to a substantial insurance protection gap, which is expected to become even wider given the current climate projections (European Insurance and Occupational Pension Authority [EIOPA], 2023).

Besides, climate change mitigation involves actions that reduce the rate of climate change by preventing greenhouse gas emissions and by enhancing activities that remove these gases from the atmosphere (IPCC, 2024). This involves investments directed towards renewable energy sources (wind, solar, and hydroelectric power), energy efficiency improvements, afforestation projects, and the development of carbon capture and storage technologies. According to the IEA (2022), substantial investments in clean energy technologies are essential to meet global energy and climate goals, suggesting that an average of USD 4 trillion will need to be invested annually by 2030 to keep warming within the 1.5°C target set by the Paris Agreement.

2.2.2 Finance streams

There are different investment approaches for climate finance. Firstly, equity investments involve acquiring a stake in green projects or companies, allowing investors to directly influence sustainable practices and innovations. This approach not only provides the necessary capital but also aligns investors' interests with long-term environmental goals (Attridge & Engen, 2019). It provides capital in exchange for ownership stakes.

Secondly, for debt-financing both loans and bonds are options. Loans can provide immediate liquidity for climate initiatives, and green bonds raise funds for environmental

projects through the capital markets, offering investors a fixed return. Both methods are essential for bridging the financing gap in transitioning towards a low-carbon economy, with each playing a unique role in the climate finance ecosystem (Attridge & Engen, 2019).

Thirdly, public guarantees reduce investment risk by promising to cover losses which makes projects more attractive. This credit enhancement risk-insurance or risk-sharing tool helps lowering the risk associated with sustainable assets and funds held by the private sector. Risk-sharing arrangements can also be enhanced by technical assistance or financial support for the monitoring and evaluation of the impact associated with the investment. This technical assistance can play a key role in addressing data knowledge gaps (Convergence, 2023).

Lastly, purchasing subordinated debt involves investing in debt that ranks below other debts if a company falls into liquidation or bankruptcy, effectively taking on greater risk for potentially higher returns. This tool can encourage senior debt investors by improving the risk profile of their investments (Chen, 2021). Financial insurance, on the other hand, provides coverage against specific financial risks associated with investments, such as defaults or currency fluctuations.

2.2.3 EU Climate finance

To mobilize as much as €1 trillion in green investment over the period 2021-2027, the von der Leyen Commission in January 2020 launched the Sustainable Europe Investment Plan (SEIP) (European Commission, 2020b; Findeisen & Mack, 2023). This SEIP acts as a flagship policy of the EU and is simultaneously a project related to a climate, social, and economic impact (Eperjesi, 2021). The InvestEU Programme, initially proposed in June 2018 and accepted in 2020, is at the heart of this European Investment Plan. Whereas the EFSI gave full operational control to the EIB Group with the EFSI steering board located within the Bank, InvestEU is governed by the European Commission. The Commission oversees InvestEU and its investment decisions through its steering and policy boards. They tailor and approve financial assistance, and assess the economic viability and policy alignment of support applications through the Brussels-based InvestEU secretariat (European Commission, 2020b; Findeisen & Mack, 2023).

As stated by the European Commission (2024b), the European Green Deal Investment Plan is built on three dimensions:

1- Funding

Over the 2021-2030 period, the European Commission wants to mobilize at least 1 trillion euros of sustainable investment by increasing the resources devoted to climate action under the EU budget and leveraging additional public and private financing.

2- Enabling

The Commission plans to use a mix of regulation and incentives to ensure that sustainability is duly taken into account in investment decisions across all sectors.

3- Support for implementation

Advisory and technical support will be provided to public administrations and project promoters with a view to creating a pipeline of sustainable projects.

As part of the Commission's proposal for the 2021-2027 long-term budget, the SEIP commits to mobilizing 25% of the EU budget for climate financing. This substantial allocation underscores the EU's commitment to investing in environmental objectives across a variety of programs, effectively integrating climate action with economic growth (European Union, 2024b). In early 2021, the European Commission and the EIB Group estimated that the SEIP met less than half of the Green Deal's additional investment needs of €350bn a year. This means that Europe needs to spend an additional €350 billion on climate action every year this decade to reach its 55% greenhouse gas reduction target by 2030 (Findeisen & Mack, 2023). The Commission and the EIB Group underline that the SEIP falls short of closing Europe's green investment gap and that there is still an outstanding gap of around €182 billion per year for the Green Deal (European Union, 2024b; Findeisen & Mack, 2023). The literature shows that for climate investments, initiatives can focus on:

1. The support for a proof-of-concept role as cornerstone investors for new structures in sustainable finance investment area;
2. Risk-sharing structures through layered funds;
3. Risk-sharing facilities or guarantees;
4. Improving the risk-return profile of climate-friendly assets through credit enhancement initiatives or credit insurance;

5. Supporting aggregation platforms that can either match interested investors with assets or hold greenfield assets so that they can be placed with institutional investors once assets are operational and have a track record (Attridge & Engen, 2019).

The EIB adopts the concept of the EU's leaders to transform itself to a European Climate Bank. It is a further target for the bank to attract private investors and channelling the way to new markets (Eperjesi, 2021). The EIB Group raises funds on international capital markets backstopped by the EU guarantee support. In the second step, the Bank deploys these funds either via direct instruments or via co-investments with private and public actors in individual projects. The more the Bank relies on indirect instruments the more leverage it can realize, as these blend the EIB Group's resources with the capacities of public and private banks and private investments. Implementing partners are likely to prioritize indirect instruments to realize InvestEU's target volume such as loan guarantees, which increase the balance sheet and lending capacities of private intermediaries. (Findeisen & Mack, 2023).

The EIB is a policy-driven development bank and plays a crucial role in reducing regional disparities and fostering the social and territorial cohesion of the union by providing funds at favourable terms (Eperjesi, 2021). The EU has also obtained strongly expanded capacities to raise financial resources on the financial markets and to raise revenues directly. This increase in financial autonomy is likely to further bolster its role as a catalytic power in international affairs. The EU's public promotional bank field provides one of the strongest institutional frameworks for guiding private investments towards mission-oriented and transformative policies (Findeisen & Mack, 2023).

Members of the European long-term investors association (ELTI) have put forward ten recommendations to improve the functioning of the InvestEU programme. The most important recommendation is more transparency from the European Commission on the Guarantee negotiation and for Implementing Partners to share their lessons learnt (2024). This is also shared by the authors Findeisen & Mack (2023) stating that a lack of transparency makes it difficult to track whether investments are in line with EU climate policy. The current reporting arrangements for InvestEU do not include the actual climate and environmental results of any projects it supports. Furthermore, the

amounts of InvestEU financing tracked in accordance with the EU Green Taxonomy are not disclosed. Many documents are kept confidential and even the published ones rigorously protect clients' commercial confidentiality. As a result, it is difficult to verify InvestEU's climate impact and to scrutinise where the intermediated money ends up — let alone establish whether or not the EU lives up to the climate policy leadership role it lays claim to (Findeisen & Mack, 2023).

Furthermore, the regulations should be further refined to enhance their usability and orientation towards market needs (ELTI, 2024). To align the InvestEU objectives with the goals of addressing market failures and mobilizing private capital, the Commission introduced a proposal in 2018 designed to ensure that state aid rules support the smooth deployment of the InvestEU fund (European Union, n.d.). However, there is variability in the budgetary capabilities of member states to finance green projects, and it remains uncertain whether sustainable investments will receive preferential treatment under the revised EU fiscal rules. Conversely, individual member states have utilized temporary exemptions from EU state aid rules to significantly boost funding for climate action (Findeisen & Mack, 2023).

2.3 Conceptual framework

The conceptual framework of this thesis is rooted in key financial and sustainable development theories that explain the principles underpinning blended finance. Since there are many definitions in the literature for blended finance, the author came up with a definition herself combining different sources. In this thesis, blended finance is defined as; ''the mobilization of private investments through the strategic use of public funds for enterprises and projects aimed at sustainable development combining investment from various sources.'' This framework incorporates the mechanics of blended finance, including instruments such as risk guarantees, first-loss capital, and concessional loans, which are designed to attract and leverage private sector investment (OECD, 2021; World Economic Forum, 2020).

The European Union, through initiatives like the European Green Deal, has set ambitious targets for sustainability, which necessitate substantial financial investments, particularly in climate mitigation and adaptation. The InvestEU program, as described by the European Commission (2024a), plays a critical role in mobilizing these necessary

funds, aiming to generate approximately €279 billion in climate-related investments by 2030. In total, the fund aims to trigger more than 372 billion euros in investments by using this EU budget guarantee (InvestEU, 2024). This investment targets significant financial gaps identified by the IPCC(2022a), which estimates that annual funding needs to increase severalfold to meet global climate targets (European Commission, 2024b; IPCC, 2022a).

Within InvestEU, blended finance mechanisms are operationalized to mitigate investment risks and enhance the attractiveness of climate finance projects to private investors. The Sustainable Finance Guarantee, managed by the European Investment Fund (EIF), exemplifies this approach by covering potential investment losses, thus encouraging private sector participation in high-risk climate projects (European Investment Fund, 2024). This not only aligns with the EU's climate objectives but also strategically positions the EU to fulfil its commitments under the Paris Agreement by enhancing the scalability and impact of its financial interventions (European Investment Fund, 2024; Paris Agreement, 2015).

3. Methods

3.1 Case study: The InvestEU fund

This thesis employs a detailed case-study methodology concentrated on the InvestEU fund. It particularly focuses on the implementation of blended finance mechanisms aimed at climate-related projects. This case-study approach was selected because it allows for an in-depth exploration of complex financial structures within a real-world context, offering insights that are not easily obtainable through theoretical analysis alone.

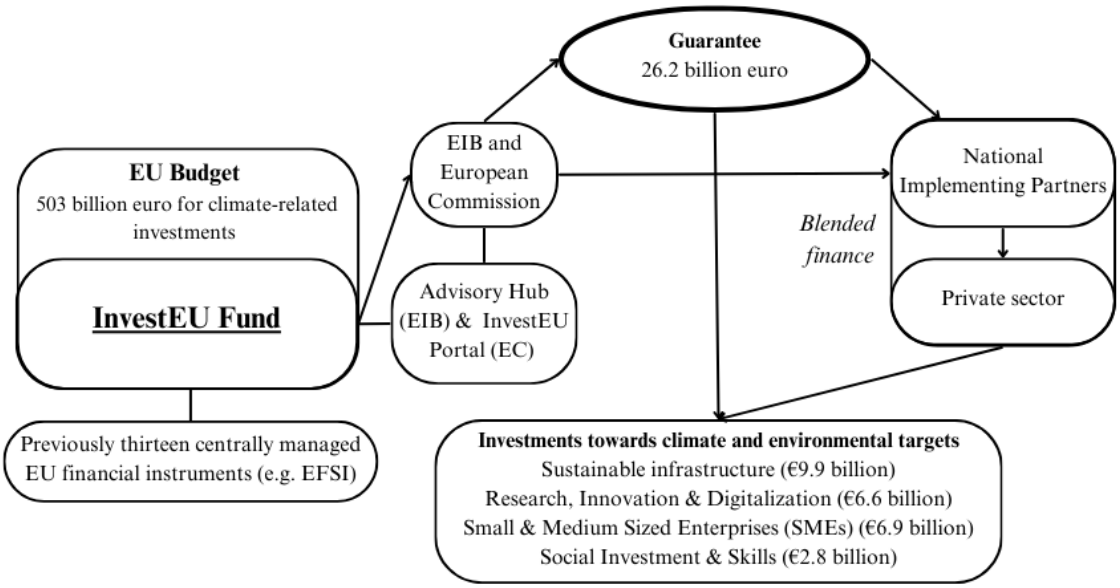

Figure 5 – Investments triggered by the EU budget. The figure is constructed by the author, based on European Commission (2020a, 2023), European Union (2024a), InvestEU (2024).

Figure 5 provides a comprehensive overview of the InvestEU fund's structure and its financial ecosystem, illustrating the flow and deployment of funds. At the heart of this structure is the EU Budget, which allocates a significant total of 503 billion euros, with a portion earmarked for climate and environmental purposes to fund the InvestEU programme. This programme is key in consolidating previously fragmented financial instruments, such as the European Fund for Strategic Investments (EFSI), into a more efficient framework. InvestEU introduces processes, including budgetary guarantees and a unified set of rules and procedures, along with a single point of contact for technical

assistance. Building upon the foundations laid by the EFSI, the InvestEU fund emerges as a central feature of the European Union's Recovery Plan for Europe. It not only aims to boost sustainable investment and foster innovation but also strives to create jobs across the continent (European Union, 2024a). The EIB and the European Commission together oversee the strategic deployment of the fund through tools like the Advisory Hub and the InvestEU Portal. These platforms should facilitate a smooth interaction between project promoters and potential investors, enhancing transparency and access to capital (InvestEU, 2024).

Central to the InvestEU's operational model is the 26.2 billion euros guarantee facility, which is designed to minimize risks for private and national implementing partners thereby encouraging these entities to invest in projects that they might otherwise deem too risky. It functions as a subsidy or first-loss instrument, reducing financial risks and making challenging projects viable (European Commission, 2024). Additionally, by aggregating projects into investment platforms, it achieves economies of scale that attract institutional investors (InvestNL, 2020, p. 27). The Sustainability Guarantee Product is one of the six InvestEU portfolio guarantee products, dedicated to supporting the green and sustainable transition of small enterprises and citizens across the EU. By covering potential losses, the Sustainable Guarantee significantly lowers the barriers to investment in sustainability projects, encouraging private sector participation in initiatives that align with the EU's (European Commission, 2024b; EIF, 2024).
climate goals, such as those related to climate adaptation and mitigation (EIF, 2024).

The EIB works together with many (National) Implementing Partners (NIPs), such as The European Investment Fund (EIF), The Council of Europe Development Bank (CEB); The European Bank for Reconstruction and Development (EBRD); the Nordic Investment Bank (NIB); CDP Equity; Caisse des Dépôts; Instituto de Crédito Oficial (ICO); Cassa Depositi e Prestiti (CDP); BPIfrance (BPI); Bank Godspodarstwa Krajowego (BGK); InvestNL; Garantiqa and the Flemish PMV. In October 2023 a second call of expression of interest was published to select new implementing partners under the InvestEU fund (European Commission, 2024).

Special attention in this thesis is given to InvestNL, which is one of the implementing partners of InvestEU. As of September 2023, InvestNL is authorized to channel 350 million euros in guarantees across the Netherlands (European Commission,

2023). The three focus areas for their investments are renewable energy, deep tech, and factories that present innovative technologies or processes (InvestNL, n.d.). The focus in this thesis on one National Implementing Partner (NIP) aims to highlight how national-level implementations within the broader EU framework can influence and drive significant advancements in climate-related efforts.

3.2 Data collection

This research relies on three methods, namely document research, interviews, and case-study analysis. A qualitative research approach is utilized for the development of new theory and recommendations, using a deductive approach. With the interviews, the researcher wants to find out how blended finance within the InvestEU programme contributes to the effective mobilization of private capital for sustainable and impactful projects, and how the key success factors and challenges are perceived by the stakeholders involved. Because blended finance requires actions of the public and private sector, both receive attention with a predominantly qualitative narrative. In-depth insights gathered can result in new ideas for companies and research. Especially primary data - data that the researcher has gathered herself - represents part of the added value that the researcher can bring to the table since it is unique to the particular research project (Myers, 2020, p.95).

This research gathers empirical evidence from one organisation, attempting to study the subject matter in context. The case-study research allows the researcher to explore theories within the context of messy real-life situations. It gives the possibility to find out firsthand whether or not certain concepts or theories have any value in the business world. However, two main disadvantages of this approach are that it can be difficult to focus on the most important issues and that people skills are required (Myers, 2020, p.99). The researcher chose to study an international fund due to its ability to indirectly assess a structure on a global scale. By using more than one technique to gather data, including a case-study organisation, the researcher can look at the same topic from different angles allowing for a ‘fuller’ picture (Myers, 2020, p.11).

In light of the research gap, most of the data is obtained by conducting semi-structured interviews where new questions might emerge during the conversation in addition to the pre-formulated questions. A semi-structured interview provides more space to collect data on unexpected issues and, because of the variation in responses,

yields richer and more varied information than a closed-ended interview (Bleijenbergh, I., 2015, p. 74). All interviewees participate under the condition that their names will not be made public. Due to an international study programme, most interviews were conducted digitally via Microsoft Teams.

As part of the data collection for this thesis, the researcher attended events where data has been gathered which is publicly available, such as an InvestEU event in January and two online Sustainable Finance Days held in April and May. These events featured prominent speakers from various sectors of European finance and investment, such as the Vice-President of the European Investment Bank, the CEO of the European Investment Fund, and a member of the InvestEU Investment Committee. These events provided critical insights into the current trends, challenges, and innovations in sustainable finance, especially regarding the application and outcomes of blended finance structures in supporting the EU's climate goals.

Additionally, the researcher conducted interviews and reached out to individuals to pose questions that deepened her understanding of the practical aspects of these financial mechanisms. The table below lists the respondents and key experts who were consulted. Overall, these interactions were invaluable in shaping the analytical framework of this thesis, enabling a thorough exploration of the roles these institutions play in advancing Europe's sustainability agenda.

Organisation	**Role**
European Investment Bank Group	- Head of Division of Advisory Services - Head of the European Investment Advisory Hub - Head representative of the EIB Group in Germany
InvestNL	- Board member - Teamlead Public-Private Partnerships - Business Development Manager
The World Bank	- Program manager for Southern Europe - Emeritus Global Finance Professor
Private sector	- Investment Manager Sustainable Finance of a Dutch bank

Figure 6 - The respondents of this thesis. The figure is constructed by the author.

3.3 Data analysis

There is a variation of respondents, contributing to a broad perspective. The downside of this wide range is that it can be more difficult to systematically analyse the interviews. The researcher preferred to pose questions in semi-structured interviews, using interview protocols to be found in the Appendix. Most respondents answered questions during meetings, via email or via LinkedIn. These questions were specifically focused on the expertise of the respondent and gave room for the process of producing in-depth knowledge. On the other hand, it was more difficult to continue questioning their response. Overall, all respondents together helped to achieve the goal of getting a broad overview of the field and finally to contribute to society and literature with new insights and recommendations.

This research is susceptible to biases and not flawless. One potential issue could be a possible biased interpretation of the researcher towards the case-study organisation. The values of the researcher may influence the data collected once the problem has been defined (Connor & Becker, 1977). The researcher gives serious consideration to this potential flaw and tries to stay as critical as possible.

A challenge addressed in this thesis is the conceptual differentiation between blended finance and climate finance. Blended finance can be seen as a structuring approach that coordinates various types of capital to leverage and increase investment flows. In contrast, climate finance typically focuses on investment approaches emphasizing the risk-return-impact triangle, aiming to balance financial returns with environmental and social outcomes. Therefore, this thesis investigates how blended finance can be strategically used as a structuring mechanism to facilitate effective climate investment approaches.

Perfect replication of the study is not possible. Now that most interviews were semi-structured, another researcher might follow a different lead through the interviews compared to the original researcher. This could lead to different qualitative information. On the other hand, through the use of transparent methodology and interview protocols, the researcher aimed to increase the reliability. Secondly, by reviewing the study conclusions with key informants, this thesis strives to attain a high level of validity. Because the subject is illuminated from different angles this also requires different questions from each respondent.

4. Analysis and discussion

4.1 Blended finance: definition, benefits and barriers

The literature indicates a lack of a single clear definition of 'blending'. In this thesis, blended finance is defined as ''the mobilization of private investments through the strategic use of public funds for enterprises and projects aimed at sustainable development.'' Blending can be regarded as using public money to leverage private money. It is usually done to lower the risk of projects or investments so that the private sector is able to provide its financing on the basis of risk and returns acceptable to them. Without this intervention, it is argued that the private sector doesn't provide financing, or not at least to the same extent as it would without public intervention. This is confirmed by the literature as well as the respondents.

Blended finance helps to address market failures and situations of underinvestment. As a respondent of InvestNL indicated, blending is nothing more than bringing together different pots of money that all have different qualities and impact-risk-return needs. Another respondent stated that blended finance is about deploying public funds with a certain degree of financing conditions. The public money usually comes in the form of guarantees or equity, to underpin the majority of the risk and this is also how InvestEU works. Other ways for using blended finance are for the public money to be provided as a grant and then combined with private financing. This can be capital grants, interest rate subsidies, income top-ups such as feed-in tariffs, or rent subsidies.

The interviews show that over the past decades the EIB has pioneered blended finance in collaboration with the European Commission. It was introduced almost twenty years ago with the Risk Sharing Finance Facility (RSFF) and the External Lending Mandate. The European Fund for Strategic Investments (EFSI) represented an evolution of the first initial mandates whereby public money was used to credit and enhance the financing of risky projects to a level acceptable to a financial institution. The EFSI successfully allowed the financing of projects deemed too risky by the private sector which was instead willing to enter into operations assessed by EIB and credit improvement by the EU budget. The multilateral development banks have entered the area of blended finance much later. Blended finance is now becoming more and more talked about.

Another respondent indicated that in the working groups about blended finance at the EIB, it is often a pull and push between the European Commission and the private sector to define the right level of public support against the conditions attached to it. This is also influenced by the evolution of blended finance and reflects a significant shift in the economic philosophy surrounding public and private sector roles.

The Covid-19 pandemic underscored the role of the public sector during crises, highlighting their capacity to mobilize resources swiftly and effectively in response to widespread disruptions. As a respondent indicated, this experience has opened discussions on new financial models where the private sector is not just a beneficiary of stability provided by public interventions but also shares the profitability and associated risks. This approach aims to balance the financial burden more equitably between public entities and private investors, ensuring that the benefits and responsibilities of economic growth and stability are more symmetrically distributed. Such modalities are crucial for sustainable economic policies that prevent over-leveraging public resources while encouraging private sector engagement in pursuing the public good. Over time, it has been understood that while the public sector is tasked with supporting the public good, it should not do so freely or without consideration of costs.

As the literature indicated there can be high costs, both in terms of economic as well as human capital, involved in managing a blended finance because they involve multiple instruments. Structures can become complicated with an increasing number of stakeholders. Therefore, this pull and push in blended finance structures between the public and private sector could be a challenge. The table below shows the benefits and barriers to blended finance, focused on the society as a whole and not only on the investors.

Benefits	**Costs or barriers**
Technical assistance for projects • Enhanced institutional and human resources capacity building and development • Cost savings in overall project costs through the provision of upfront costs • Enhanced efficiency in local markets by creating and enhancing the robustness of the market structures	*Information and knowledge related* • The presence of bounded rationality and information asymmetries • Lack of information to evaluate projects • Blended finance is often time and effort-intensive • Lack of one clear definition of blended finance

• Enhanced partnerships • Enhanced sustainable development targets to access certain available funds. *Risk mitigation* • Boost investor confidence by addressing the risk-return ratio • An enabling environment for investment in areas presumed to be high-risk areas • Increased ability of projects and investors to meet their goals and targets by enhancing access to funds in different sectors • Accountability of partners with a good credit rating (AAA for EIB) • More equitable balance in the financial burden between public entities and private investors *Other benefits* • Impact additionality • More symmetrically distributed economic growth and stability	• A lack of awareness about blended finance among the public and private sector *Other barriers or costs* • The need for investors to maintain significant risk capital • Pull and push between the public and private sector • Unwillingness of the most for-profit firms to internalize environmental externalities • Significant lead times and efforts in aligning interests • Lack of quantifiable incentives • High costs involved (economic and human capital) • Mismatch between long-term payback periods and short-term horizons of investors • Technological lock-in and path dependency for sustainable innovations • Regulatory changes and uncertain market outlook hindering the reallocation of funds

Figure 7 - Benefits and costs and barriers of blended finance. The figure is constructed by the author based on the literature review and the analysis.

4.2 Blended finance within InvestEU for climate finance

4.2.1 Investment strategy

Climate finance is in this thesis defined as "local, national, or transnational financing—drawn from public, private, and alternative sources of financing—that seeks to support mitigation and adaptation actions that will address climate change'' (UNFCCC, n.d.; Zhang et al., 2019; Long Cheng et al., 2022).

As a key part of the Investment strategy of the Green Deal, InvestEU aims to mobilize billions of public funds to trillions in leveraged private investments, aimed at minimizing public expenditure while maximizing private funding. Given the fact that the IPCCC estimated that annual funding needs to increase severalfold to meet global climate targets, the fund plays a critical role in mobilizing these necessary funds. By aiming to

generate approximately €279 billion in climate-related investments by 2030, it could be stated that it targets significant financial gaps identified.

A respondent indicated that the strength of the programme is that it is an enormously wide deployable programme with four different windows to invest in: innovation, social, SME, and infrastructure. The requirements around additionality and state aid are applicable since there must be market failures occurring for it to be justifiable the deployment. As a respondent indicated, InvestEU functions as a comprehensive one-stop shop, contrasting sharply with previous models where each Directorate-General (DG) within the European Commission (EC) managed separate programs with varied reporting requirements. InvestEU establishes a uniform framework applicable to various initiatives the EC wishes to support. In essence, InvestEU has been crafted to enhance the effectiveness of the EU's financial interventions, consolidating various tools under a unified framework that promotes efficiency, accountability, and targeted impact, particularly in facilitating Europe's transition to a sustainable and climate-resilient economy.

Whether blended finance within InvestEU is effective or not is perhaps too soon to tell, but passed on the predecessor instrument –the EFSI, that operated similarly– respondents indicate this was quite successful in mobilizing investment across Europe and attracting funding for other sources. This included a good number of Green Deal or climate and environmentally sustainable projects.

In a world of increasing investment needs but decreasing available public funding, financial instruments have an even more important role to play in delivering on EU policy objectives. With regards to the success rate in arranging blended finance for the Green Deal projects under InvestEU, the EIB Group has significantly increased its activities in support of EIB as a climate bank. Over the past three years the Group has been active in branding EIB as the “EU climate Bank”, and publishing its climate bank roadmap. The group has pledged to exceed 50% of its lending by 2025, and reach 1 trillion euros of investment by 2030. This substantial commitment highlights the fund's strategic use of blended finance mechanisms to leverage private capital for significant environmental impact. The fund aims to ensure all European Commission-supported activities adhere to this consolidated structure, promoting a level playing field for diverse financial entities and implementation partners.

4.2.2 Impact additionality

Impact additionality is a key element to blended finance and entails adding value either financially or development-wise beyond what is available in the market or otherwise absent. It also relates to crowding in private sector investment. Whereas literature indicated the ex-ante Pareto-efficiency of the impact-risk-return triangle, another respondent indicated that we should be careful in observing it too much as a trade-off. According to the respondent it is very important for impact investing that financial return, environmental and social return are not seen as opposites.

Literature shows that the standard risk and return portfolio framework has been challenged over time by numerous approaches that all focus on making investment decisions based on objectives that are not strictly risk- or return-based (Beasley, 2022; Blitz et al., 2023; UN, 2023; Schoenmaker, 2017). For many investors profit stays important, but sustainability goals make investors shift increasingly from a (risk-return) 2D to a 3D approach (impact-risk-return). As described in the literature review, with regulatory developments like the European Green Deal, the necessity to integrate alternative objectives outside of risk-return into the investment paradigm will continue to grow. One of the National Implementing Partners –InvestNL– is actively using this 3D thinking approach. Even though their capital has the goal to be revolving with a long-term return of around 2%, their focus when deciding upon investment opportunities lies first on impact. When a project is over the ‘’impact hurdle’’, the risk-return comes into place. Then, it is a consideration between the level of technological scale and market risks, as displayed in figure 8.

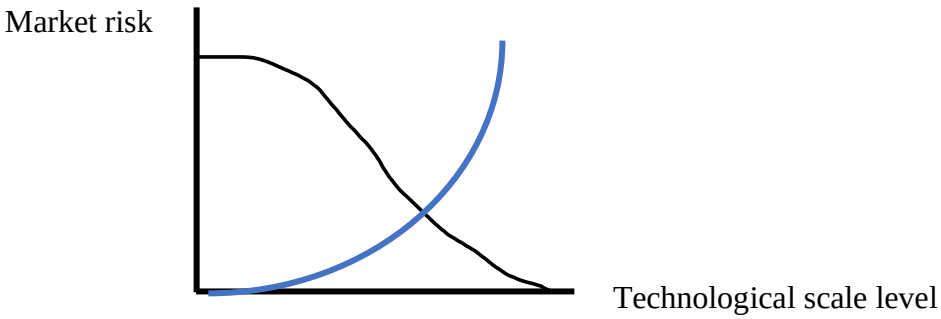

Figure 8 – The relation between technological scaling level and market risk for projects. The blue line represents the value of the project. The black line represents the risk. The figure is constructed by the author based on the conversation with a respondent and research from Nwaka (2021).

As a respondent indicated, both risks are not yet excluded because of the lack of a mature technology and fixed client contracts that allow to finance more project-based. Contrary to, for instance software companies, manufacturing companies require very high capital expenditures and have a long development path. It is a stacking of risks: technological risk, scaling risk, capital expenditures, long lead times, and uncertainties because they haven't sold any products yet. InvestNL invests a lot of time to understand the market idea, the problem that is being solved, the regulatory climate, the most important anchors, and other crucial aspects of the innovation.

The literature shows the disproportionate relationship between financial additionality and impact additionality. Therefore, the allocation of investment risks and the appropriate remuneration structure must be well-planned. This, to ensure co-financing arrangements with the private sector that are equitable and incentivize all parties involved.

4.2.3 The guarantee and first-loss element

Guarantees and first-loss element are critical elements of the InvestEU fund and aim, amongst others, to make blended finance transactions for climate finance attractive. The InvestEU Sustainability Guarantee is specifically supporting debt financing solutions for European small and medium enterprises (SME), natural persons, and housing associations whose investments can contribute to the EU's goal of making the economy greener and more sustainable. This guarantee is a new product of the EIF and has been developed by the EIB Advisory Services, the EIF, the Advisory Hub and external technical support. It aims to enhance the different entities with grants when the capital requirements are very high. There are two forms of guarantees, namely the uncapped guarantee and gapped guarantee both aiming for risk coverage in case of non-payment. With the uncapped guarantee of 30%-80%, the financial entity will have full coverage in case of a non-payment. With the capped guarantee, the EIF provides the financial institution with a maximum covered potential payout.

The literature shows that for climate investments, initiatives can focus on the support for a proof-of-concept role as cornerstone investors for new structures in sustainable finance investment area. InvestNL frequently applies the InvestEU guarantee during the initial phase of pioneering projects, for instance with a first-of-a-kind plant. A

respondent stated this could be the case when the technological innovation is developed to a scalable level in a laboratory setting, and the company is planning to construct its first factory to further enhance and commercialize the technology. As stated by another respondent, blended finance plays a crucial role in the realm of impact finance and pioneering technology investments by distributing risks and enhancing the viability of private investments.

InvestNL also takes a first-loss element or a guarantee from the EU in order to bridge the investment gap for institutional investors to invest in green projects. This first-loss or guarantee significantly mitigates risks to an acceptable level and/or makes it more doable for investors to step in. For InvestNL, the EU resources are not so much used for the own risk mitigation, but more to allow institutional investors to step in broader, making crowding in possible without propping up their financial returns. As a respondent indicated: ‘’I think the willingness of investors for green projects is greater than ever.’’ This contradicts the barrier to the use of blended finance cited in the literature, namely the reluctance of most for-profits to internalise environmental externalities.

Unlike the 1970s, access to funding has become easier, attributed in part to extensive public support and initiatives to derisk the market. A respondent indicated that the ongoing evolution in financial practices highlights the essential elements necessary for an efficient financing industry. It calls into question the foundational liberal economic principle that the private sector inherently delivers the most efficient solutions—a notion starkly challenged by the 2008 financial crisis when private sector failures precipitated global economic turmoil. Overall, InvestEU with the involvement of the EIB, the EIF, and the NIPs, seeks to foster a cooperative environment where both public and private sector can contribute to broad economic and green goals without overburdening one another. This balance is crucial for cultivating a sustainable and impactful European financial ecosystem.

Furthermore, the difference in structure and function between the EIB and the EIF plays a crucial role in how InvestEU operates. The EIB, as the EU’s long-term lending institution, primarily uses equity investments to engage in projects, leveraging substantial capital amounts for large-scale infrastructure projects. In contrast, the EIF typically employs lending mechanisms and has an important advisory role with the Advisory Hub. The EIF focuses on mobilizing capital for small and medium-sized enterprises (SMEs)

by providing risk finance to support their growth and innovation, often using fund structures that attract other private and public investors. This distinction allows the EIF to target niche market gaps with high innovation potential, while the EIB addresses larger, more capital-intensive projects with significant regional or national impacts. Blended finance plays an important role in impact finance and pioneering technology investments by distributing risks and enhancing the viability of private investments.

For the private sector, the involvement of the EIB and EC is not only a 'stamp of approval' but also reduces financial risks through strategic credit arrangements, thereby fostering a viable blended finance model. The EIB, being an AAA institution, generally avoids lending above a certain risk threshold, unless bolstered by mechanisms like the first-loss enhancement provided by the EC. The EIB Group delivers equity injections primarily via investment funds, which invest in either companies, via venture capital, private equity or infrastructure funds. Equity investments usually generate a relatively high leverage effect, due to the first-loss nature of the instrument. Investing in funds, for example as a cornerstone investor, has a strong signalling effect on the market. It often gives fund managers from institutional investors the confidence to raise more funding for their specific investment strategy from the market.

4.3 Challenges for InvestEU

Despite the successes, InvestEU faces considerable challenges in attracting private capital. The challenges are categorized among the three dimensions of the Green Deal Investment Plan, namely funding, enabling, and support for implementation. As the EU moves forward, the focus must remain on optimizing these financial structures to drive impactful investments in a sustainable economy and to ensure a resilient and environmentally sound future for all European citizens.

4.3.1 Funding

Funding refers to leveraging private financing for climate-related investments. Firstly, there are challenges in bringing together different forms of public and private financing with different eligibility criteria. A critical aspect of InvestEU's approach involves requiring private sector engagement, often referred to as having ‘skin in the game’, ensuring a balanced stake in project outcomes. This ensures that private financiers share both the risks and benefits. This approach marks an important innovation in blended

finance, initially characterized by grants but now shifting towards expecting the public sector to receive remuneration for its contributions.

Secondly, at the national level, InvestNL indicated challenges to do more crowding-in, for instance from pension funds throughout the life cycle of a project. There is a gap between the investment need and the role of institutional investors such as the pension sector with challenges centred around the following elements:

1- Ticket size

The minimum targeted investment size of pension funds is often much bigger than requested investments of projects or series of projects.

2- Costs

For institutional investors, the costs associated with investing outside of the index are higher and this could be difficult to justify to the pension funds participants that simply want a good pension.

3- Finding investable propositions

Most of the times, the projects are there but are yet to be found by the institutional investor.

Furthermore, a respondent indicated that the investment strategy of institutional investors has to comply with many rules such as solvency rules and this leads to a certain rigid way of working. The literature review also indicated that rules are intended to ensure a fair internal market and prevent tilting the playing field in favour of domestic companies or economic sectors but pose obstacles to the financing of climate-related projects. Because the Dutch pension funds and implementors of the asset mix are operating separately, this could possibly lead to very traditional investments at the end of the chain. This chain is long and in it includes a lot of traditional risk-return thinking. The entire mechanism and machine are built on the traditional thinking which requires mental rethinking on how to bring impact into the equation.

InvestNL uses blended finance for the four market segments shown in figure 9. The first three segments are the most challenging because of the smaller scale. Here, the subsidies are often inadequate and sometimes too specific, leading to exclusion of projects with societal added value. The product that can help businesses further is sometimes not present and blended finance can provide a solution for this. Literature also

indicates that regulatory changes and the power of incumbents applying fossil-fuel based technologies hinder private financiers from investing even in mature technologies due to an uncertain market outlook. Similarly, they hinder the reallocation of funds from existing companies, projects, and infrastructure towards a new investment category.

Market segment	Difficulty	Example
1- Early-stage development / start-ups	As yet insufficient evidence of how the technology works, and/or insufficient market interest	Floating solar
2- Scale up financing	Scaling up companies and projects with uncertain market or organisational potential	Electrolysis projects
3- Growth financing	The risks are not necessarily technical, but organisational, regulatory, or market-related	Electric freight traffic
4- Project financing with longer lead time	Projects with high initial costs but uncertain durations	Heat projects

Figure 9 - The difficulties per market segment. The figure is constructed by the author, based on a presentation of InvestNL (2024)

InvestNL sees a lot of added value in applying blended finance and getting more leverage towards private capital, especially for the big transition areas like the energy transition. It is often the case that markets don't take over after an initial subsidy phase. An EIB expert indicated that sectors and projects that are critical to the green transition, are sometimes not suitable for InvestEU financing. To give an example, the power grid in Europe is largely public and also the EU railway market is state-owned companies that dominate EU railway markets. Since these projects will never be commercially viable, private investors will not finance them even if supported by InvestEU. Therefore, leveraging private investment with public money will not suffice to fund investment in all areas needed for a clean energy economy. Here, direct public funding is required. InvestEU and its implementing partners can crowd in private finance for low-risk green projects at scale, including for those projects that on their own would be too small and bespoke to attract private investments. This is built upon by a respondent of the World Bank stating that it is the challenge to strike the right balance between investing in short-

term and long-term solutions and not only just providing concessional finance for the short term.

4.3.2 Enabling

Ensuring that sustainability is duly considered also brings challenges. A respondent indicated that developing and implementing the EU Taxonomy, so defining what is green and what is not, is difficult. The amounts of InvestEU financing tracked by the EU Green Taxonomy are not disclosed. Many documents of InvestEU are kept confidential which makes it very difficult to verify InvestEU's climate impact and to scrutinize where the intermediated money ends up. It remains a complex and uncharted task to accurately measure the impact of the investments and ensure that funds are directed where they are the most needed.

An expert of the EIB indicated that the high-risk nature of green investments, market uncertainties, and often longer periods required to realize financial returns are difficult. Blended finance, as implemented by InvestEU, addresses these hurdles by using public funds to improve the creditworthiness of projects. This reduction in risk makes climate projects more attractive to private investors. Moreover, the fund's strategic partnerships with financial entities like the EIF and the EBRD provide additional reassurance to investors through their rigorous project assessment processes and risk-sharing mechanisms.

4.3.3 Support for implementation

The last dimension of the Green Deal Investment Plan is providing support for implementation to public administrations and project promotors. A respondent indicated there is a challenge regarding the aggregation of smaller projects to achieve scale and critical mass to attract financing, technical assistance, and advisory. The technical assistance is crucial but not always on the necessary level because NIPs often lack the resources and experience available to larger institutions like the EIB.

In order to become an implementing partner, an assessment of the technical and organisational capacities of the NIP is required. Initially structured around six key pillars for NIPs, this requirement has expanded to nine, emphasizing the reliance on these partners and the need to validate that each participating institution is suitable for its intended role. This might be a challenge for finding suitable new NIPs. The national

implementing partners are not always up to speed and fit for purpose, which complicates efforts, as indicated by a respondent.

Another key challenge is to ensure a level playing field among different financial entities and to manage the complex requirements that come with EU funding, such as stringent monitoring and impact assessment frameworks. This is agreed upon by another respondent stating that monitoring and ensuring that investments align with EC policies is crucial yet challenging and costly. However, the opportunities it presents are substantial, particularly in harmonizing efforts across the EU and providing a structured, scalable approach to funding large-scale projects that align with the EU's climate goals. In particular, the credit enhancement provided by the EC has started being remunerated even if not necessarily at the market level.

Lastly, the Advisory Hub and the InvestEU Portal have the goal of facilitating a smooth interaction between project promoters and potential investors, enhancing transparency and access to capital. The end goal is to create a pipeline of sustainable projects but this might be difficult to reach. A respondent of the World Bank indicated that is a challenge to address the immediate crisis and the advisory support for both the private and public sector that will take the company to more sustainable waters.

4.4 Overview of Results

4.4.1 Boosting private investment with InvestEU

Firstly, the InvestEU fund has established itself as a mechanism for catalysing private investment in climate-related projects, aiming to mobilize approximately €279 billion in climate and environment-related investments. The fund aims to target critical funding gaps and also drives innovation and fosters substantial private sector involvement in green technology and infrastructure projects across Europe. Offering guarantees and first-loss capital reduces financial risks and encourages private investors to commit funds to projects that align with the EU’s 2030 climate and energy targets. Whether InvestEU is effective or not is perhaps too soon to tell, but its predecessor, the EFSI, which operated similarly, has been reported by respondents to be quite successful in mobilizing investment across Europe and attracting funding from various sources.

Although InvestEU has been operational only since 2020, the fund has already effectively attracted private capital by leveraging public funds, primarily through guarantees and equity stakes. These financial tools, especially the significant EU-wide

public guarantee, is essential in reducing investment risks for private entities, making climate-focused projects more appealing to investors who may have been hesitant due to the high-risk nature of such ventures. This approach is particularly effective in addressing market failures and instances of underinvestment, leading to an increased flow of private capital into sustainable development projects.

4.4.2 Challenges in encouraging private investment in climate finance

Despite its achievements, there are various obstacles to mobilizing private capital for climate finance. One major challenge is the inherent risk associated with climate and sustainability projects, which can deter investors looking for stable returns. Additionally, a lack of awareness and understanding of blended finance mechanisms among potential investors exacerbates these difficulties. The complexity and time-consuming nature of structuring blended finance agreements and monitoring and ensuring that investments align with EC policies is crucial yet challenging and costly. Particularly as National Implementing Partners often lack the resources and experience available to larger institutions like the EIB.

Ensuring a level playing field among different financial entities and managing the complex requirements that come with EU funding, such as stringent monitoring and impact assessment frameworks are also important and challenging. A respondent indicated it is a key objection to ensure a level playing field among different financial entities and to manage the complex requirements that come with EU funding, such as stringent monitoring and impact assessment frameworks. However, this means bringing together different forms of public and private financing with different eligibility criteria. At the national level, InvestNL also indicated challenges to do more crowding in, for instance from pension funds throughout the life cycle of a project. This requires a mental rethinking of both public and private actors on the elements of ticket size, costs, and the need to find investable propositions. of a lack of information to evaluate projects and the costly and time-intensive nature of blended finance.

The challenges underscore the necessity for a thorough understanding of both the opportunities and the risks associated with EU financial instruments used by InvestEU. The strategic importance of good NIPs, along with careful planning and execution of financial policies, will be critical in ensuring that InvestEU not only achieves its

immediate goals but also contributes to a sustainable and financially stable future for the EU.

4.4.3 Impact of blended financing structures on scalability and sustainability

Blended financing has had an impact on the scalability and sustainability of climate finance initiatives. By combining public and private funds, this approach increases the overall investment in climate action and ensures that these investments are in line with the environmental objectives set by the EU. The support provided by InvestEU enables the scaling of large-scale projects that would not be feasible with private capital alone, thereby promoting innovation and the adoption of new technologies in the environmental sector. InvestEU and its implementing partners can crowd in private finance for low-risk green projects at scale, including for those projects that on their own would be too small and bespoke to attract private investments.

Impact additionality is an important aspect of blended finance. It ensures that investments go beyond simply filling financing gaps, by enhancing the developmental impacts of projects and aligning financial flows with broader societal and environmental goals. Literature also suggests that the approach of the financial market from traditional finance (risk-return) to 3D finance (risk-return-impact) is increasingly visible.

Despite the advantages of blended finance, implementing it and achieving its full potential to bridge the climate finance gap involves complex challenges. The Commission and the EIB Group underline that the SEIP falls short of closing Europe's green investment gap and that there is still an outstanding gap of around €182 billion per year for the Green Deal. There are also projects that are important to the green transition but will never be commercially viable. Specifically, there is a shortage of bankable low-carbon adaptation and resilience projects.

Simultaneously, the private sector is gaining a deeper understanding of how to assess and price risk, and the tangible impacts of their projects or initiatives. This learning curve is critical as businesses, including SMEs, are expected to contribute positively to the public good, not just in economic terms but in fostering societal well-being. As indicated by another respondent, the path forward involves crafting regulations that encourage responsible business practices while promoting genuine contributions to public

welfare, underscoring the complexity and necessity of continuous evolution in financial governance.

Overall, the impact of EU blended financing mechanisms for climate finance is present and brings a hopeful perspective in the case of the InvestEU fund. It facilitates the pooling of larger amounts of capital from various sources, enabling more substantial projects that might not be viable through traditional funding mechanisms alone. Blended finance ensures sustainability by aligning investments with long-term environmental goals, thus creating a cycle of investment in green initiatives.

5. Implications of findings, recommendations, and conclusion

5.1 Implication of findings

The recent developments surrounding InvestEU have sparked significant discussions about the long-term implications of its financial strategies, especially concerning debt management and the sustainability of funding mechanisms. Especially because InvestEU is not a fund that stands alone. The adoption of the Next Generation EU Fund (NGEU) by the Council on 17 December 2020 initiated a €800 billion fund aimed at boosting sustainable development across the EU (European Commission, n.d.). As indicated by a respondent countries like Italy, Spain, Portugal, and Greece were among the first to present investment projects, leveraging this initiative to promote socioeconomic regional convergence. As Findeisen & Mack (2023) propose, increasing funding for InvestEU through additional member-state contributions to NIPs would expand Europe's capacity for transformative investments. They contend that this strategy would mitigate the risks of economic divergence among member states, which is currently exacerbated by reliance on state aid and individual member-state solutions.

However, concerns could be raised about the future debt servicing costs and the growth rate of the EU economy, particularly around 2030-2040, potentially creating a 'debt wall'. As stated by a respondent, the scenario could place a considerable burden on future generations, with repayment obligations concentrated in a period of uncertain economic conditions. It is suggested that the European Council will introduce new resources for the EU budget to handle these repayments without imposing new taxes, given the EU's lack of power to levy taxes directly. To give a practical example, with debt repayments set to commence after 2028 and extend until around 2058, the Netherlands faces significant financial outlays due to increasing interest rates. The country is projected to pay out €35 billion for its €4.7 billion share from the NGEU, underscoring the financial burden borne by certain Member States and the need for a balanced approach to EU financial policies (Foy, 2024). For the InvestEU fund, which also connects to financial solidarity, such a discussion might also take place shortly. The public sector is uniquely positioned to absorb greater risks, which can be offset by returns during more prosperous times. However, it faces limitations, notably the inability to sustain unlimited deficits, necessitating budgetary prudence. There are ongoing tensions between the public and private sector about the conditions attached to these investments. The private sector is

often wary of too many restrictions that might not only hamper profitability but also curb the potential for significant impact. The EC insists on stringent accountability to ensure that the investments contribute positively to policy goals, not just private gains. This negotiation—balancing sufficient oversight with enough freedom for financial institutions to operate effectively—is ongoing.

Besides, the European elections of June 2024 introduced an element of uncertainty concerning the future direction and effectiveness of the InvestEU fund. An expert of the World Bank indicated that the national advisory support of sustainable businesses closely relates to the voting behaviour in countries, sustaining jobs, and the importance for the private sector to keep running. With the EU-elections, the firmest defenders of the Green Deal are losing influence. On top of this, parties critical of climate plans have grown in seats. Leader of the European Greens Bas Eickhout indicated that it will be more complicated to get new climate policies off the ground (Derix et al, 2024). The rise of populist far-right parties in Western democracies trying to delay or obstruct regional decarbonization efforts pose a potential threat to initiatives like InvestEU. They seek to gain space and legitimacy by politicizing climate change (Yazar & Haarstad, 2023). Therefore, stakeholders of the InvestEU fund must remain vigilant and adaptable.

5.2 Recommendations

Four years after the launch of the InvestEU programme, several factors could facilitate the closing of the investment gap. The first recommendation is to develop consensus on a clear and consistent common definition of blended finance shared by all stakeholders would contribute to removing some of the perception gaps that currently exist within the ecosystem. Currently, there is no internationally agreed definition of what blended finance is.

Another important recommendation is the need for further adaptation of the regulatory framework to enhance usability and market orientation. This adaptation will streamline the process, making it more conducive for market participants to engage with and benefit from the InvestEU initiatives. A respondent of the EIB Group indicated there is a growing consensus that robust regulatory frameworks, akin to a referee in a game, are crucial to ensuring fairness and accountability. The 'referee' must determine the severity of penalties for malpractices to maintain order and fairness.

Furthermore, it is recommended to increase transparency within InvestEU to make it easier to track whether investments are in line with EU climate policy and to track which amount is in accordance with the EU Green Taxonomy. While lending is straightforward, ensuring that loans create substantial and beneficial impacts requires a nuanced approach.

It is also advised that the European Investment Bank (EIB) Group intensify its contributions to InvestEU. Expanding its involvement could drive more robust investment in research and development (R&D), thereby enhancing productivity, growth potential, and the competitiveness of Europe in sectors like green technology and Artificial Intelligence (AI). This closely relates to the arguments mentioned in the literature review stating that lock-in and path dependency are barriers to sustainable innovation and blended finance. This is because of insufficient technological maturity compared to the fossil-fuel-based technologies. The respondent indicated that the future of the EU economy lies in innovative sectors such as green tech, AI, robotics, and automation of the industry. Some of these are also key areas for InvestNL.

For projects that are beyond the financing capabilities of InvestEU and private entities, it is essential to ensure the availability of direct public funding. This approach will support transformative investments that exceed the current capacity for public de-risking of private investments. Therefore, it is stated by different experts that InvestEU should be supplemented by additional public expenditures at the EU level to support transformative investments that exceed the capacity for public de-risking of private investments. Policymakers must recognize the limitations of the leveraging approach and understand that InvestEU cannot replace the need for new public spending at the EU level. The Sustainable Europe Investment Plan should be grounded in a realistic evaluation of what InvestEU and the private sector can contribute to the green transition. However, there is no straightforward solution for utilizing taxpayer money to leverage investments. It is a joint effort to find ways to improve leverage. It is recommended that InvestEU should be complemented by fresh public spending at the EU level to finance the transformative investments that fall outside the scope of what public de-risking of private investments.

For this thesis, the author consulted a sustainability expert from a Green Dutch Bank to inquire about their collaboration with InvestNL on green projects. The expert

clarified that their bank is not involved in any InvestEU or InvestNL projects. This absence of involvement has been acknowledged by InvestNL, which noted—without specifying the bank—that improvements could be made in the Netherlands in terms of integrating public and private funds, including various types of private capital. One challenge identified is aligning the differing impact-risk-return requirements and the positions of banks within the investment lifecycle. Generally, banks focus on projects in the later stages of market development (as shown in figure 9) or beyond, providing loan capital, whereas InvestNL tends to concentrate on venture capital and scale-ups. Banks typically become involved only after InvestNL's role is nearly complete. There needs to be a better alignment and interaction between the two from earlier stages. An integrated approach to public-private partnerships, particularly with banking institutions, is recommended. This approach should replace the current sequential one, fostering earlier and more effective collaboration between banks and entities like InvestNL.

This thesis focuses on the financial structures supporting investments and does not extensively explore the distinction between climate adaptation and mitigation, although this differentiation can be critical. Climate adaptation involves adjustments in ecological, social, or economic systems in response to actual or anticipated climatic changes and their effects (UNFCCC, n.d.). Climate mitigation encompasses efforts to reduce or prevent greenhouse gas emissions, either by addressing the sources or enhancing the sinks of these gases, as noted by the IPCC (2022b). Future research could explore InvestEU's initiatives addressing the lack of bankable low-carbon adaptation and mitigation projects. Other potential areas for further investigation include the impact of the European elections of 2024, the emergence of a debt wall, and the promotion of socioeconomic regional convergence in Europe.

5.3 Conclusion

In conclusion, this thesis defines blended finance as ''the mobilisation of private investments through the strategic use of public funds for enterprises and projects aimed at sustainable development.'' There is, however, no internationally agreed definition, creating perception gaps and potentially missed opportunities.

The blended finance model of InvestEU fund presents a promising path for mobilizing essential capital for Europe's green transition. The Fund has proven that

blending public oversight with private sector efficiency can effectively mobilize funds towards Europe's sustainability goals. The use of guarantees and first-loss capital to de-risk private investments and the technical assistance are crucial in making climate-focused projects attractive to private investors, and addressing significant market gaps. The increased integration of impact additionality into the risk-return approach, underscores a holistic approach to finance that is essential for achieving sustainability and resilience in the face of environmental challenges.

Recent developments in InvestEU include extended criteria for selecting new National Implementing Partners, emphasizing the need for robust capacity in risk management and alignment with private sector expectations. This expansion is critical as InvestEU aims to unify various financial instruments under one umbrella, requiring partners that can navigate complex financial landscapes and manage substantial risks associated with green investments.

One of the significant difficulties for National Implementing Partners is finding the capacity to manage the risks associated with large-scale investments and to effectively match these projects with private sector financing. This challenge is compounded by the need for detailed project assessments to ensure compliance with EU regulations and to satisfy the risk appetite of private investors. To fully realize the potential, it is essential to continuously refine the criteria for project selection and partner involvement, improve the capacity for risk management, and ensure that the governance structures support the seamless integration of public and private funds.

To build on its successes, InvestEU could further enhance its regulatory context, transparency, and risk-sharing mechanisms to attract more private investment and consider simplifying its processes to encourage broader participation from the private sector. Increasing awareness and understanding of blended finance for private investors could also help reduce existing barriers to investment especially for big transition areas such as the energy transition. It is often the case that markets do not take over after an initial grant phase. It is therefore recommended that InvestEU will be complemented by new public spending at EU level to finance transformative investments beyond what the government does to make private investment risk-free. The EIB could intensify its contributions to Research and Development for sectors like green technology and

Artificial Intelligence. This could enhance the European productivity, growth potential and competitiveness.

As the threat of climate change grows, the importance of initiatives like InvestEU will only increase. It is important to ensure these programmes will attract the necessary investments and direct them towards effective and sustainable solutions. InvestEU can serve as a model for future financial interventions in climate finance by continuing to innovate in its financial mechanisms and showing how public funds can strategically leverage significant private investments in the fight against climate change.

6. List of Acronyms

AI: Artificial Intelligence

EC: European Commission

EFSI: European Fund for Strategic Investments

EIB: European Investment Bank

EIF: European Investment Fund

EIOPA: European Insurance and Occupational Pension Authority

ELTI: European long-term investors association

EU: European Union

IEA: International Energy Agency

IPCC: Intergovernmental Panel on Climate Change

NGEU: Next Generation EU

NGFS: Network for Greening the Financial System

OECD: Organisation for Economic Co-operation and Development

IEA: International Energy Agency

IFC: International Finance Corporation

SDG: Sustainable Development Goals

SEIP: Sustainable Europe Investment Plan

UN: United Nations

UNDP: United Nations Development Programme

UNEP: United Nations Environment Programme

UNFCCC: United Nations Framework Convention on Climate Change

7. List of figures

8. Bibliography

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9. Appendix: interview protocol

Introduction

- Personal introduction
- Thesis subject and process
- Request for permission for recording

Interviewee background

- Can you briefly describe your role in the organisation? How do you work on climate and blended financing?
- Do you actively work with the InvestEU fund? If yes, in what way?
- What is your experience with or your perspective on the EUFund?

General questions

According to the IPCC report, yearly climate finance flows have to increase by a factor between three and six to meet average annual needs between 2020 and 2030.

- What is needed according to you with regards to climate finance?
- Do you think blended finance can help accelerating capital in the EU?
- Do you think this the InvestEU fund is contributing to accelerating private capital for climate investments?
- What do you see as the main benefits of blended finance?
- What do you see as the main barriers to blended finance?
- How far does InvestEU address financing gaps?

Specific questions

For the European Investment Bank respondents:

- From your experience, how effective are the financial instruments like InvestEU and its predecessor, the European Fund for Strategic Investment (EFSI), in mobilizing investments across Europe? What makes these tools successful or limited in attracting additional funding, especially for sustainable and climate-related initiatives?
- InvestEU introduces the innovative sustainability guarantees (EIF) and partnerships with National Institutions (EIB) to facilitate higher capital projects. Would you think

that these guarantees of the EIF (both uncapped and capped) are of strategic importance in mitigating investment risks?

- Given the evolving landscape of global finance, what opportunities do blended finance models present within the framework of InvestEU for advancing Europe's green agenda?
- Based on the Invest Advisory Hub's experience, could you elaborate on the effectiveness o the InvestEU program in fostering Green Deal projects, particularly those pending equity injections? Do you view this as an efficient model of blending public and private finances?
- How have national implementing partners and institutions responded to the call for developing investments that incorporate blended finance for climate projects? Is there an eagerness within these institutions to pursue such collaborative financial models?
- Could you shed light on the success rates and challenges encountered in arranging blended finance for the Green Deal projects under InvestEU?

For the InvestNL respondents:

- How does InvestNL operate differently from the other NIPs in Europe? And what can we learn from them?
- Risk and return: How is InvestNL working on balancing risk and return within EU guarantees, and what new approaches are you considering to improve the effectiveness of equity investments?
- To what extent has the flexibility of the equity investment product contributed to InvestNL's strategic position as a partner for green companies, and what challenges do you see for the future?
- Crowding in and blending: At the InvestEU event in January, you mentioned that InvestNL wants to do more crowding in, for example for pension funds, for the full life cycle of a project.
- How does InvestNL plan to attract institutional investors such as pension funds and what difficulties are there in doing so?
- An InvestNL staff member commented to me earlier: "InvestNL wants to use blended finance more to attract private capital, especially for big transition areas like the energy transition. We really see blended finance and bridge capital as a crucial link

to get certain markets going. Blended finance is certainly still rare in the Netherlands; it is new territory for InvestNL. On the other hand, sometimes we already do it for larger projects, but we don't call it blended finance". Do you agree with this point of view? Do you have anything to add?

- I also spoke briefly with a large Dutch bank specialized in climate investments. They indicated that they are not (yet) involved in the InvestEU projects. Do you have any idea what could be the reason that such a green bank is not affiliated to InvestNL or InvestEU (for large green projects)?

Conclusion

- Do you have any additions and relevant contacts that might help me further in my thesis on blended finance for climate finance within (Invest)EU?
- Do you have any other interesting insights or ideas around my thesis topic?
- Do you know any more people that could be interesting for me to interview?
- Would you like to receive my thesis when it is finished?

Thank you for participating in this interview.