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A Pathway to a Low-Carbon Economy

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Abstract

This thesis investigates the conditions under which developmental capital markets can effectively finance a Green Developmental State (GDS) and facilitate a just transition to a low-carbon economy in the European Union (EU). It argues that the EU's pathway towards a GDS is possible by fulfilling the conditions of a strong state with the institutional capacity and robust regulatory framework to incentivise green investments, underpinned by supportive socio-political factors. The research delves into the limitations of the current Wall Street Consensus (WSC) and de-risking strategies, highlighting their instability and inadequacy in addressing the climate crisis. It explores alternative pathways, such as the Big Green State (BGS) and the Public Finance Paradigm (PFP), emphasizing the importance of state intervention and public finance in driving the green transition. After analysing the current state of institutional capacity, regulatory frameworks, and socio-political factors in the EU, the thesis proposes a new pathway, grounded in a social intersubjective ontology, that integrates insights from both BGS and PFP, while emphasizing the mutual reinforcement of institutional capacity, regulatory frameworks and socio-political factors. This new pathway offers a comprehensive approach that combines state-led initiatives with market-based mechanisms, ensuring a just and sustainable transition to a low-carbon economy.

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List of Abbreviations

BGS	Big Green State
EC	European Commission
ECB	European Central Bank
EU	European Union
ESG	Environmental, social, governance
GDS	Green Developmental State
IMF	International Monetary Fund
MDB	Multilateral Development Bank
MMLR	Market Maker of Last Resort
OBFA	Off-balance Sheet Fiscal Agency
OTC	Over-the-counter
PPP	Public-Private Partnership
PFP	Public Finance Paradigm
WC	Washington Consensus
WSC	Wall Street Consensus
QE	Quantitative Easing

1 Introduction

The global imperative to address climate change necessitates a transition towards a low-carbon economy. Achieving this transition requires significant financial resources and structural changes within the economic framework. The International Energy Agency (2023) calculated that an additional three trillion euros per year in additional investments are needed to combat the climate crisis. Developmental capital markets offer a promising avenue to finance such transitions, particularly in the context of a Green Developmental State (GDS) committed to ensuring environmental sustainability and social equity. This thesis investigates the conditions under which developmental capital markets can effectively finance a GDS and facilitate a just transition to a low-carbon economy. I argue that the European Union's (EU) pathway towards a GDS is possible by fulfilling the condition of a strong state with the institutional capacity and the robust regulatory framework in place to incentivise green investments, laying on the basis of a supportive environment of socio-political factors.

Below, I start by laying out the research problem and the contributions of this thesis. Afterwards, I discuss methodology and develop a execute a theoretical analysis of the current de-risking state. Through the development of the theoretical analysis, I gain deeper insights into the mechanisms and processes through which de-risking fails within advanced economies. Additionally, by exploring pathways such as the Big Green State (BGS) and Public Finance Paradigm (PFP), I uncover how alternative approaches can contribute to the transition towards a GDS in the EU. After examining the current state of affairs in the institutional, regulatory, and socio-political realms of the EU, I develop a new pathway. I offer valuable insights for policymakers, scholars, and practitioners seeking to advance sustainable development goals in the EU.

2 Literature Review

To understand the dynamics of capital markets and the mobilisation of them from a de-risking state to a GDS, I draw on literature from various fields. A de-risking state leverages private capital for public goals and a GDS directs investments towards sustainable development. However, this thesis is written within the tradition of International Political Economy (IPE). It builds on previous work on 'The Wall Street Consensus' and the de-risking state (Gabor, 2021). This literature

explores the role of financial markets in shaping development policies. It argues that the financialization of development, where finance increasingly shapes development strategies, has led to a system where development is de-risked by the state and finance is seen as a development partner to the state, this system is named the Wall Street Consensus (WSC). The WSC refers to a policy paradigm that shapes financial governance and economic policy-making. It promotes market-based solutions and emphasises the role of private capital in development and economic growth. The consensus is implemented and reinforced through policy formulation, which is influenced by private finance. The de-risking state is thus far mostly understood as a phenomenon mostly present in the Global South, promoted by development institutions like the World Bank through structural adjustment and constrained balance sheets, strongarming governments into neoliberal policy reforms and limiting their fiscal policy space (Gabor 2021; Gabor 2023; Elsner et al., 2022). However, Gabor (2023) extends the concept of the de-risking state to the green capitalist state that we see in the Global North. A de-risking state involves leveraging private capital to advance public policy goals by adjusting the risk and returns associated with private investments across different sectors, such as social infrastructure and green industries. The state-capital relationship in de-risking favours private capital over public objectives, with regulatory, fiscal and monetary interventions varying across polities based on macrofinancial constraints and political influences. De-risking involves reifying the functionality of the price mechanism, aiming to ensure a competitive order by producing investibility and forging public-private partnerships (PPPs) with concentrated capital, rather than disciplining mechanisms such as fiscal constraints. The de-risking state emerges from political choices to facilitate capital accumulation and rationalise financial capitalism dominated by institutional investors such as insurance companies and pension funds, transforming under financial capitalism into structural changes in finance and the macro-institutional hierarchy (Gabor, 2023). Thus, through PPPs, the private sector commits to managing and financing public services as long as the state de-risks the investments made. This shift from the (post-) Washington Consensus (WC) to the de-risking state and the WSC remains to protect financial capitalism against initiatives working towards a GDS.

Dafermos, Gabor, and Mitchel (2021) elaborate on this, arguing that the pandemic has reinforced the WSC; as central bank emergency measures created more room for WSC policies. In the literature concerning this topic the focus is mainly directed towards the role of multilateral development banks (MDBs), such as the International Monetary Fund (IMF) and the World Bank.

Gabor and Musthaq (2021; 2023) draw attention to the often-overlooked importance of the state's macrofinancial institutions and policies and institutional investors. When the financialization of development is theorised as a shift in paradigms from the WC to the WSC, a broad research agenda opens up. From questioning the role of national development banks in the process of green financialization to theorising the different national approaches to de-risking. One prominent question Gabor (2021) poses that intrigues me goes beyond the shift from the WC to the WSC and looks ahead to what is next. The question she poses is;

‘Under what conditions would it be possible to design developmental capital markets to work to finance a Green Developmental State, a state that carefully designs a just transition to a low-carbon economy?’

A complex question addressing pressing global challenges related to climate change and economics. Answering this question requires an interdisciplinary approach as it lays at the intersection of international political economy, finance, sustainable development, and macro-institutional policy. To narrow down the focus of my research I focus my attention on the conditions necessary for the EU to work towards financing a GDS rather than on the role of MDBs and other actors, thereby continuing in Gabor's and Musthaq's lines of work. The European Central Bank's (ECB) position is an interesting institutional focal point, as monetary de-risking by the state preserves the central bank's hegemonic position in the system. It allows the central bank to steer sovereign bond prices without direct fixing of the bond prices, which reinforces their own status in the social order of financial capitalism (Gabor, 2023).

By answering the research question, this thesis contributes to the existing literature in several ways. Firstly, it shifts the focus of de-risking strategies, which have predominantly examined the Global South, to the Global North and the EU, providing a fresh perspective on de-risking strategies in developed economies. The thesis also goes beyond existing research by comparing alternative pathways such as the BGS and the PFP, offering a nuanced understanding of their effectiveness and limitations. Moreover, it proposes a new pathway that integrates insights from both BGS and PFP, while emphasising the importance of institutional capacity and regulatory frameworks. This novel approach challenges the conventional wisdom of relying solely on market mechanisms for

climate finance. Furthermore, this thesis is the first to apply the theory of complementarity to the transition of the WSC to a GDS, demonstrating how different institutional arrangements can be mutually reinforcing in driving sustainable investments. This theoretical framework offers a new lens for understanding the complex interplay of market and state actors in climate finance, and provides a foundation for future research on the institutional dimensions of sustainable development. Additionally, this thesis contributes to the academic debate by critically examining the risk of government failure and advocating for the strengthening of state capacity. It provides a theoretical justification for state intervention in the green transition, highlighting the state's unique ability to address market failures, coordinate diverse actors, and ensure a just transition. Finally, the thesis incorporates new empirical material from expert interviews, providing valuable insights into the practical challenges and opportunities of implementing green finance policies.

This thesis is thus positioned as a pioneering work that bridges gaps in the existing literature. It provides a new analysis of the conditions necessary for the EU to finance a GDS.

3 Methodology

This research employs a qualitative research approach. Before I discuss epistemology, a brief discussion of ontology helps to provide the research context for the theoretical framework and methodological approach and provides clarity on the perspective of the research, guiding the interpretation of findings, which helps the coherence of the research.

3.1 Ontology

An ontological framework elucidates the fundamental principles underpinning the exploration of the research question. This section serves as the bedrock upon which the inquiry into how to design a just transition to a low-carbon economy is based. It is a scaffold to guide the research and build the theoretical framework on. This thesis employs a social intersubjective ontology, meaning that individual actors, such as states and institutions, are not separated from the context of normative meaning but are shaped by collective understanding. The structures constitute the identity of actors, thus, rational acts do not solely follow from purely individual interests but are also guided and defined by shared values and norms within social structures, thereby highlighting interconnectedness. This is in contrast with an individualist ontology, where the unit of analysis is the individual (e.g. a state), which is constrained by its own interests and preferences, operating

independently of broader social contexts. Furthermore, social ontology acknowledges the role of agency. Institutions and other agents have agency, meaning that they have the ability to influence their environment and vice versa. Relationships are thus dependent upon the response of the environment. Social intersubjective ontology is further marked by a socially constructed reality and an entanglement of subjectivity and objectivity, as reality is contingent upon both history and culture (Emirbayer and Mische, 1998; Wendt, 1999).

The ontological view of social intersubjectivity directly informs and enriches the analysis of designing European capital markets for financing a just transition to a low-carbon economy in several ways. It helps to understand the role of collective norms and values, implying that policies and instruments to design a green transition must resonate with broader societal commitments to sustainability and social justice to be effective. Furthermore, I discuss the interdependent nature of the conditions necessary for the green transition, highlighting that they cannot be seen as separate solutions. The idea of interconnectedness in social ontology supports the view that institutional capacity, regulatory frameworks, and socio-political factors are interlinked. It encourages a holistic approach to policy design to create a cohesive system for the green transition. Additionally, the social ontology's recognition of institutional agency aligns with the emphasis on the central role of the state, which has the power to shape markets and drive the transition. Moreover, I highlight the need for solutions within current frameworks to ensure a speedy transition, suggesting the importance of building on existing structures and practises. Social ontology's view that reality is historically and culturally contingent supports the approach of leveraging existing frameworks. As this perspective acknowledges that institutional and regulatory structures are products of historical processes and cultural contexts, and thus, changes should build on these foundations. Lastly, the entanglement of subjectivity and objectivity in social ontology underscores the importance of socio-political factors. Policies must be designed with an awareness of social dynamics (objectivity) and perceptions (subjectivity) to gain support. By grounding the analysis in social intersubjective ontology, I thus provide a framework that recognises the importance of collective social norms, encourages an integrated approach to policy design, and leverages existing frameworks.

3.2 Epistemology

To answer the research question, I utilise a combination of methods, mainly theoretical literature-based research. The literature comes from journals like *Finance and Society*, *Socio-Economic Review*, *New Political Economy*, and *Development and Change*. I identified some key texts that help me in my research as they provide valuable insights into the intersection of finance, economic development, and environmental sustainability. These and other texts are discussed in the literature review. By examining concepts such as de-risking, developmental capital markets, green macrofinancial regimes, and critical macro-finance, this literature offers a theoretical foundation for understanding how to foster a GDS and transition to a low-carbon economy.

The literature contributes to answering the research question in several ways. Firstly, it helps understand financial dynamics, including how capital markets work, how financial institutions like the central bank function and how private finance impacts outcomes. Secondly, the perspectives from the literature shed light on the power dynamics present within the system and their implications for economic governance. Thirdly, the literature offers a starting point to discuss various pathways that could bring about change, offering various policy instruments and institutional arrangements that can be used in the transition to a GDS.

In addition to literature based research I conducted expert interviews with stakeholders and people working in the relevant fields within the European context to supplement my theoretical findings. I reached out to stakeholders identified through a stakeholder analysis conducted in conjunction with social network analysis, as outlined by Liendert et al. (2013). This approach led to the identification of key individuals and organisations with expertise and influence in the field of sustainable finance and environmental policy within the EU, ensuring that the insights gathered are relevant and informative for addressing the research question. Stakeholders include government bodies and regulatory agencies (eg. ECB, Directorates-General), non-governmental organisations and other knowledgeable institutions.¹ Unfortunately, many institutions and organisation were not able to dedicate their time to an interview. Therefore, I was only able to conduct two interviews. I am grateful for the contributions of Pierre Garrault and Gaëlle Chaillet. Garrault is a senior policy advisor for Eurosif. Eurosif is a pan-European association that promotes sustainable finance, contributing to public policy, research and understanding of sustainable investment and the

¹ Appendix A: Stakeholders, provides a list of actors whom I approached for an interview.

obstacles that are encountered. Chaillet is an administrator for the European Parliament Secretariat of the Committee on Economic and Monetary Affairs, she works on the sustainable finance files.

The objectives of the interviews are manifold. Interviews supplement theoretical findings with insights from practitioners and policymakers actively engaged in shaping financial and environmental policy within the EU. I furthermore gather perspectives on the feasibility and effectiveness of implementing developmental capital markets to finance a GDS in the EU through interviews. By engaging with stakeholders through expert interviews, I gain practical insights into the challenges and opportunities associated with designing and implementing policies that promote sustainable finance and support the transition to a low-carbon economy. Additionally, the interviews help identify potential barriers to bringing about a GDS within the EU context and explore strategies for overcoming these obstacles.

4 Theoretical Analysis

In this section, I develop a theoretical framework to establish a comprehensive understanding of the current de-risking state within the policy paradigm of the WSC, I specifically draw attention to the role of the ECB within this framework. Following this, I explore different pathways to reach a GDS. In section 6, I operationalise an alternative to reach a GDS, this alternative emphasises the role of the state. In section 4.3.3, I theorise why the state is central to a just green transition rather than a market-solution. Once it is established why state bodies are instrumental in the green transition, I lay out the current institutional capacities, regulatory frameworks and socio-political factors at the EU level. These are also the factors that I build the new pathway on in section 6.

4.1 Wall Street Consensus and De-risking

4.1.1 Wall Street Consensus

The WSC represents a policy paradigm where the state de-risks development avenues to make them investible for private finance, promoting market-based solutions for public goals and economic growth (Gabor, 2021). Development avenues include, for example health care, education, infrastructure, welfare, and energy. To unpack this concept, I identify key themes, principles, and mechanisms that synthesise to be the WSC. Following, I discuss the de-risking state and its relation to the WSC.

Financialization refers to the increasing dominance of financial motives, financial markets, financial actors, and financial institutions over traditional economic activities. This dominance arose from the convergence of neoliberal ideology, the stagflation crises of the 1970s, advancements in mathematical models for valuing financial assets, and the reduction of financial engineering costs, which enabled around-the-clock global financial trading (Storm, 2018; Davis and Kim, 2015; van der Zwan, 2014). But the roots of financialization trace back to Friedrich Hayek's work. His view that 'the market' is an all-knowing transparent and unbiased collector and processor of information that converts our individual values into prices, or 'objective facts', is the basic logic of financialization (Storm, 2018). Following Hayek's line of thought some argue that financialization should permeate all aspects of life, transferring sovereignty to the market. This ideology aligns with the neoliberal WC, a set of ten economic policy prescriptions from the 1980s and 1990s aimed at reforming developing economies through liberalisation, privatisation, and reducing state intervention (Williamson, 2009). Building on the WC, the WSC can therefore be seen as an extension of Hayekian principles in development and international finance.

Despite the discrediting of these claims during the 2007-2008 financial crisis, when public bailouts rescued banks and shareholders at society's expense, the ideology of financialization not only persisted but strengthened (Storm, 2018). Financialization transforms finance into a technique to uphold a social order in which society's demands are balanced by 'the invisible hand', leaving distributive outcomes up to financial markets.

To understand this pervasive impact and the WSC, I explain what mechanisms underpinning financialization are at play. Mechanisms that have a central role in financial markets and financialization today are: securitisation, repurchase deals and derivatives. Securitisation is the most critical facilitator of financialization. It is the process of pooling together traditional forms of debt, such as mortgages and credit card debt, and selling them to investors as consolidated financial instruments, called securities. Securitisation is crucial in financialization as it turns the concrete relationship between a bank and a debtor into an abstract relationship between the debtor and the financial market. Essentially, this marks the shift from financial intermediation by more regulated banks to less regulated financial markets. Another significant part of financial markets is the use of repurchase deals, also known as repos. A repo is a short-term borrowing method, secured by collateral, that provides liquidity to financial institutions. One party sells securities to another with the agreement to repurchase them at a higher price in the future. Derivatives also play a key role in

financialization; these instruments derive their value from underlying assets such as commodities, bonds, or stocks. They are either used for speculation or as hedging tools. Examples of derivatives are options, futures, and swaps; they can be traded on exchange or over-the-counter (OTC). OTC means that a deal is privately negotiated outside of an exchange, often negotiated through shadow banks; financial intermediaries that perform bank-like functions but operate outside the traditional banking system and regulatory framework, for example, pension funds and money market funds (Storm, 2018).

Together these financial instruments reshape corporate behaviour, household financial behaviour, and public policy, leading to greater wealth disparity and increased reliance on debt for basic needs. Corporations increasingly focus on maximising shareholder value, often prioritising short-term profits over long-term investments in innovation. Households become more dependent on credit and loans for consumption, education, and housing, while governments adopt market-based solutions for public services and rely on financial markets to fund public spending through the issuance of bonds. In this regime, wealth is concentrated within the rich asset-owning class resulting in a larger dispersion between the rich asset holders and the poor assetless (Christophers, 2022; Storm, 2018). At the household level financialization encourages and makes it more attractive for lower and middle income groups to take on more debt to finance basic needs such as health care and housing. This debt-financed spending enriches the rich and suppresses the lower classes, the same goes for the (sub)national level, where governments take the backseat regarding addressing public issues, such as climate change. To illustrate this amount of debt taken on within this system: The global borrowing firms, households and governments rose from 246 percent of debt to GDP in 2000 to 333 percent today.²

Now, the turn to financial markets to fund and implement public spending and development by international institutional actors, such as the IMF, the World Bank, the ECB and MDBs, is what Gabor names the WSC and marks a paradigm shift from the WC to the WSC. Alluding to the ten commandments of WC, the WSC can also be synthesised into several commandments.³ Firstly, the WSC emphasizes central bank independence and fiscal discipline, reflecting the macro-

² According to data from the Global Debt Monitor, May 2024, published by the Institute of International Finance, Washington, DC. See: https://www.iif.com/portals/0/Files/content/Global%20Debt%20Monitor_May2024_vf.pdf?_cldee=rwSQITKn4pQg5G8QDZXH03QEybS1qwF7xBnHZ3T1jr0db4mU5J7b_0vTSpvVY_&recipientid=contact-32ae6299e6f0e81180d102bfc0a80172-d87830a4f01d4ea5a5365e7a36c9df3a&utm_source=ClickDimensions&utm_medium=email&utm_campaign=Press%20Emails&esid=26ea724e-7e0c-ef11-9f89-6045bdf227e

³ These commandments are adapted from Gabor (2021), she describes 10 commandments that relate to the WSC mainly in developing states. However, I adapt them to suit the WSC in Europe.

institutional structure of the WC. An independent central bank controls inflation, while a fiscally disciplined treasury reduces budget deficits and public debt, ensuring the dominance of private finance and constrained public spending, including investment in green development. This leads to a more heavy reliance on PPPs for public projects (Braun, 2020; Onis, 1991; Wade, 2018). Additionally, unlike the WC's focus on primary health and education, the WSC directs public spending towards de-risking investments in new asset classes like infrastructure and development. These assets are seen as opportunities for investors to make profits off (Williamson, 2009; Gabor, 2021). This shift reflects a broader strategy of transforming public services and development projects into investible assets for private finance, facilitating market-based solutions for public challenges. The WSC also integrates Environmental, Social and Governance (ESG) criteria with Sustainable Development Goals (SDGs), aiming to align financial markets with sustainability objectives. However, ESG taxonomies managed by financial actors often lead to greenwashing, transferring costs from private finance to the state (Yu, 2020). This unstable feature of the WSC is discussed in section 4.2. Another tenet of the WSC that will be explained more in depth in section 4.2 is that central banks support market-based finance by prioritising securitisation and backing bond prices through mechanism like the market-maker of last resort (MMLR). This maintains liquidity and supports the macrofinancial role of the sovereign bonds (Bolton et al., 2020). Furthermore, the WSC institutions continue the push for financial globalisation in line with financialization and neoliberal ideology, opposing capital controls to facilitate free movement of capital (Gabor, 2021). Moreover, by encouraging portfolio investments, the WSC enhances liquidity and capital availability, both hallmarks of financialization that emphasises the maximisation of financial returns. This approach includes the privatisation of public goods and services, transforming them into commodified assets through PPPs (Christophers, 2022). The last characteristic that falls within the commandments of the WSC is surveillance capitalism. The WSC leverages digital technologies and data-driven strategies to enhance financial inclusion and market efficiency. The goal is to make even the poorest investible by treating all types of data as credit data. It is thus the endorsement of the use of data analytics and digital platforms to drive economic growth (Zuboff, 2019).

To conclude, the WSC establishes a policy framework built on principles that emphasise market-based solutions for addressing public issues, arising from the WC. It seeks to foster an environment where private finance can prosper in development sectors by encouraging

privatisation, the creation of new asset classes, PPPs, deregulation and digital technologies. While this approach mitigates investment risks for private entities, it brings up significant concerns regarding the state's role, the sustainability, and the equity of the outcomes. The WSC therefore reflects the hegemonic influence of financial institutions, in shaping development policies and outcomes. Financial actors wield power through their control over capital flows, investment decisions, and policy discourse, leading to the capture of policymaking processes by financial interests (Gabor, 2021).

4.1.2 *De-risking State*

The relationship between the WSC and the de-risking state is complex. The WSC provides the ideological and policy framework that legitimises the practises of the de-risking state. Both frameworks share a commitment to financialization and market-based solutions to problems. The de-risking state translates the principles of the WSC into action by creating favourable conditions for private investments (Gabor 2021, Gabor, 2023). Critical macrofinancial scholarship highlights that the de-risking state originates from institutions rooted in the WSC, like the World Bank, IMF, and MDBs. The evolution is driven by gradual decisions made by managers of the state aimed at rationalising financial capitalism and facilitating capital accumulation (Braun, 2021). In this section I theorise three different, but intertwined, types of de-risking practises within the EU: monetary de-risking, regulatory de-risking and fiscal de-risking.

Fiscal de-risking pertains to the highly debated PPPs in various development projects, which have significant distributional impacts by turning public goods into commodities and privatising them (Simeoni and Kinoti, 2023). PPP contracts legally guarantee that private investors are compensated for the risks associated with their investments. These covered risks include both demand and political risks, ensuring that investors receive minimum returns when confronted with low demand or political uncertainty that could affect profitability.

Monetary de-risking involves actions taken by central banks to adjust systemic bond or currency prices to maintain financial stability or guide private capital into green investments aligned with the net zero commitments made under the Paris Agreement (Kenward et al, 2022; Musthaq, 2021; Gabor 2021). The introduction of the euro, eventually leading to de-risking practises in the EU, was initially expected to create a government bond market that could rival the US benchmark. However, the introduction of the euro rather led to a market failure, as the eurozone was unable to establish an effective price mechanism for euro-denominated government bonds

(Galati and Tsatsaronis, 2003). Member states could no longer issue sovereign debt in their own currencies, leading to liquidity competition problems. Investors preferred the liquid bond markets of prominent and larger Member States, where concerns about inflation risk and exchange rates were minimal (Gabor and Ban, 2016; Gabor, 2023). The monetary dominance prevented the ECB from directly purchasing less liquid government bonds. Monetary dominance refers to the prioritisation of inflation control and price stability over other economic objectives, such as economic growth. This underscores the ECB's mandate to maintain inflation at levels close to two percent. As outright purchases of debt are prohibited, de-risking offered a resolution. The ECB collaborated with the EC to attract private capital, resolving political and legal challenges (Gabor and Ban, 2016). European policymakers thereby effectively turned Member States into producers of uniform collateral suitable for private finance, rectifying the liquidity concentration in major government bond markets (Gabor, 2023).

Regulatory de-risking involves removing regulatory barriers and adapting financial infrastructure to support monetary and fiscal de-risking (Christophers 2022, Gabor and Kohl, 2022). In 2002, the EC introduced a unified legal framework aimed at the cross-border use of collateral without supervisory oversight at EU-level (Gabor and Ban, 2016). Concurrently, the ECB implemented its collateral framework to transform Member States into consistent providers of collateral. These regulations reinforced a strategy towards de-risking and market-based finance, formalised as the Capital Markets Union in 2015. This allowed the ECB to influence sovereign bond prices without directly setting them. A major concern was that the ECB's collateral policies might undermine fiscal discipline by giving equal treatment to high- and low-rated credit issuers. Governments might feel less pressure to maintain sound fiscal policies if they know their bonds will be supported by the ECB, which could lead to higher debt levels and an increased risk of default. To address these concerns, the ECB installed collateral valuation through daily mark-to-market processes and margin calls. These instruments are used in financial markets to manage credit risk and ensure stability and fiscal discipline. Mark-to-market is the process of revaluing collateral to reflect the current market value with the aim of helping assess risk. A margin call is used to ensure that an investor has enough equity in their account to cover potential losses from trading. The ECB solidified the macrofinancial role of sovereign bonds through these collateral-based de-risking measures, thereby accommodating the erratic expansion of finance that led to the European banking crisis (Shin, 2011). As a result of the crisis, the ECB transitioned its efforts to

the role of MMLR. Instead of merely lending to banks against collateral, they outright buy sovereign bonds to maintain their liquidity and their systemic role in market-based finance (Gabor, 2021; Braun, 2020). This shift to MMLR can be seen as a refinement of monetary de-risking, maintaining the ECB's dominant position within the de-risking states.

In conclusion, the intricate relationship between the WSC and the de-risking state underscores the pervasive influence of financialization on public policy and economic development. The WSC provides the implicit ideological framework that legitimises the practises of the de-risking state, which, in turn, translates these principles into actionable policies by creating conditions conducive to private investment. This process is manifested through fiscal, monetary, and regulatory de-risking mechanisms, each playing a crucial role in facilitating capital accumulation and rationalising financial capitalism. Fiscal de-risking, through contentious PPPs, commodifies public goods and guarantees returns for private investors, while monetary de-risking by the ECB maintains financial stability and guides investments into green assets. Regulatory de-risking removes barriers and strengthens financial infrastructure to support these efforts, as exemplified by the establishment of the Capital Markets Union. Together, these de-risking practises reflect a broader strategy to align public policies with market-based solutions, ensuring the dominance of private finance in addressing global challenges. However, this approach also raises critical questions about equity, the role of the state, and the long-term sustainability of these practises, to which I turn in the next section.

4.2 Unstable De-risking

To reach the climate commitments made under the Paris Agreement, it seems unlikely that we can remain within the WSC paradigm, as the WSC and the de-risking state are inherently unstable. Several aspects of the policy paradigm cause friction with the goal of reaching a GDS. Before discussing why the WSC and the de-risking state do not stroke with a GDS I first turn to what a GDS entails. A GDS is a as a conceptual framework used to describe a development strategy that combines economic growth with environmental sustainability and achieving development goals. It places strong emphasis on the role of the state in guiding economic and sustainable development with a focus on promoting green solutions and integrating ecological sustainability into the core of its policies and objectives (Meckling, 2018).

A GDS can be completed in different ways. However, it is unlikely to be reached through de-risking and the WSC, for the following reasons: Firstly, de-risking is not fit to deliver the green transition orderly. Its reliance on financialization and market-based solutions leads to speculative bubbles and financial crises. The prioritisation of short-term financial returns in this system over long-term investments can result in market volatility and economic instability (Storm, 2018). Additionally, the heavy dependence on private finance for public infrastructure and development projects may lead to unsustainable debt levels and fiscal imbalances for governments, leading to budgetary time-bombs. The system might explode when the state shields investors from negative market fluctuations, or from newly implemented regulations, such as increases in the minimum wage or stricter environmental rules. The state can get in trouble as the risk allocation generally heavily favours private investors due to poorly designed and inconsistent contracts (ECA, 2018). Furthermore, the ESG criteria integrated into the WSC are often criticised for greenwashing and failing to deliver genuine sustainability outcomes. Another challenge is the economic coordination of de-risking. The sheer scale, complexity, and uncertainty involved in expanding renewable energy and phasing out fossil fuels are beyond the capabilities of decentralised markets (Durand et al., 2023; Eich, 2023). De-risking lacks the tools to effectively manage these changes. For example, subsidies without coordination can lead to uncontrolled growth in certain sectors, like the disorderly production of electric SUVs, which are not beneficial for decarbonisation (Gomez Vilchez et al., 2023). Overall, the inherent tensions between financial market imperatives and public welfare objectives, combined with the systemic risks introduced by financialization, make the WSC and the de-risking state unstable and prone to crises.

Secondly, the de-risking state's approach to privatising public goods and services through PPPs and other mechanisms tends to create significant distributional inequalities. Therefore, even if the de-risking state were to deliver a green transition it would not be a just transition. The commodification of essential services through de-risking can exacerbate social disparities and undermine public trust in institutions. Because the inability to fairly distribute benefits to workers and to those who lose out from climate policies increases the risk of public backlash and threatens the long-term political support for de-risking (Gaikward, Genovese, and Tingley, 2022).

4.3 Alternatives

If not via the de-risking state, how can the GDS be shaped? I discuss pathways also known as regimes that have been coined as alternatives to de-risking and the WSC that aim to reach a GDS. These regimes are combinations of regulatory, fiscal, monetary, and financial institutions that determine the production and allocation of money and credit, and thereby form the green transition (Gabor and Braun, 2023). I specifically look at two alternatives Gabor and Braun (2023) propose the BGS trajectory and Golka, Murau and Thie (2024) propose a paradigm shift towards a PFP.

I examine these trajectories because they are in line with the ontological beliefs laid out in section 3.1 of this thesis. The discussed alternatives are built on the foundational principles of the ontological framework, interconnectedness, collective understanding, and the role of agency in shaping social reality. The importance of collective efforts in achieving a just transition to a low-carbon economy, the recognition of agency, and the reciprocal influence between actors and their environment align with the idea that state and public institutions have significant agency in steering the transition towards sustainability. Furthermore, the ontological focus on shared values and norms is reflected in the regimes' emphasis on public benefits and collective goods. This suggests that policies and practises should be guided by broader social and environmental goals rather than purely individual economic interests. A discussion of why the state is better equipped than the market to lead society into a green transition is further discussed in section 4.3.3.

4.3.1 *Big Green State*

The BGS functions through state-led planning, coordination and transformation of economic activity, which is needed for rapid decarbonisation and for disciplining private capital. This is a radical shift from market-driven strategies. Through direct control of investment the BGS mandates investments directly into green solutions. Crucially, it also divests from activities hindering decarbonisation, as market mechanisms systematically fail to deliver large-scale shrinking of damaging economic activities. This calls for a total macrofinancial overhaul to weaken the (infra-)structural power of finance, leading to the subordination of finance to public policy (Gabor and Braun, 2023). Free from the burden of private-sector short-term profitability, state-led planning allows for a more coordinated and targeted approach to reducing emissions. It can prioritise investments in green development, leading to faster and more efficient decarbonisation. Furthermore, it opens up possibilities for alternative methods of allocating resources. This could

involve public ownership of key industries or non-market pricing mechanisms focused on sustainability (Durand, Hofferberth, and Schmelzer, 2023). Including coordinating monetary and fiscal policy, as well as credit controls, all working together to channel investments and resources towards green solutions. In cases where stranded assets, an asset that unexpectedly lost value, cause financial instability for private companies, these companies will either be allowed to fail or will be nationalised (Battiston et al, 2017; Semieniuk et al, 2022). Due to the strong state in this regime, with both political and technocratic capacity, private capital can be disciplined in such a way. Besides, being a condition for the economic success of green policy, discipline is according to the BGS also essential for its political feasibility. It is crucial to generate ongoing political support for climate policy as it distributes the losses of adjustment equally across nations, classes, and sectors (Downey, 2023).

For the realisation of the BGS, the role of the ECB must be reconstructed in the macrofinancial architecture. However, this does not require a full overhaul of central banking at its core. The central bank as it was during the Bretton Woods era provides a sketch of what central banking may look like in the BGS. During this era the central bank was subordinated to the state and its development priorities (Braun and Downey, 2020). The groundwork for such a central bank has already been laid out with the ECB as a climate policymaker. In the decarbonisation of monetary policy, the ECB appeared to become a central planner through its policy of ‘tilting’. Tilting refers to adjusting operations to favour investments that support a transition to a low-carbon economy, which is further discussed in section 5.1.

The greatest obstacle, according to Gabor and Braun (2023) to BGS is the (infra-)structural power of finance. To free the state’s capacity to steer the green transition envisioned in this regime the power of finance must be broken, because its position in the provision of public goods and services is constraining the regulatory power of the state. This condition is pervasive, and strategies to reduce the power of finance encompass measures ranging from regulatory requirements to capital controls, Gabor and Braun, however, do not specify how the BGS would address this problem.

4.3.2 Public Finance Paradigm

Golka, Murau and Thie propose a paradigm shift moving away from the de-risking state towards a paradigm that reconnects the state and finance in the green transition, named the PFP. They argue that, contrary to the BGS approach, the PFP does not require an overhaul of the institutional

frameworks in place, but can be carried out within the constraints of the system. This vision comes forth out of the conviction that the climate crisis is extremely urgent, generating an extreme need for solutions that can be implemented ad hoc within the current institutional framework, even in tight fiscal regimes. Central to the paradigm is the empowerment of the state, both institutionally and discursively, to guide and finance green investments (Golka, Murau and Thie, 2024). It thus redresses the notion that subsidising large-scale private capital is the only path to driving the green transition.

At the policy level, PFP encompasses a range of measures aimed at enhancing state capacity and guiding public investments in key areas of the green transition, such as energy and infrastructure. The focus is on giving public benefit and public ownership precedence over de-risking efforts and their regressive distributive impacts. While subsidies to the private sector are not entirely excluded, they would be subject to stringent conditions and strict regulation. Direct public investments would break with the discursive expectation of private finance pushing forth the green transition, thereby taking away the uncertainties of an indirect public-private approach. It would instead unlock additional funds to finance the green transition. These green investments through government bonds enhance the sustainability impact by ensuring substantial, credible, and well-regulated funding for green projects. This encourages broader market participation and fosters a robust and transparent green finance regime. Golka, Murau, and Thie (2024) argue that it would additionally create more transparency about the real-world impact that will be achieved, subjecting the investments to parliamentary control. Furthermore, implementation problems are easier to fix in a PFP regime, because the state is able to move swiftly and take fast and targeted measures when problems occur.

Besides government agencies, the PFP gives a central role to os (OBFAs), such as public investment banks and development finance institutions. OBFAs are designed to undertake specific fiscal activities without directly impacting the government's balance sheet or debt levels. These agencies can be used to rapidly mobilise public funds, because they are not constrained by the same bureaucratic processes and political deliberations that affect state spending. Due to their independence from budget cycles and specialised knowledge, OBFAs can structure long-term investments without the risk of funding disruptions. Focused mandates of OBFAs can furthermore facilitate consensus among policymakers who support these goals, as they make decisions based

on their policy objectives, such as environmental sustainability, rather than political considerations (Murau and Guter-Sandu, 2024).

The BGS and the PFP propose distinct approaches to achieving the green transition, each with unique strategies and philosophies. The BGS calls for a radical overhaul of the macrofinancial architecture, emphasising state-led planning and direct control over investments. It mandates green investments and divests from carbon-intensive activities, potentially nationalising failing companies to prevent financial instability and ensure alignment with decarbonisation goals. The BGS seeks to break the structural power of finance, subordinating it to public policy to enable the state to steer the green transition effectively. In contrast, the PFP operates within existing institutional frameworks, advocating for incremental change and practical solutions that can be swiftly implemented within the current system. It emphasises empowering the state to guide and finance green investments, even within tight fiscal regimes, focusing on immediate and urgent climate action. The PFP thus seeks to reconnect the state with finance without fully subordinating private finance. It emphasizes using government bonds and OBFAs to rapidly mobilise public funds for green investments. While it includes subsidies to the private sector, these are strictly regulated to ensure they support the green transition effectively.

4.3.3 Market-led versus State-led Pathways

Other examples of pathways to a GDS on the complete opposite end of the spectrum from the BGS and the PFP are regimes that purely rely on the power of the market and neoliberal ideology. Carbon Shock Therapy is such an example, in this framework the main concern is to establish a global carbon price incorporating the negative climate change externalities to correct market failure (Gabor and Braun, 2023). Governance through financial markets, the Capital Markets Union Regime (CMU) is another initiative that relies on the market. It promotes the marketisation of the financial system and supra-nationalisation of political power within the EU (Braun, Gabor and Hübner, 2018). On an ontological basis these perspectives do not resonate with my beliefs. However, from an economic perspective, pathways to a low-carbon economy that rely on market-led solutions are omnipresent and therefore require attention. The dominance of such perspectives is due to the widespread belief in the efficiency of markets and the idea that they function as an all-knowing information processor that will bring about development. To cogently argue for a larger role for the state in the pathways suggested in this thesis, I debunk the myth that the market is efficient and the state is not.

As we have seen in section 4.1 and 4.2 financialization and de-risking have demonstrated that they are not efficiently and effectively able to tackle the climate crisis. The over-reliance on market mechanisms and private actors has led to a fragmented and inadequate response to the urgency of decarbonisation. However, I argue that the state is capable of successfully leading decarbonisation efforts, debunking the myths of market efficiency and state inefficiency.

Firstly, the market's inherent focus on short-term profits and shareholder value often clashes with the long-term, collective nature of climate action. Market-based solutions like carbon pricing or emissions trading schemes have shown limited success due to issues such as price volatility, loopholes, and insufficient ambition (Nordhaus, 2013; Mazzucato, 2013; Page and Pande, 2018). In contrast, state-led initiatives can prioritise long-term planning, set ambitious targets, and implement comprehensive policies that address the systemic nature of the climate crisis, as exemplified by the success of the Montreal Protocol in phasing out ozone-depleting substances (Benedick, 2009).

Secondly, the market's reliance on price signals as the primary driver of change is insufficient for addressing complex issues like climate change, because it is not just an issue of resource allocation. Non-market values such as environmental protection, social equity, and intergenerational justice are often neglected in market-based approaches (Spash, 2010). The state, however, can incorporate these broader considerations into its decision-making, ensuring a more holistic and sustainable approach to decarbonisation, as demonstrated by the implementation of environmental impact assessments and social safeguards in state-led infrastructure projects.

Furthermore, the state possesses unique capabilities that the market lacks, such as the ability to mobilise resources, coordinate diverse actors, and enforce regulations (Mazzucato, 2013). State-led investments in green infrastructure, research and development, and public awareness campaigns can accelerate the transition to a low-carbon economy, as evidenced by the success of Germany's Energiewende policy. Additionally, the state can set standards, provide incentives, and penalise non-compliance, creating a level playing field for sustainable businesses and ensuring a just transition for workers and communities (Cheung et al., 2019).

While acknowledging the potential for state failure and inefficiency, it is important to recognise that the state's role is not to replace the market, but to complement and guide it. A well-designed policy mix that combines market-based instruments with state intervention can harness the strengths of both approaches while mitigating their weaknesses (Stern, 2007). This requires a

strong and capable state that is equipped with the necessary resources, expertise, and legitimacy to effectively steer the decarbonisation process.

5 Status Quo

In this section, I discuss the current state of affairs of the institutional capacity of the ECB, the regulatory framework, and socio-political factors. Furthermore, the claim that the conditions only work all together as a cohesive pathway rather than separate solutions to push the green transition is theorised in the last section of this chapter.

5.1 Institutional Capacity

The focus of the sections about institutional capacity is on the ECB. The ECB plays a crucial role in the green transition, it can leverage its monetary policy tools to support and incentivise green investments. It has the potential to generate the three trillion euros in additional investments needed to combat the climate crisis (International Energy Agency, 2023).

The ECB took steps to start greening their policies relatively late. Action resulted only after the Paris Agreement in combination with unconventional central banking after the financial crisis in 2008. Paris pushed actors such as central banks, who had previously stood on the sidelines of climate politics, to take action. Simultaneously, backlash against unconventional central banking led bankers to seek political banking. Political central banking refers to the involvement of central banks in political and socio-economic issues that go beyond their traditional mandate of controlling inflation and ensuring financial stability. Green central banking surfaced at this juncture, serving both the opportunity to mitigate criticism and as a new policy agenda for climate advocates (Jabko and Kupzok, 2024; Musthaq, 2023).

In 2021, the ECB voted for a four-year action plan to include climate change considerations in its monetary policy strategy (ECB, 2021). A year later, in 2022, the ECB takes its policy a step further and incorporates climate change into its monetary policy as part of the climate action plan announced in 2021. The corporate sector purchase programme (CSPP) and the collateral framework would now also feature climate criteria (ECB, 2022). The CSPP is an asset purchase programme that targets the purchase of high-quality graded bonds issued by corporations established in the euro area. The collateral framework defines the assets that banks can use as

collateral when borrowing from the ECB. This framework ensures that the ECB's lending operations are backed by adequate security, thereby mitigating the risk of financial loss.

Furthermore, the ECB committed to tilting the CSPP to get aligned with the Paris Agreement (ECB, 2022). As mentioned in before, tilting refers to adjusting operations to favour investments that support a transition to a low-carbon economy. This involves buying more green bonds and offering more favourable loans to banks that finance green projects (Gabor and Braun, 2023). However, the current flow-based tilting approach falls short of meeting the Paris objectives. Flow-based tilting means that the ECB reinvests its proceeds from maturing bonds in greener companies based on the climate scores that they are assigned. This is crucial as it allows the ECB to continuously adjust its portfolio towards greener investments by selectively reinvesting in bonds with better climate scores. But the effectiveness of this strategy is impaired due to the ECB's decision to reduce its net asset purchases, hence, there are fewer opportunities to shift investments. Its effectiveness is furthermore dependent on the decarbonisation pace of companies in the portfolio. This makes it challenging to decarbonise through this procedure and insufficient to achieve the Paris goals, as they require a stable decarbonisation regardless of companies' individual actions and monetary policy (Dafermos et al., 2023; Schnabel, 2023).

In January 2024, the ECB published the climate and nature plan 2024-2025, identifying new focal points guiding climate efforts over the next two years. The ECB will advance its work in three areas. Firstly, the ECB will focus on how to navigate the structural changes stemming from the transition towards a green economy. The second focus will be to address the physical impact of climate change that affects the financial sector and the macroeconomy. The third focal point will be to advance the ECB's work on risks related to nature and biodiversity loss and how they will influence macroeconomic variables (ECB, 2024). These decisions embody a clear rupture with the ECB's stance prior to 2018, when climate change was seen as an issue to be addressed by political authorities only an issue outside of the scope of the ECB (Jabko and Kupzok, 2024; Mersch, 2018).

Climate policy is seemingly far removed from the ECB's objectives; ensuring price stability and financial stability within the monetary union. Price stability revolves around keeping inflation at approximately two percent. Financial stability means that the financial system can withstand imbalances and shocks. The ECB protects this stability for example through the supervision of systemic banks (ECB, 2021; ECB, 2023). Before 2018, climate change was incidentally mentioned, but only referred to as a challenge that humanity is facing rather than a concern for the ECB (Deyris,

2023). However, it was framed as a central banker's challenge through speeches given by members of the executive board of the ECB since 2018 (Cœuré, 2018; Lautenschläger, 2018). In the years that followed, increasingly more speeches by the executive board members emphasised climate change as a concern for the ECB.

Schnabel (2021) developed the link between price stability and climate change, and Elderson (2021) established a link between financial stability and climate risks. However, if climate change threatens the ability of the ECB to ensure price stability and financial stability, the ECB's mandate of 1992 falls short in guiding how to respond to climate change (de Boer and van 't Klooster, 2021). Mersch (2018) argued that according to its mandate, the ECB should maintain price stability while acting according to the principles of an open market economy, which led him to conclude that the ECB should not venture into political avenues that could lead to distributional changes. This could undercut legitimacy and expose the ECB to litigation (Dietsch et al. 2022; Blondeel et al. 2022). In opposition, Cœuré (2018) emphasised a passage of the mandate stating that the ECB shall back general economic policies within the EU contributing to the general objectives of the Union, which includes 'working for the sustainable development of Europe'. This leaves room to push for greener aspirations for the ECB and advocate for active decarbonisation of ECB practises. After this difference of opinion, the debate remained unsettled for two years, until President Lagarde (2020) concluded the dispute by interpreting climate change action as within the mandate of the ECB. It culminated in 2021 with the action plan to include climate change considerations within monetary policy. Where taking action on climate change was first seen as a liability and potential legitimacy deficit, the tide has now turned, and climate inaction is seen as the biggest threat to legitimacy (Elderson 2021).

5.2 *Regulatory Framework*

Currently, there are multiple policies in place that provide a framework for sustainable finance. The cornerstone piece is the EU Taxonomy supported by the Sustainable Finance Disclosure Regulation (SFDR) and the non-financial reporting directive (NFRD). The EU Taxonomy, which came into force in 2020, is a classification system that defines benchmarks for sustainable economic activities that are aligned with the Paris Agreement to reach net-zero by 2050. One of its goals is to make sustainable disclosure mandatory for large companies. Increased standardised transparency and disclosure through these policies, are expected to guide private investments in

low-carbon activities. The Taxonomy furthermore lays the basis for other related regulations, such as the SFDR, which regulates external reporting for financial institutions that offer financial products, and the NFRD, which mandates the reporting of non-financial information. The main shortcoming in the Taxonomy is the lack of pathways towards decarbonisation in sectors that are not yet labelled as ‘green’. The binary structure of the Taxonomy stifles capital-intensive innovation as it takes away the incentive to decarbonise beyond the threshold of ‘green’. It creates the risk that companies are only incentivised to make marginal adjustments, potentially creating a lock-in of carbon-intensive assets, hampering long-term ‘green’ investment (Schütze and Stede, 2024; *EU Taxonomy for Sustainable Activities*, n.d.).

More recently, the Corporate Sustainability Reporting Directive (CSRD) and the complementary Corporate Sustainability Due Diligence Directive (CSDDD) were passed. The CSRD requires the disclosure of reports on social and environmental risks a company faces and how their activities impact the environment and people. It thus expands the scope of sustainability reporting and enhances the NFRD (*Corporate Sustainability Reporting*, n.d.). In May 2024, the CSDDD was approved by the EU. This directive, which will apply from 2027 onwards, fosters sustainable corporate behaviour. It does so by ensuring that companies identify and address the negative environmental and human rights impacts of their actions (*Corporate Sustainability Due Diligence*, n.d.). Where the CSRD is about reporting and transparency on sustainability performance, the CSDDD is about due diligence processes to manage and mitigate adverse sustainability impacts; it therefore mandates proactivity regarding climate change. Another measure is the Regulation on ESG ratings providers, which was finalised in February 2024; and is expected to apply in 2026. This regulation establishes requirements on transparency for ESG rating, aiming to reduce greenwashing (*ESG Rating Activities*, n.d.).

5.3 Socio-Political Factors

The socio-political landscape within the EU is marked by a dynamic interplay of political ideologies, public sentiments, and policy priorities. This section examines the current status of these factors, focusing on recent electoral outcomes, public opinion on key issues, and the implications for policy-making and governance.

Public opinion across the EU shows strong support for environmental protection and climate action. According to the latest Eurobarometer survey, more than three-quarters of

Europeans believe that environmental issues directly impact their daily lives and health, and a significant majority agree that EU legislation is necessary to address these challenges. There is also widespread support for sustainable consumer behaviours (Eurobarometer, 2024). However, these trends did not translate to the results of the elections for the European Parliament this June.

The elections in the EU have highlighted significant political fragmentation and polarisation. No single bloc emerged with an overall majority in the elections for the European Parliament in June, necessitating coalition-building and complex negotiations to establish a functional legislative majority. This could lead to a more polarised and fragmented political environment, making it challenging to reach consensus on critical issues such as climate policy and push for more ambitious policy, especially with the shrinking of the Greens. The rise of far-right parties in several member states reflects a broader trend of political and social polarisation observed globally. This shift is expected to influence the EU's policy directions, potentially leading to a more right-leaning legislative agenda with increased emphasis on national sovereignty and less EU intervention. It remains, however, uncertain how the result of the election will play out (*EU Elections 2024: Who Won and Lost – and What Happens Next?*, 2024; *EU Elections 2024: The Unclear Impact of the Shift to the Right*, 2024).

5.4 Complementarity

As seen in section 3.1, the idea of interconnectedness in social ontology supports the view that institutional capacity, regulatory frameworks, and socio-political factors are interlinked. However, from a theoretical point of view there is also evidence that a holistic approach is necessary to drive the green transition. The theory of complementarity posits that the institutions and practices within different types of economics complement each other, leading to distinct and coherent systems of economic organisation. This theory can be extended to encompass the green transition, suggesting that different institutional arrangements can support the adoption of sustainable practises. The theory furthermore suggests that policy transfers from one type of economy to another may fail if they do not take into account the existing institutional framework, providing a strong argument to build on existing frameworks in the green transition (Hall and Soskice, 2001).

In the context of the EU this means that the success of the green transition hinges on the alignment and reinforcement of different institutional domains. A strong regulatory framework is more effective if it is supported by robust institutional capacity to implement and enforce it.

Similarly, socio-political factors, such as public acceptance and political will can facilitate the implementation of green policies (Kern and Rogge, 2016).

This interconnectedness also implies that changes in one domain can trigger ripple effects in others. For instance, a lack of public support for green policies can lead to political backlash and undermine the effectiveness of regulatory measures. Therefore, a successful green transition in the EU requires a comprehensive approach that recognises the interconnectedness of institutional capacity, regulatory frameworks, and socio-political factors. It calls for an EU-level coordinated effort across different policy domains to create a mutually reinforcing environment that supports the adoption of sustainable practises.

6 A New Pathway

The green transition to a low-carbon economy is a global imperative, necessitating significant financial resources and structural changes within the economic framework. This chapter explores the conditions necessary to design European capital markets for financing a GDS, facilitating a just transition to a low-carbon economy. I agree with Golka, Murau, and Thie (2024) and believe that the way forward must put the state on centre stage, without a full reorganisation of the institutional frameworks that are in place. The climate crisis is extremely pressing and a solution must lie within current frameworks to ensure a speedy transition. This is further supported by the ontological view this thesis employs, as reality is historically and culturally contingent, which supports the approach to leverage existing frameworks in a future solution as changes should be built on the foundations present. However, there is no quick fix or single piece of legislation that could easily incite the green transition. I therefore structure the baseline conditions necessary for the green transition according to institutional capacity, regulatory framework, and socio-political factors. These conditions reinforce each other; they cannot be seen as separate solutions to driving the green transition and can only generate change when incorporated together, as seen in section 5.4. The articulated conditions provide valuable insight for policymakers at the European level seeking to advance sustainable development goals within the EU. I build these conditions on the theoretical framework discussed in the previous chapter and tie them together through the theory of complementarity in section 6.2.

6.1 Conditions

6.1.1 Institutional Capacity

Institutional capacity refers to the ability of institutions to effectively mobilise and allocate resources towards green development. This involves the roles of central banks, national development banks, and other financial institutions in steering investments towards sustainable projects. Taking action on climate change was first seen as a liability for the ECB leading to a potential legitimacy deficit. However, the tide has now turned and climate inaction is seen as the biggest threat to legitimacy (Elderson 2021). This is important to establish as the willingness of the ECB to include climate action is a crucial condition for setting in motion a green transition. The current policies do not, however, suffice to generate the proactive policies needed to facilitate the green transition. Especially because the climate consensus of the ECB does not signal the end of the ideational debate, but rather the start of it, discussions over future integration of climate will most likely continue the debates over the ECB's role in decarbonisation after the end of the four-year action plan (Deyris, 2023).

Incorporating sustainability into central banking operations, is crucial for aligning the financial system with climate goals. Green quantitative easing (QE), green collateral frameworks, and tilting are potential policy tools that central banks can employ to incentivise green investments and mitigate climate-related financial risks (Schnabel, 2023).

Green QE involves central banks purchasing green bonds and other sustainable financial instruments in their asset purchase programmes. The goal of green QE is to stimulate the economy through increased liquidity and promote environmental sustainability by supporting green projects. Through increasing the demand for green assets, green QE can lower their yields, which stimulates investment in environmentally friendly projects (Matikainen, Campiglio, & Zenghelis, 2017).

The Green Collateral Framework involves adjusting the collateral framework of the ECB to favour green assets. By accepting green bonds as collateral at more favourable terms or by requiring higher haircuts for brown assets, central banks can incentivise banks to hold and lend against green investments. A haircut is a reduction applied to the value of an asset, it is used when a central bank lends money to a commercial bank. This can create a positive feedback loop, where increased demand for green assets leads to lower financing costs for green projects, further stimulating investment in sustainable activities (Schoenmaker & Van Tilburg, 2016).

Central banks can also tilt their asset purchases towards issuers with better climate performance and those aligned with the Paris Agreement goals. Whereas, the current flow-based tilting strategy is falling short, a stock-based tilting approach is promising, especially when taking into account the reduction of the ECB's net asset purchases. A stock-based tilting approach shifts the focus from merely directing new investments towards green assets to also actively managing the current portfolio composition to support sustainable objectives. Active reshuffling of existing holdings involves the re-evaluation and altering of the weight of assets that are already in the portfolio to align with sustainability goals, without new investments coming in (Schnabel, 2023). Additionally, the tilting strategy would have a greater impact by incorporating double materiality considerations into their decision-making on asset purchases, assessing both the financial risks that climate change poses to the issuer and the environmental impact of the issuer's activities, (Schoenmaker & Van Tilburg, 2016). To clarify, while tilting and green QE are similar tools, they operate through different mechanisms. Green QE focuses on the direct purchase of green assets to drive demand and lower yields, where tilting involves a broader strategic adjustment of ECB activities to favour green investments across various aspects of monetary policy.

While these policies are promising, their effectiveness depends on careful design and implementation. It is crucial to ensure that these measures do not create unintended consequences, such as market distortions or asset bubbles. Moreover, central banks need to strike a balance between their climate objectives and their primary mandate of price stability. Despite these challenges, green central banking represents a significant step towards integrating sustainability into the financial system. By leveraging their unique position and tools, central banks can play a crucial role in accelerating the transition to a low-carbon economy and mitigating the risks posed by climate change.

6.1.2 Regulatory Framework

A robust regulatory framework is essential to creating an enabling environment for green finance. This involves setting clear rules and standards that guide financial institutions and market participants towards sustainable practises. Clarity and consistency help investors identify and prioritise sustainable projects.

The new directives and regulations that have recently been adopted and have yet to show what their effects will be in practice make it difficult to make a fair judgement of the regulatory

framework that is in place. Regardless, there are several ways to enhance the regulatory framework that is currently in effect.

Firstly, while the EU Taxonomy addresses a large portion of companies that are responsible for EU emissions, there are still crucial activities that fall outside the scope of the Taxonomy. A broader coverage of sectors would enhance the positive effect of the Taxonomy. Sectors that are not covered yet include two important types of economic activities. First, carbon-intensive activities for which there is no full sustainable substitute yet, for example in maritime shipping, where technological advancement is needed to decarbonise. To address this shortcoming, forward-looking indicators should be implemented to identify companies planning to satisfy climate targets, and incentivise investment in sustainable solutions. Second, carbon-intensive economic activities for which there are sustainable alternatives available, such as petroleum and coal companies, should be phased out. This could be incentivised through a ‘brown’ label, encouraging divestment and bringing transparency about the possible risks of stranded assets.

More generally, the developments by the EU have mainly focused on transparency, building on the logic that transparency would incentivise low-carbon investments. However, the EU should take the lead and focus on the clarification of what sustainable investments and sustainable finance mean. Currently, there is no EU regulatory definition, which leaves space for conflicting interpretations, leading to confusion and greenwashing (Garrault, 2024).

An example is the SFDR, which is only about the disclosure requirements of investments made. In practice, it is used as a de facto labelling tool, labelling products according to articles eight and nine. Where article eight products have some ESG characteristics, and article nine products are viewed as fully sustainable. However, the SFDR does not provide detailed criteria and standards to ensure that the characteristics flagged by these articles are credible and robust. The absence of clear criteria for what qualifies as an article eight or nine product leads to inconsistencies and greenwashing, where products are marketed as more sustainable than they truly are (Garrault, 2024; Partiti, 2024).

Clarification should thus be underpinned by specific criteria and transparency requirements. This would help to ensure that sustainable investment is aligned with positive real-world outcomes. Obstacles to coming to such definitions are the lack of data and a lack of broadly acknowledged theoretical insights (Zetsche and Anker-Sørensen, 2022). Chaillet supports this and elaborates that the challenge is to obtain data from real economic activity and aggregate this data to use it in today's

financial markets. This implementation requires time, as companies have to gather this data and report it in a consistent manner so that it can be processed. An added difficulty is that the data needed is not just current data, but also future data. Chaillet clarified that the essential data is a future promise of companies transitioning into green avenues, as investment needs to go into companies working towards being green to speed up the transition, not necessarily into companies that are already green.

Developing and incorporating clear definitions of sustainability into the EU's regulatory framework is a challenging task. The EU should adopt a structured approach that ensures scientific rigour, stakeholder engagement and legislative clarity. Providing a definition for sustainable finance and investment is beyond the scope of this thesis. It should, however, be scientifically grounded, taking into account existing frameworks and best practises. Furthermore, a definition should align with the EU's environmental and social goals. Moreover, throughout the process of coming up with a definition, stakeholders must be consulted, and their feedback should be used to refine and improve the proposed definitions. To ensure implementation and enforcement, the regulatory and supervisory bodies of the EU should be empowered to oversee the process. The definitions should also be subject to continuous improvement. Regular review through periodic assessments, including continuous engagement with stakeholders. This ensures the definitions are adjusted and updated according to new scientific insights, technological advancements, and feedback from stakeholders.

Additionally, the development of a social taxonomy alongside the environmental EU Taxonomy would provide a more comprehensive framework for defining sustainable investments, ensuring a just and green transition.

A more robust regulatory framework to enable decarbonisation requires clear rules, consistent enforcement, and active involvement from the EU and its member states. By expanding and refining existing regulations, providing strong incentives for sustainable practises, and ensuring continuous monitoring and adaptation, the EU can create an environment that drives significant progress towards climate neutrality.

6.1.3 Socio-Political Factors

Socio-political factors are crucial conditions for designing a just transition to a low-carbon economy because they encompass the social dynamics, political will, and public support necessary

for effective policy measures. It is an essential part of the employment of a social intersubjective ontology and the holistic approach taken in this thesis, ensuring that the green transition not only addresses climate change but also promotes social justice. This section thus outlines the essential socio-political factors that must be addressed to design European capital markets that support a just transition to a low-carbon economy.

A fundamental aspect of a successful green transition is the inclusion of diverse stakeholders in the planning and decision-making processes. Engaging a broad range of stakeholders, including workers, communities, companies, civil society organisations and marginalised groups, ensures that policies are reflective of the needs and concerns of affected parties. Establishing formal mechanisms for ongoing dialogue is crucial for capturing diverse perspectives and building consensus. This inclusive approach further fosters a sense of ownership and commitment to the transition process, while the EU keeps control over the process. Moreover, stakeholder engagement is further needed during the implementation phase. Once a policy is put into practice, engagement must continue to ensure a feedback mechanism, ensuring issues are brought to attention quickly so that adequate action can be taken (Besley and Dray, 2024).

Additionally, ensuring social equity and justice is paramount in the transition to a low-carbon economy. Policies must explicitly address existing social and economic inequalities, providing targeted support to those most affected by the transition, such as workers in carbon-intensive industries and vulnerable communities. The benefits of the low-carbon transition must be distributed equitably. A just transition prioritises the needs of disadvantaged groups, ensuring that no one is left behind. This ensures societal support for the green transition, which is needed for the advancement of the green transition. Public awareness campaigns and community engagement initiatives can build understanding and support for the transition, encouraging active participation and behavioural change. Educating the public about the impacts of climate change and the opportunities presented by the green transition can foster a culture of sustainability and collective responsibility.

Besides societal support, electoral support is also needed ensuring a strong political commitment and leadership that are essential for driving the green transition. Unfortunately, electoral support for the green transition has taken a beating in the latest election. Governments at all levels must demonstrate a clear commitment to sustainability goals and take decisive action to implement supportive policies. Policy coherence and alignment between climate policies and other

social, economic, and industrial policies are crucial for creating a supportive environment for the transition. Political leaders must champion the transition, fostering a sense of urgency and mobilising resources to achieve ambitious sustainability targets.

The current socio-political environment necessitates robust governance structures capable of managing the complexities of a fragmented political landscape and diverse public expectations. Strengthening institutions and enhancing their capacity to enforce and monitor policies effectively is crucial for ensuring coherent policy implementation across different levels of government. For political leaders to champion governance, institutions must have sufficient capacity to manage the green transition. Strengthening institutions and providing them with the necessary resources and expertise ensures that policies are enforced and monitored effectively. Promoting multi-level governance and coordination between local, regional, national, and EU levels is crucial for coherent and integrated policy implementation. Effective governance structures support the alignment of sustainability goals across different levels of government and sectors.

The socio-political factors outlined above are integral to designing European capital markets that support a just transition to a low-carbon economy. By fostering inclusive stakeholder engagement, ensuring social equity and justice, raising societal and political support, demonstrating political will and leadership, and building institutional capacity and governance, policymakers can create a supportive environment for the green transition. These interconnected conditions provide a comprehensive framework for advancing sustainable development goals within the EU and ensuring a just and equitable transition to a low-carbon future.

6.2 Complementarity in transitioning to a GDS

The current system of the WSC and the proposed new pathway can be connected through the theory of complementarity that is discussed in section 5.4. Complementarity refers to the idea that different components of a system can enhance each other's effectiveness when working together. The WSC is largely governed by principles of de-risking and financialization, leveraging private capital to achieve public goals by adjusting the risk-return profiles of private investments. The new pathway proposes a shift towards a GDS, which emphasises stronger state intervention and public investment to drive sustainable development. This approach recognises that achieving a low-carbon economy requires not only market mechanisms but also substantial public policy support,

regulatory frameworks, and institutional capacity. By applying the theory of complementarity, it becomes visible how the new pathway can enhance each other the current system. A strong state and robust public policies and investments aimed at fostering sustainable practises can enhance the market-based mechanisms. For example, the current de-risking strategies make private investments in green projects more attractive, but do not necessarily enable a green transition as it these strategies can lead to bubbles and unsustainable investments. Through the proposed stock-based tilting of the ECB on the other hand, portfolios can be steered towards greener investment, keeping control in the hands of the European states.

Moreover, the complementarity theory suggests that socio-political factors, institutional capacities, and regulatory frameworks are mutually reinforcing, being more effective than any single element in isolation. By integrating these three elements the EU can create a complementary and mutually reinforcing system where the ECB's institutional capacity is enhanced by a clear and comprehensive regulatory framework that guides its actions and a supportive socio-political environment that legitimises its climate-focused policies. But the regulatory framework is also strengthened by the ECB's ability to implement and enforce it, as well as by public pressure and political will for ambitious climate action. Thereby the socio-political environment is also fostered by the ECB's actions and the regulatory framework, which demonstrate a commitment to sustainability and create opportunities for public participation and equitable outcomes. This interconnectedness highlights the importance of a holistic approach to the green transition, where the three conditions are not seen as separate aspects, but as mutually reinforcing elements that can drive a successful and just transition to a low-carbon economy.

7 Conclusion

This thesis explored the conditions under which developmental capital markets can effectively finance a Green Developmental State (GDS) and facilitate a just transition to a low-carbon economy in the EU. By examining the current landscape, termed the Wall Street Consensus (WSC) and the de-risking state, this research has highlighted the limitations of market-based approaches in achieving a just and sustainable transition. The inherent instability of the de-risking state, with its emphasis on short-term profits and private finance, poses significant challenges to the long-term goals of decarbonisation and social equity.

To address these challenges, this thesis has proposed a new pathway, grounded in an social intersubjective ontology, that integrates insights from the Big Green State (BGS) and the Public Finance Paradigm (PFP) approaches. This pathway emphasises the central role of the state in steering investments towards green development, while recognising the importance of the existing institutional capacity, regulatory frameworks, and socio-political factors in creating an enabling environment for sustainable finance. By strengthening institutional capacity, enhancing regulatory frameworks, and fostering the socio-political environment, the EU can create a mutually reinforcing system that supports the transition to a low-carbon economy.

The findings of this research have significant implications for policymakers and practitioners in the field of sustainable finance. They underscore the need for a shift from the de-risking state towards a more proactive and interventionist role for the state in driving the green transition, without a full overhaul of the macrofinancial system. This involves not only mobilising public finance for green investments but also setting clear standards, providing incentives, and ensuring a just transition for workers and communities.

However, the path towards a GDS is not without its challenges. The structural power of finance, the risk of government failure, and the need for public support and political will are all significant obstacles that need to be addressed. Future research could further explore these challenges and investigate the effectiveness of different policy instruments in overcoming them. Additionally, more empirical research is needed to assess the impact of green central banking policies and the role of national development banks in financing the green transition.

Despite these challenges, this thesis has demonstrated that a just transition to a low-carbon economy is not only necessary but also feasible. By embracing a holistic approach that integrates economic, social, and environmental considerations, the EU can create a sustainable and equitable future for all its citizens.

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APPENDICES

List of Organisation

European Union Organisations

1. European Commission Directorate General for Environment
2. European Commission Directorate General for Financial Stability, Financial Services and Capital Markets Union
3. European Investment Bank (EIB)
4. European Central Bank (ECB)
5. European Environment Agency (EEA)
6. European Banking Authority (EBA)
7. European Securities and Markets Authority (ESMA)
8. European Parliament Committee on Economic and Monetary Affairs (ECON)
9. European Parliament Committee on the Environment, Public Health and Food Safety (ENVI)

Non-Profit Organisations

10. Climate Action Network (CAN)
11. Finance Watch
12. Institute for European Environmental Policy (IEEP)
13. European Sustainable Investment Forum (EUROSIF)

Other

14. European Sustainable Investment Forum (EUROSIF)
15. Sustainable Finance Lab
16. Green Central Banking
17. Centre for European Policy Studies (CEPS)
18. OMFIF
19. Bruegel

List of Interviews

- #1 Interview Pierre Garrault, Senior Policy Advisor, Eurosif June 5, 2024
- #2 Gaëlle Chaillet, Administrator, European Parliament Secretariat of the Committee on Economic and Monetary Affairs June 6, 2024