

State Financialisation and Economic Growth

Sjoerd Welmers

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Abstract

This thesis aims to identify the effect of state-financialisation on economic growth in the member states of the European Union (EU). In doing, so this thesis tackles one of the most empirically contested areas of research in contemporary international and comparative political economy - the process of state financialisation (Amable et al., 2019). To develop an analytically clear and concise framework, the concept of financialisation of the state and its effect on economic growth includes two dimensions: (i) the reliance on the market as a governance mechanism, and (ii) the adoption of a sense-making framework grounded in financial economics and the shareholder value model. This definition is well equipped to analyse the relationship between states and markets, because it allows to make a distinction between financial accumulation and financial logics used by governments (Schwan et al., 2021). To analyse the relationship between economic growth and state financialisation on 26 EU countries between 1995 and 2021 this thesis identifies four indicators of state financialisation which affect economic growth (marketable debt, the share of public dept, funded pensions, use of swaps, financial assets, FDI); and three control variables (the inflation rate, the degree of trade openness and the education level of the population). The results show a the relation is ambiguous and more research is necessary.

1 Introduction

A key policy concern for states is to sustain long-term economic growth. To promote sustainable growth “public resources should be spent in an efficient and equitable way and tax revenues should be collected in a way that minimises the cost of distortions to the functioning of labour, product and financial markets” (Johansson, 2016). With the integration of financial markets since the 1980s many states have increasingly relied on financial logics and markets to achieve their policy goals. For instance, cross-border state-led investment has been rising. States are evermore involved in massive transnational investment deals, increasing the interdependency of sovereigns and private creditors, and inducing states to act as international investors themselves (Babic et al., 2020). States have used financial instruments such as interest rate swaps to promote growth, but also for window-dressing purposes to conceal the height of their official debt levels (Lagna, 2016; Piga, 2001). And states have adopted new forms of debt and asset management, in which they often transfer their power to specialised, independent institutions (Fastenrath et al., 2017). Thus, the ways in which states manage public debt and assets have changed fundamentally. This raises the question whether this change - i.e. state-financialisation - is beneficial for economic growth.

Although the literature on financial development, global financial markets and financial deregulation has demonstrated that governments play a crucial role in enhancing financialisation in the private sector, much less has been said about the financialisation of states themselves. A large body of literature has examined the relationship using various econometric techniques and methodologies, among which cross-country, time series, panel data, and firm-level studies (Beck et al., 2005; Chortareas et al., 2015; King & Levine, 1993a, 1993b; Levine, 1997; Levine et al., 2003; Levine, 2005; Valickova et al., 2015). These studies have demonstrated a predominately positive association between various indicators of financial development and long-term economic growth. By and large, these papers suggest that financial development has a linear relationship with economic growth, and thus is consistent with the “more finance, more growth” narrative. However, recently the relation between finance and economic growth has been reconsidered, putting forward the proposition that the level of financial development is good only up to a certain point, after which it becomes a drag on growth (Alexiou et al., 2018; Arcand et al., 2015; Cecchetti & Kharroubi, 2012; Ferreiro & Gómez, 2016; Huang & Lin, 2009; Law & Singh, 2014; Moosa, 2018; Sawyer, 2016; Sen, 2020; Tori & Onaran, 2020). Most prominently, the Bank for International Settlement (BIS) and In-

ternational Monetary Fund (IMF) “have implied that the relationship between finance and growth is a non-linear one or, more specifically an inverted U-shape, where there is a turning point in the effect of financial development” (Law & Singh, 2014). However, the influence of state-financialisation on economic growth has remained a largely underdeveloped field. Closing this gap essential to pave way for further research on the relationship between states and financial markets.

So how do states fit into the finance growth nexus? The literature regarding states and economic growth mainly revolves around the historical debate whether states - on the whole - are able to stimulate economic growth. The view generally held by Keynesians is that government investment to ‘prime the pump’ and they consider that fiscal policy to regulate demand can be highly beneficial. While others argue that government involvement is inherently bureaucratic and inefficient and therefore has a definite negative relationship with economic growth. In this respect, Susan Strange notes that “the vision of both Keynesian economist and monetarist economist appears to so myopic that both theories stop short of the frontiers of the state” (Strange, 2015). In order to move beyond the limitations of the state versus market paradigm this thesis assumes that the factors that drive economic growth for private sector financialisation are also associated with financialisation of the state (Karowowski, 2019). In doing, so this thesis tackles one of the most empirically contested areas of research in contemporary international and comparative political economy - the process of state financialisation (Amable et al., 2019).

The research question, therefore, is: *what is the effect of state-financialisation on the economic growth in the member states of the EU?*

This thesis aims to identify the effect of state-financialisation on economic growth in the member states of the European Union (EU).¹ The EU member states offer an interesting area of study, mainly because of the variegated nature of financialisation in the area (Schelkle & Bohle, 2021). Many EU countries have witnessed an impressive growth of the financial system, whilst the economic trajectory has diverged significantly - especially among the emerging economies in Eastern Europe (Karowowski, 2022).

¹Austria, Belgium, Bulgaria, Republic of Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden. The United Kingdom and Norway have been omitted due to data unavailability. For instance, Eurostat is no longer “disseminating new data for the UK, neither through its database nor in other dissemination products” (see Eurostat)

To develop an analytically clear and concise framework, the concept of financialisation of the state and its effect on economic growth includes two dimensions: (i) the reliance on the market as a governance mechanism, and (ii) the adoption of a sense-making framework grounded in financial economics and the shareholder value model (Schwan et al., 2021). This definition is well equipped to analyse the relationship between states and growth, because it allows to make a distinction between financial accumulation and financial logics used by the respective governments. To analyse the relationship between economic growth and state financialisation on 26 EU member states between 1995 and 2021 this thesis identifies six variables of state financialisation which affect economic growth (marketable debt, the share of public debt, funded pensions, use of swaps, financial assets, FDI); and 3 control variables (the inflation rate, the degree of trade openness and the education level of the population). The study uses a dynamic regression model, least-squared dummy variables bias-correct (LSDVC) for panel data in order to produce our results. This model is particularly useful, as it addresses the problem of endogeneity and simultaneous, and it accounts as well for the potential reverse causation between state-financialisation and economic growth (Bun & Carree, 2005).

The remainder of this paper proceeds as follows, the next section presents an intensive discussion on the relevant literature. It is also here where I will defend the concept and variables.

2 Literature review

This section broadly illustrates the thematic area of this study, and conceptualises how the recent phenomenon of financialisation of the state effects economic growth. Two strands of literature, namely the one focussing on the financialisation and economic growth, as well as the one related to states and markets, are combined in order to advocate the claim that state-financialisation indeed effects growth.

It is widely acknowledged that financial markets have suffered massive reforms in the last couple decades. The shift towards market-based finance and securitisation has become theorised under the concept of ‘financialisation’. The popularity of the concept financialisation has surged in the past decade, even becoming the ‘go-to term’ in the emerging and interdisciplinary scholarship that is focussing on the expanding role of finance in contemporary politics, economy and society (Hübner, 2016). The most widely used definition of financialisation is provided by Epstein (Epstein, 2005) who broadly defined the concept as: “the increasing role of financial motives, financial markets, financial actors and financial institutions in the operation of the domestic and international economies.” Although some have criticised the conceptualisation of Epstein for a lack of focus, the definition is useful to gain better understanding of the concept within a broader and interdisciplinary framework (Michell & Toporowski, 2013). Particularly, the concept can help to better understand the importance of the underlying political motives which shaped ‘the financialisation of the state’ and explain the strong commitment of the polity towards market-based forms of finance and securitisation. Some have argued, the marketisation and securitisation of states and public debt are perceived to be an integral part of financialisation (Callaghan, 2015; Godechot, 2016; Hübner, 2016).

Interestingly, little scholarly attention has been paid to process of state-financialisation and especially its relation the economic growth has been largely absent in the recent literature. More research is urgently needed and it as it is necessary to focus on the role of the state in advancing this phenomenon. In order to move beyond the limitations of the state versus market paradigm this thesis assumes that the factors that drive economic growth for private sector financialisation are also associated with financialisation of the state (Karowowski, 2019). The inclusion of private sector indicators into the analyses of state financialisation allows for a more rigorous understanding of its effect on economic growth, because it combines the perspective different scholarly fields. In the following, an intensive review of the relevant literature is provided. It, moreover, includes the defence for the specific hypotheses derived

from the substantiating literature.

2.1 Financialisation and Economic Growth

Deeper financial integration, the integration of global financial markets, financial innovation and the deregulation of the financial sector, were until recently perceived as synonymous with greater efficiency and stronger economic growth. However, in the aftermath of the Great Recession, which brought to fore some serious questions about the sustainability and stability of financial markets, many started to reevaluate influence of finance on economic activity. The Organisation of Economic Cooperation and Development (OECD) observed that many “indicators measuring financial size, for instance credit intermediation or stock market capitalisation, have risen enormously over the past half-century.” Similarly, the structure of financial activities, accompanied by a strong liberalisation and deregulation of the financial market, have been transformed profoundly. A sticking example is again provided by the OECD, as they note that due to “the big shift in the destination of private credit from business loans to mortgages in the private sector” has shifted risk in the market. Moreover, these far-reaching changes to the financial landscape have coincided with a period in which trend economic growth has slowed down in many countries. In a “period of only fifty years credit by banks and other institutions to households and businesses has grown three times as fast as economic activity” (Cournède & Denk, 2015).

The literature on finance and economic growth, therefore, has been split between those arguing finance is vital for economic growth and those instead seeing that too much finance is inherently detrimental to economic growth. The importance of finance has been advocated by those supporting the well-entrenched hypothesis of the finance growth nexus (Beck et al., 2005; Chortareas et al., 2015; King & Levine, 1993a, 1993b; Levine, 1997; Levine et al., 2003; Levine, 2005; Valickova et al., 2015). These studies have demonstrated a predominately positive association between various indicators of financial development and long-term economic growth. By and large, these papers suggest that financial development has a linear relationship with economic growth, and thus is consistent with the “more finance, more growth” narrative. However, new empirical studies have emerged, analysing a large sample of countries with various time periods, to assess the validity of the previously mentioned finance-growth hypothesis. Many of these scholars find a weakening in the relationship between finance and economic growth, and some even advocate for a negative relation all-together (Alexiou

et al., 2018; Arcand et al., 2015; Cecchetti & Kharroubi, 2012; Ferreiro & Gómez, 2016; Huang & Lin, 2009; Law & Singh, 2014; Moosa, 2018; Sawyer, 2016; Sen, 2020; Tori & Onaran, 2020).

Consequently, the financialisation literature has identified growth of the financial sector as deeply problematic. Davis (2017) has provided a structural overview to categorise the current financialisation literature and the effect of financialisation on growth and investments. He distinguishes between two different approaches within the financialisation scholarship: (i) approaches related firm financial investments and growth, and (ii) approaches related to the rise of the 'shareholder value orientation' as a key principle of corporate behaviour (Davis, 2017).

There is a debate in the literature about the relationship between financial development and economic growth. Some studies, such as Arcand et al. (2015), suggest that there is a "threshold effect" in which finance has a negative impact on output growth when credit to the private sector reaches a certain percentage of GDP. Their results suggest "that finance starts having a negative effect on output growth when credit to the private sector reaches 100 percent of GDP" (Arcand et al., 2015). Tori (2020) also found an inverted U-shaped relationship between financial development and investment in companies, with negative impacts on large firms and positive impacts on smaller firms (Tori & Onaran, 2020). However, Ferreiro and Gomez (2016) did not find evidence of a negative relationship between the size of the financial sector and economic growth (Ferreiro & Gómez, 2016).

Another branch of literature has focused on the emergence of shareholder orientation and practices among non-financial actors. This shift towards shareholder value ideology in corporate governance is believed to have emerged in the 1980s, along with neoliberal policies. Davis (2017) notes that "a wide-reaching set of institutional and regulatory changes over the post-1980 period – including growth in institutional investors, an expansion in stock-based executive pay, and regulatory changes encouraging stock buybacks – have supported this shift in corporate governance norms, encouraging attention to shareholder payouts and the "maximisation of shareholder value" (Davis, 2017; Sawyer, 2011). This shift has been linked to changes in corporate behaviour and strategy, with a focus on maximising shareholder profits rather than retaining and reinvesting (Lazonick, 2011). The literature has acknowledged that this shift towards shareholder value orientation, based on projections of short-term growth, has negative implications for long-term economic development. It can also negatively impact firm investment, as it encourages managers to focus on short-term profits and financial performance indicators rather than long-term growth (Davis,

2017). Additionally, the use of stock-based executive pay can directly affect managerial preferences by linking executive pay to the firm's stock performance (Davis, 2017).

Juxtaposing these findings, it is important to be clear about the definition of financialisation and how it is being measured in order to accurately assess its impact on economic growth. Different definitions and measures of financialisation can lead to conflicting conclusions about its effects on investments and growth. It is also possible that financialisation may have different impacts on different economies or at different points in time, so it is important to carefully consider the specific context in which financialisation is occurring. Besides, these studies are limited to the analyses of private sector developments.

These studies notwithstanding, changes towards a regime of accumulation based on financial motives, and the rise of shareholder value in the corporate governance are difficult to imagine without involvement of the state.

2.2 States and Economic Growth

Recently, state financialisation has become a more prevalent concept in the literature. Several studies in the field of international and comparative political economy have analysed the concept and suggest that state financialisation is driven by the incorporation of financial logics into the decision making and economic activities of states (Amable et al., 2019; Karowowski, 2019; Schwan et al., 2021). However, despite the commonalities there have been different perspectives among scholars ranging from cultural to material accounts. Building on the theoretical framework provided by Schwan et al. (2021) this thesis combines the different perspectives of state financialisation into a more universal analyses of the phenomenon.

From the cultural perspective it is argued that markets and states are created and shaped by practices and discourse. "According to this school of thought, therefore, processes of state financialisation reflect a rationality rooted in modern financial economic theory that has spread to the public sector and is performed by professionalized public officials ... Consequently, according to this interpretation, state financialisation is characterised by the normalisation and governmentality of financialised practices and discourses and has enormous consequences for the global order" (Schwan et al., 2021).

Contrary, material political economist often argue that state and markets are two different modes of governance that are irreconcilable. "This perspective argues that governance through the state implies hi-

erarchical control in the hands of bureaucratic agencies and elected officials, exercised through authoritative regulation – the enactment of laws – in order to produce collective goods. Governance through markets, in contrast, is based on dispersed competition as the central mechanism that coordinates the activities of market participants. Supply and demand in global financial markets decide the price of private goods, whereby states compete for investors and assets, not only against each other, but also with private companies” (Schwan et al., 2021)

In order to move beyond the limitations of the state versus market paradigm this thesis brings together both perspectives and combines them in our concept of state financialisation. Two dimensions of state financialisation are conceptualised, namely: first, the reliance on financial markets as a governance mechanism; and, secondly, the adaption of a sense-making framework grounded in financial economics and the shareholder value model (Schwan et al., 2021). Several mechanism can be identified in the literature to explain the relationship between state-financialisation and economic growth. The literature has identified at least four mechanisms through which governments are able to affect economic growth.

2.2.1 Government Size

A large body of literature has identified the size of the government as a mechanism for economic growth (Bergh & Henrekson, 2011; Johansson, 2016; Myles, 2009). In general, these studies show a negative link between government size and growth, because “ the evidence highlights that the size of the government matters for long-term growth as a too large government may undermine growth through the cost of financing public spending” (Johansson, 2016).

Economic theory suggests several mechanisms by which governments are able to affect economic growth. Various studies have researched the role of government on spending and taxation and identified it is a main driver of economic growth (Barro & Sala-i-Martin, 1992; Johansson, 2016; Myles, 2009). Historically, neo-classical growth models have identified little effect of government spending on growth in the long-run. In these neo-classical models, government spending and taxation affect the level of growth mainly through the rate of savings in the economy. As such the output and the growth rate are mainly affected in the short-term, because governments deficit spending can ‘crowd out’ resources for the private sector to the public sector. In doing so, the government competes for capital with private firms and investors thus driving up the price of capital or the interest rate - crowding out private investments

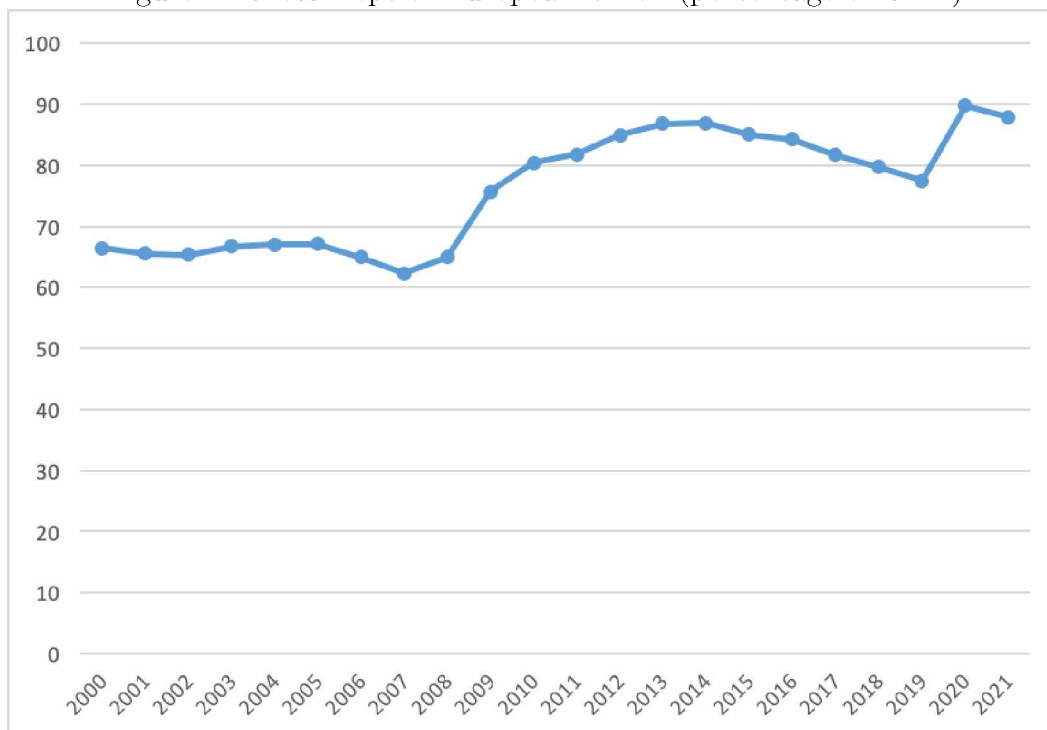
(Gruber, 2005; Solow, 1956).

It should be noted, however, that government policy changes related to its investment and spending have growth effects that may take longer to materialise. Government spending can have an effect on the real economy only several years after the initial investment as the economy needs to adjust to its new 'steady state' (Alexiou et al., 2018). In this respect, endogenous growth theory has provided better insights into the relationship between governments and economics growth. Essentially, endogenous growth models assume that growth is a consequence of rational economic decisions. Governments, thus, aim to rationally increase growth by providing public investments and taxation as these variables impact the decision made by firms and consumers in the real economy.

The foundation of this analyses on the relationship between states and economic growth is solidified by Barro. Barro (1990) incorporated the public sector into an endogenous, constant-returns model of economic growth. His model showed that "because of familiar externalities associated with public expenditures and taxes, the privately determined values of saving and economic growth may be suboptimal. Hence there are interesting choices about government policies, as well as empirical predictions about the relations among the size of government, the saving rate, and the rate of economic growth" (Barro, 1990). His analyses shows that productive government spending resembles a greater correlation with economic growth in endogenous growth models than with other. Nevertheless, he still found that the ratio of real government consumption expenditure to real GDP had a negative association with growth and public investment. However, his analytical model lacks an inclusion of effective demand in its production function. Moreover, his study did not control for other variables that could affect growth besides the size of the government, that is the relative amount of productive government spending.

In this respect, the size of government debt plays an important role in the growth rate. The impact of the size of the government on economic growth is exemplified in the financialisation literature by the size of sovereign debt. Government spending is closely related to tax revenue and sovereign debt. Tax revenue and sovereign debt issuance are the main source of public income and thus make up a significant part of the government budget. Since the 1980s sovereign debt levels have risen significantly, mainly because of declining tax rates. As government lowered their tax rates, their tax revenue went down accordingly. In order to maintain a sufficient level of spending, governments increased the issuance of sovereign debt (GRAPH). This development is described by

Figure 1: Gross Debt of European Union (percentage of GDP)



Source: Authors' own calculations based on Eurostat Government Statistics

Streek (2014) as a shift from the tax state, towards the debt state. In his analyses he described tax states as states which mainly finance their expenditure by raising taxes, whereas debt states predominantly rely on debt issuance to finance the rising demands of the public (Streeck, 2014). The logics behind this policy shift is explained by Krippner (2011) who argued that states were eager to promote the growth of financial markets and become financial actors themselves, because they saw an opportunity to address both the rising social needs of the public, and simultaneously support private profitability through market mechanisms (Krippner, 2011). Hence, rising sovereign debt levels are identified in the literature as a adaption of market-based governance and thus an important symptom of state-financialisation.

H1: the higher the average level of public debt of a country, the higher the degree of state financialisation of that country and the lower the economic growth

Parui (2021) shows, from a post-Keynesian perspective, that “when the balanced budget assumption is dropped, an increase in government debt-capital ratio leads to a decrease in the equilibrium degree of ca-

capacity utilisation and the equilibrium growth rate” (Parui, 2021). This is in line with the influential contribution of Hardie who analysed the effect of the financialisation on the government borrowing capacity. He demonstrates that “the increased financialisation of a government bond market, and of the financial market actors active within that market, reduces government borrowing capacity. Reduced ability to trade risk, *ceteris paribus*, will result in lower costs of borrowing and a reduced probability of a debt crisis that forces fiscal retrenchment (Hardie, 2012). In other words, the more a governments are able to invest in financial markets, the lower the borrowing capacity of governments will be in the long run - consequently negatively affecting long term economic growth.

The size of sovereign debt notwithstanding, Fastenrath (2017) argues that qualitative changes in the management and issuance of government debt are of greater importance in analysing sovereign debt. Paired with the increased use of financial instruments in the structural composition of public debt, the changes in debt management have transformed public debt into actively traded financial assets (Fastenrath et al., 2017). “As needs for debt financing became more pressing, some governments encouraged a wide range of financial institutions to purchase their bonds so as to reduce yield and therefore the cost of debt financing, while nurturing secondary markets for government bonds. States, thus, gave up their passive book-keeping role in sovereign debt management, instead of becoming market players and creators, while increasingly resembling private-sector investors” (Karowowski, 2019).

A symptom of the transformation in sovereign debt management is the sharp increase of marketable debt. Marketable debt measures the degree in which governments’ sovereign debt managers are able “to maintain the marketability of the government’s debt instruments [which ...] thereby ensures continued and broader access to financial markets” (on Financial Markets & of Experts on Government Debt Management, 1982). According to the OECD, “ since 2019 the outstanding level of marketable debt for OECD governments increased by more than USD 10 trillion to USD 50 trillion in 2021, and is projected to reach USD 53 trillion in 2022. As a percentage of GDP, central government marketable debt for the OECD area rose by more than 16 percentage points to 90 percent in 2020” (OECD, 2022). The increase in the volume of marketable debt also suggest that secondary markets, are increasingly significant for the trade of government bonds. Consequently, the share of marketable debt can be used as a proxy for the level of which governments rely on bonds that are traded on secondary markets (Fastenrath et al., 2017). This thesis operationalises this shift in SDM in as the percentage of marketable debt as a measure for this for this development.

H2: the higher the level of marketable debt of a country, the higher the degree of state financialisation of that country and lower the economic growth.

2.2.2 Spending Composition and Government Efficiency

The composition and efficiency of government spending is another mechanism through which states can effect growth. Public finance theory has provided guidance on the optimal allocation of government spending. Although no clear conclusion on the optimal allocation has been reached, public finance theory suggest that “public expenditure and the production of public goods are often justified on the basis of the existence of market failures, inefficiencies and redistributive concern” (Johansson, 2016). In alleviating some of the inefficiencies of markets, public expenditure can be instrumental for promoting economic growth. For instance, public investment and social provision can create more funding opportunities for liquidity-constrained households to invest in human capital. Which, in turn, can raise labour and capital productivity. Moreover, “the effect on growth depends on the effectiveness of government interventions in addressing market failures and achieving the desired outcomes” (Johansson, 2016).

In the public finance literature this has been researched through the analyses of the composition of public spending and the capacity of states. The literature argues that these aspects can have significant effects on growth in the long-run (Cournède et al., 2014; Johansson, 2016). State capacity describes “the ability of a state to collect taxes, enforce law and order, and provide public goods” (N. D. Johnson & Koyama, 2017). The capacity of states is important as the efficiency and effectiveness of government spending depends largely on the capacity of states in addressing market failures and achieving the desired outcomes of public policy.

Often papers investigating the structure of government spending rely on a classification of government spending into productive and non-productive categories. As governments are able to manipulate the production function by changing public investment they can effect growth. For instance, Barro (1990) has included public services in the production function. He considered “the role of public services as an input to private production. He understood that this productive role created a potentially positive linkage between government and growth” (Barro, 1990).

By and large, studies on government capacity have focussed on the impact of the most important, and biggest budgetary expenses of gov-

ernments: public investment and social provision. Public investment is considered as a key driver of economic growth (Baum et al., 2020; Fournier, 2016). For instance, investments in infrastructure, education and innovative activities have been shown to increase the total share of human and physical capital in countries. The increase in capital means firms can invest more, thus, increasing the economy's long-run productivity growth (Romp & De Haan, 2007). Regarding the provision of social goods (such as education, healthcare and pensions) the literature - again - has found a positive relationship. Social provision can effect economic growth through various channels. For instance, economic theory has suggested it can "raise the human capital of the labour force, which increases labour productivity and growth" (Johansson, 2016; Mankiw et al., 1992).

However, a key issue is identified in the financialisation literature. The literature on the financialisation of the state has shown the composition of government spending and assets has become increasingly financialised. In an analyses of the financial balance sheets of European governments, Feirrerro and Gómez (2016) note that "the financial balance sheets of the whole economy, the data show an intense growth of the average size of financial balance sheets in euro countries, regardless of whether we measure it by the size of financial assets or by the size of financial liabilities". They go on by saying "the financial balance sheets of the Eurozone general governments, the size of financial assets remained steady until the onset of the Great Recession, at around 35 percent of GDP, skyrocketing since 2009 due to the impact on public finances of the bank rescues. With regard to the financial liabilities they followed a declining tendency until 2007, rising since 2008 because of the larger fiscal deficits. The result of both processes was that the net financial liabilities of general governments, which had fallen until 2007, increased rapidly since 2008, peaking at almost 50 percent of GDP in 2014." Although they conclude the results do not directly show an impact on the general economic activity, they do suggest the growth of financial assets and liabilities on the balance sheets could have negative side effects(Ferreiro & Gómez, 2016).

In the same vein Tori and Onaran (2020) capture a growing share of financial asset held by non-financial corporations. They demonstrate that "at the aggregate level, the increasing reliance on external financing, shareholder value orientation and the substitution of fixed investment by financial activity, has had a fundamentally negative impact on investment of the non-financial firms in the last few decades" (Tori & Onaran, 2020). The shift in the asset portfolios from non-financial to financial assets can clearly be interpreted as an adoption financial logics

among public institutions. Besides, it suggests that governments have engaged in financial accumulation, becoming active market participants themselves. In doing so states, increasingly behave like private firms as they practise market-based forms of governance, including the advance of values related to profit-seeking and share-holder orientation among non-financial and state institutions.

H3: the higher the level of financial assets of governments, the higher the degree of state financialisation of that country and the lower the economic growth

Furthermore, and in regards to the provisions of social goods, the topic of how pension reforms affect growth and investments has been the subject of much debate and research. Over the past few decades, there have been significant changes to national pension systems in many countries. These changes have included the transition from pay-as-you-go pension schemes to funded schemes and the emergence of private pension schemes. These changes have led to a trend towards individualised pensions, where the benefit of pension payments is based on contributions rather than a fixed benefit each year after retirement (Bank, 1994).

The financialisation of pension funds, as exemplified by the shift towards funded defined contribution schemes managed by private financial institutions, has been identified as a prime example of financialisation (Hassel et al., 2019) . This is due to the significant impact it has on the financial services sector’s share of GDP and employment growth, the increasing reliance of pensioners on the performance of financial markets, and the growing role of pension funds as providers of capital. Additionally, research has shown that pension funds may not directly promote long-term investment in the real economy, but rather act as a catalyst for financialisation by providing demand for financial innovations. This suggests that the financialisation of pensions is closely connected to the broader phenomenon of financialisation Bonizzi and Churchill, 2017.

H4: the higher the level of funded pensions’ assets, the higher the degree of state financialisation of that country and the lower the economic growth

2.2.3 Tax System

The main objective of tax systems is the financing of public spending. Myles (2009) notes that “the link between taxation and growth seems self-evident. Corporate taxation affects the return to innovation and hence must affect the optimal amount of research and development. Personal income taxation reduces the returns to education so must re-

duce the accumulation of human capital. In simulations of economic growth models the effect of taxation on growth has frequently been demonstrated to be considerable. A clear presumption exists that data on economic activity must reveal a strong correlation between taxation and growth” (Myles, 2009).

However, the literature is mostly ambiguous about the impact of the tax structure on growth, as the real effects are difficult to measure. Often research classifies different forms of taxation in general categories which depend on their *a priori* theoretical distortionary effect on growth (Johansson, 2016). Nevertheless, recent empirical studies have shown that some tax structures are more beneficial for promoting growth, whereas others are more deemed more harmful. Prominently, the OECD has provided a ‘tax and growth ranking’, analysing the effect of taxes on the gross domestic product (GDP) per capita (Arnold et al., 2011). In their ranking they suggest that (i) corporate income taxes are most harmful for growth, followed by (ii) personal income taxes, (iii) consumption taxes, and (iv) recurrent taxes on immovable property. As some taxes are less harmful than others, it is implicit that governments can effect economic growth by restructuring their tax systems from ones based on income taxes to ones that have smaller distortionary effects such as property taxes.²

Moreover, in analysing the effects of taxation, standard Keynesian models show that fiscal stimulus packages increase total demand and output. Keynesian theoretical models show that government spending increases economic growth by providing the private sector with extra income, thus increasing the demand. Consequently, the increase in private stimulates the economy again. Applying an analyses on effective demand, a convincing argument for the relationship between states and economic growth is provided by Jong-Il and Dutt (1996). In their paper they address the research question whether government worsens income distribution, they find that fiscal expansion has “a significant effect on the government debt-capital ratio, economic growth, and income distribution” (Jong-Il & Dutt, 1996). In their analysis, the authors posit that fiscal expansion has a positive impact on the growth rate of the economy in the short-term due to its correlation with aggregate demand and capacity utilisation. However, the long-term effects of fiscal policy are not as straightforward. They find that the data is ambiguous regarding the effect of fiscal expansion on the debt-capital ratio, as it can either increase or decrease the ratio. They note that when fiscal ex-

²It should be noted, however, that income taxes have other qualities that governments might aspire to make use off. Income taxes are more progressive than other forms of taxation, and, therefore, are a useful mechanism to reduce inequality.

pansion leads to an increase in the debt-capital ratio, it unambiguously enhances the growth rate. However, if it causes the debt-capital ratio to fall, the effect on the growth rate is less clear and depends on the strength of the change in the debt-capital ratio relative to the change in the ratio of government expenditure to capital. (Parui, 2021).

Additionally, Corsetti et al. (2012) show the effect of fiscal multipliers depend on a large number of factors which vary both across countries and time. They also find that the effect of output and consumption multipliers is especially high during times of financial crisis (Corsetti et al., 2012).

In contrast, the literature on financialisation of the state has suggested that also tax systems have become more financialised. A extreme manifestation is the use of tax incremental finance (TIF). TIF is extensively used and widely recognised in the United State of America as an important tool for economic development (C. L. Johnson & Kriz, 2019). “TIF effectively securitises future property tax revenue for a specific geographical area, that is the TIF district, providing safe collateral for creditors while offering a more favourable impact on cities’ credit ratings than direct borrowing. The securitisation of tax revenue (rather than public debt) gives the financialisation of public revenue a new qualitative dimension in the USA as property taxes are the main source of taxation in many municipalities” (Karowowski, 2019). In order to raise fund local governments can use TIF to finance their spending. However, Karowowski suggests that the primary reason for the creation of TIFs is to curtailing local budgets (Karowowski, 2019). Although its celebrated use in the United States, many European countries have yet to implement such new tax structures. Do to unambiguity and data availability for European countries, a variable related to the use of TIF has been omitted.

2.2.4 Institutional Framework

The institutional framework plays an important role in the creation of sound and sustainable public finances. The environment within which state and other public actors operate can influence the quality of public finance and effect economic growth in several ways. The institutional environment is shaped by both culture (values, believes, and trust) and formal institutions (such as rules, law, and legal systems) (Alesina & Giuliano, 2015). In this sense the formal institutions formulate the rules of the game and the cultural traits identify the way the game is played. This is not to say that these concept are easily measured separately, because once we agree that culture and formal institutions interact, and

are mutually dependent, it becomes difficult to disentangle the concepts. In this sense, identifying differences between them becomes more a matter of semantics than anything else. These difficulties notwithstanding, these formal and informal institutions shape the framework in which public actors operate and as such they define public policy outcomes.

Economic theory has highlighted various ways in which the institutional framework can effect economic growth. General consensus is that a well-designed regulatory and judiciary landscape, with clear and well-defined rules and regulations, can facilitate long term economic growth. Particularly, it has been argued that the formation of a sound institutional framework forms the incentives and decision-making amongst key economic actors, and consequently, these incentives shape the direction and level of investments in the economy (physical and human capital and technology, as well as the organisation of production) (Acemoglu et al., 2005). Besides, the institutional environment is a key factor in determining the level of trust in the government. For instance, transparency and accountability in the decision-making process can increase the level of trust of the public has in the government (Johansson, 2016).

The financialisation literature suggests that there has been a shift in the institutional framework. This shift has been identified among public and state actors and is described as the adoption of a sense-making framework grounded in financial economics and the shareholder value model.

Starting from the 1960s, sovereign debt management served broader macroeconomic goals and was used as a tool for stabilising the economy. Central bankers and other civil servants inside treasuries or ministries of finance bore responsibility for the management of the sovereign debt, and they followed standard Keynesian theory in reaching their goals. This meant that debt management was viewed as an extension of monetary policy, and was predominantly aimed at stabilising aggregate demand (Pecchi & Piga, 1995). Furthermore, these “debt managers acted rather passively, since SDM was restricted to ‘keeping books and records on borrowing transactions and the repayment of debt’” (Fastenrath et al., 2017). In contrast, Fastenrath (2017) suggests, that nowadays, financialised SDM is no longer concerned with monetary policy and has adapted a sense-making framework grounded in financial economics and the shareholder value model. He goes on by saying:

“This perspective implies that debt managers are focusing on optimisation calculations based on cost–risk trade-offs. Standard portfolio theory provides instructions for the best possible combination of investment alternatives in order to optimise the investor’s portfolio. An optimal portfolio

minimises risks while maintaining or increasing the expected return. This main tenet of portfolio theory has been adopted by state executives – only in reverse. They now aim at minimising debt service costs resulting from a portfolio of liabilities, just as a private ‘asset manager would seek to add return to his portfolio’. Hence, a greater significance and consideration of risks in the daily debt management operations has accompanied the shift in frameworks” (Fastenrath et al., 2017).

In many countries, the operational responsibility SDM is held by special debt management offices (DMOs). These DMOs are staffed by well-paid professional portfolio managers, often recruited from private investment banks, who have expertise in risk and portfolio management, including the use of mathematical models such as Monte Carlo simulations. The establishment of these DMOs and the hiring of staff with private sector experience has contributed to the creation of a specific culture within the organisation, with a strong focus on risk management. To manage the risk inherent in their debt portfolios, DMOs use portfolio theory to diversify risks by issuing a range of securities and employing financial risk management techniques, including the use of derivatives. The shift towards financial economics in SDM is reflected in the use of derivatives, the adoption of accruals accounting, and the establishment of professional DMOs (see table 1 for the timing of important state-financial reforms and their respective year of establishment).

In practise, this shift has been institutionalised by the the use of swaps. The application of modern portfolio theory to the debt management of states, has resulted in the diversification of risk through the use of various types of securities. Most notably, interest rate and currency swaps are the most important instruments used to realise the portfolio strategies (Fastenrath et al., 2017; Schwan et al., 2021). Much alike financial derivatives, a swap is an agreement between two parties to exchange their financial instruments. In this case, governments bonds are often used by governments to ‘swap’ interest rates with a counterparty for a certain period of time. This can be beneficial as debt managers expect the interest rate to rise, and gain from future yield developments. Besides, they can benefit from arbitrage because it is possible to exploit small differences in markets prices between assets in two or more markets. Consequently, states are able to minimise to cost of borrowing and optimise their revenue in their debt portfolio (Schwan et al., 2021). The behaviour of states and their debt managers to exploit market mechanisms in order to gain as much revenue as possible is equal to private financial market participants. In this respect, states become

Table 1: Timing of important state-financial reforms (year of establishment)

	Index-linked Bonds	Auctions	Primary Dealers	Swaps	Accounting	DMO
Australia	1985	1982	Not est.	1988	1999	1999
Austria	2003	1989	1989	1981	2009	1993
Belgium	Not est.	1989	1991	1989	1991	1998
Canada	1991	1983	1998	1984	2001	Not est.
Denmark	2012	2009	2003	1983	2007	1991
Finland	1945	1989	1992	1987	1992	1999
France	1998	1986	1987	2001	1998	2001
Germany	2006	1967	Not est.	1998	Not est.	2000
Greece	1997	2007	1998	1996	Not est.	1998
Iceland	1955	1984	2000	1994	1998	1990
Ireland	Not est.	1989	1995	1988	Not est.	1990/67
Italy	1983	1988	1994	1995	Not est.	1998
Japan	2003	1978	Not est.	2006	Not est.	Not est.
Luxembourg	Not est.	Not est.	Not est.	Not est.	Not est.	Not est.
Netherlands	Not est.	1967	1999	2001	1994	1841
New Zealand	1977	1983	Not est.	1988	1989	1988
Norway	1982	1991	1995	1999	Not est.	Not est.
Portugal	Not est.	1988	1998	1997	1997	1996
Spain	1986	1986	1988	1999	1986	Not est.
Sweden	1994	1984	1989	1986	1993	1789
Switzerland	Not est.	1980	Not est.	1989	2007	1979
United Kingdom	1975	1979	1986	Not est.	1999	1998
United States	1997	1970	1960	Not est.	1990	1940

Source: Fastenrath (2017)

active market players themselves, and their motives are consistent with the shareholder orientation literature on the private sector. To operationalise the shift to financial economics the shareholder value model in the sense-making framework of government officials, this thesis uses 'the use of swaps' as another variable.

H5: the higher the use of swaps by governments in an economy, the higher the degree of state financialisation and the lower the economic growth of that country .

A concomitant shift has been identified in the sense-making dimension of the asset management of states. This is best interpreted by the rise of the 'shareholding state', where the state increasingly acts as institutional investor by continuously seeking to optimise its public assets portfolio through the procurement of corporate shares (Wang, 2015). Recently, research on SOEs suggest that governments are gradually more involved in markets for corporate control. It has been documented that SOEs are increasingly taking over other private firms (Del Bo et al., 2017), and that state-owned banks are acting as more and more like their private counterparts (Bacchiocchi et al., 2019). These developments indicate a fundamental change in the way states deal with their assets. For example, a wave of privatisation since the 1980s has changes the ownership structure of many SOEs. As states previously were the sole owners of their enterprises, now they have been relegated to majority, minority, and even indirect shareholders (Schwan et al., 2021).

Table 2 provides a schematic overview of the adoption of important financial reforms, it moreover provides a ranking based on time of adaptation. It gives a clear insight in the financial development of government and the related ranking of state financialisation.

In this respect, foreign capital in the economy may capture this factor contributing to state financialisation. This foreign capital can take various forms, such as international shareholders, the establishment of transnational corporation production sites or headquarters, or a high level of foreign bank ownership. The internationalisation of domestic banking systems since the mid-1990s may have increased the demand for government bonds as safe assets. Alternatively, states may become shareholders themselves in order to counter foreign control of certain industries or to participate in successful international businesses. To capture financial accumulation and the reliance on financial markets as a governance mechanism this thesis identifies Foreign Direct Investments (FDI) as a variable. This variable is closely related to the literature on the financialisation of the firm as it identifies the reliance of financial markets as a governance mechanism. In this respect, indicators used to

Table 2: Institutional settings of SDM. Timing of changes and final ranking.

Country	Industrial Debt ($t=1989$, $\sigma=1$)	Leasing ($t=1983$, $\sigma=10$)	Private Equity ($t=1978$, $\sigma=5$)	Bank ($t=1984$, $\sigma=5$)	Accounting Accounting ($t=1986$, $\sigma=1$)	DMC ($t=1986$, $\sigma=1$)	Marketable Debt, 75 percent ($t=1986$, $\sigma=1$)	Total
USA	1 000	1 000	1 000	0 (0,0)	1 000	1 000	1 000	31
SWI	1 000	1 000	1 000	1 100	1 000	1 100	1 000	31
FIN	1 000	1 000	1 000	1 100	1 000	1 000	1 000	30
NLD	1 000	1 000	0 (0,0)	1 000	1 000	1 000	1 000	30
IND	1 000	1 000	1 000	1 100	1 000	1 000	1 000	30
ISL	1 000	1 000	1 000	1 100	1 000	1 000	1 000	30
AUT	1 000	1 000	1 000	1 100	1 000	1 000	1 000	29
UK	1 000	1 000	1 000	0 (0,0)	1 000	1 000	1 000	29
AUS	1 000	1 000	0 (0,0)	1 000	1 000	1 000	1 000	29
ESP	1 000	1 000	1 000	1 100	1 000	0 (0,0)	1 000	29
DEU	1 000	1 000	1 000	1 100	1 000	1 000	1 000	29
CHN	1 000	1 000	1 000	1 100	1 000	0 (0,0)	1 000	29
BEL	0 (0,0)	1 000	1 000	1 100	1 000	1 000	1 000	29
FRA	1 000	1 000	1 000	1 100	1 000	1 000	1 000	29
IRL	0 (0,0)	1 000	1 000	1 100	0 (0,0)	1 000	1 000	29
GBR	0 (0,0)	1 000	0 (0,0)	1 100	1 000	1 000	1 000	29
ITA	1 000	1 000	1 000	1 100	0 (0,0)	1 000	1 000	29
POR	0 (0,0)	1 000	1 000	1 100	1 000	1 000	1 000	29
KOR	1 000	1 000	1 000	1 100	0 (0,0)	0 (0,0)	1 000	29
GER	1 000	1 000	0 (0,0)	1 100	0 (0,0)	1 000	1 000	29
GRC	1 000	1 000	1 000	1 100	0 (0,0)	1 000	1 000	29
JAP	1 000	1 000	0 (0,0)	1 100	0 (0,0)	0 (0,0)	1 000	29
LUX	0 (0,0)	0 (0,0)	0 (0,0)	0 (0,0)	0 (0,0)	0 (0,0)	1 000	29

Source: Fastenrath (2017); The values are calculated by the average means of the year of introduction for each indicator (t) as well as the respective standard deviations (σ). We then formed six country groups of innovators ($t \leq t - 2\sigma$), early adopters ($t - 2\sigma < t \leq t - \sigma$), early majority ($t - \sigma < t \leq t + \sigma$), late majority ($t + \sigma < t \leq t + 2\sigma$), laggards ($t > t + 2\sigma$) and outsiders (no introduction) to which we assigned all countries based on their timing values t . While innovators received 5 points, early adopters were awarded 4, early majority 3, late majority 2, laggards 1 and outsiders 0 points. Finally, countries were ranked according their overall sum.

measure private sector financialisation are included to analyse the effect of state financialisation on economic growth (Schwan et al., 2021).

H6: the higher the level of foreign capital in an economy, the higher the degree of state financialization of that country and the lower the economic growth.

Generally, empirical studies analysing public policy suffer from problems related to the methodology they use. Especially endogeneity and reverse causality are problem which often arise. This makes it difficult to draw clear and reliable conclusions. Moreover, academics studying the effect of public policies and their macroeconomic effect are limited by the available data, which makes it difficult to analyse the real effects of public policies (Johansson, 2016). Moreover, various studies “suggest that it is difficult to fully comprehend state financialisation using quantitative measures alone, as major changes to fiscal and monetary policy have been qualitative in nature. For instance, it is not merely the size of public debt that indicates the presence (or absence) of financialisation, but rather how debt instruments are designed, issued and managed” (Karowowski, 2019).

2.3 Financialisation of the State and Economic Growth

In conclusion, there is a significant body of literature examining the relationship between financial development and economic growth, which has generally found a positive association between the two. However, recent research has suggested that the relationship may be non-linear, with financial development having a positive effect on economic growth up to a certain point, after which it may become a drag on growth. While the impact of financialisation on private sector firms has been well studied, the effect of state-financialisation on economic growth has been under-explored. To contribute to the burgeoning literature, this paper seeks to answer the following research question: What is the effect state-financialisation on economic growth?. Additionally, in order to move beyond the limitations of the state versus market paradigm this thesis assumes that the factors that drive economic growth for private sector financialisation are also associated with financialisation of the state (Karowowski, 2019).

3 Methodology

Methodologically, to assess the relationship between states and economic growth, this thesis draws upon a linear growth model based on Bela Balassa's (1993) and King and Levine's (1993) growth functions with the inclusion of the measurement of state financialisation (Balassa, 1993; King & Levine, 1993a). To measure the growth rate, the real per capita gross domestic product instead of the real gross domestic product is used. The real per capita gross domestic product is applied, because it considers not only the prospects of investors, but it also includes a measurement of the people's prosperity (Alexiou et al., 2018). Besides, the real per capita gross domestic product is a measurement which is often used in the analysis of relationship between finance and economic growth. Many empirical studies applied the measurement as a strategy to shed more light on the finance-growth nexus (Alexiou et al., 2018).

In the previous section, this thesis defined the financialisation of the state among two dimensions: (1) the reliance on the market as a governance mechanism, and (2) the adoption of a sense-making framework grounded in financial economics and the shareholder value model. This definition is well equipped to analyse the relationship between states and markets, because it allows to make a distinction between financial accumulation and financial logics used by governments (Schwan et al., 2021). Four indicators have been established to measure this development and effect on economic growth. These indicators are: (i) marketable debt exceeding a threshold of 75 percent; (ii) the share of financial revenue of state-owned enterprises; (iii) the use of swaps, and (iv) the shareholding structure of the state. These indicators have been used in previous studies as a measure for the financialisation of the state (Fastenrath et al., 2017; Schwan et al., 2021), and as a result, the findings can be compared against these empirical studies.

The measurement of state financialisation notwithstanding, it is unlikely that the four indicators representing the development are the only variables of influence on economic growth. The literature has indicated many other factors influence economic growth. For instance, the lagged value of the real per capita gross domestic product considers the 'steady state' effect of government spending. It takes into account that government spending can have an effect on the real economy only several years after the initial investment as the economy needs to adjust to its new 'steady state' - as is predicted by neoclassical growth models (Alexiou et al., 2018). As a result a positive effect is expected.

Inflation is a measure of the degree of economic uncertainty. Inflation is related to uncertainty because of price variability. When a

situation arises where future price are unpredictable, business and investors are less willing to engage in long-run investment. Therefore, inflation is expected to negatively affect economic growth (Alexiou et al., 2018; Barro et al., 2003).

Trade openness is another variable for economic growth, because the degree of trade openness is closely correlated to competition and technological progress. As such, it is expected to bear a positive coefficient (Awokuse, 2008; Yanikkaya, 2003).

Moreover, “economic theory has put forward several channels through which education may affect economic growth. First, education increases the human capital of the labour force, which increases labour productivity and growth. Second, education may increase the innovative capacity of the economy. Third, education may facilitate the diffusion of knowledge and the adoption of new technologies, which promotes economic growth” (Johansson, 2016). Table 1 depicts a summary of the variable descriptions, measurements and their sources.

Because it is reasonable to assume that there are unobserved factors which are constant over time, affect economic growth, and are correlated with the measure of financialisation, country-specific effects are included in the model. Moreover, since there might be macroeconomic shocks which affect economic growth in all countries at the same time which are correlated with the measure of financialisation, also time-specific effects are included in the estimation strategy. The following regression shows the estimation strategy in a linear growth analysis:

$$Y_{i,t} = \alpha + \beta_1 F s_{i,t} + \beta_2 X_{i,t} + \gamma_i + \delta_t + \epsilon_{i,t} \quad (1)$$

$$\epsilon_{i,t} = \gamma_i + \delta_t \quad (2)$$

The dependent variable $Y_{i,t}$ describes the growth rate of the real per capita gross domestic product, where i is the country and t is the time period (years). α denotes the constant in the equation. $F s_{i,t}$ describes the level of state financialisation for each country and year specifically. $X_{i,t}$ represents the set of control variables that are identified in both the theoretical and empirical literature to be robust determinants of economic growth. Finally, the error term $\epsilon_{i,t}$ of the function, consists of the γ_i and δ_t which are the country and time-specific effects respectively.

Our growth models are estimated using a bias correction to the least squares dummy variable estimator. The LSDV (Least Squares Dummy Variable) method is a statistical technique used to estimate the parameters of a linear regression model when there are dummy variables (also known as indicator variables) in the model. It is a generalisation

of the OLS (Ordinary Least Squares) method, which is used to estimate the parameters of a linear regression model when all the independent variables are continuous. It is important to note that the LSDV method assumes that the errors in the model are normally distributed and have constant variance. It also assumes that the independent variables are not correlated with the errors. Violation of these assumptions can lead to biased or unreliable parameter estimates.

The LSDVBC estimator, was developed by Stephen Nickell (1981), Jan F. Kiviet (1995), and Maurice Bun and Jan F. Kiviet (2003), and extended by Giovanni Bruno (2005) for unbalanced panels (Bruno, 2005; Bun & Kiviet, 2003; Kiviet, 1995; Nickell, 1981). This estimator is the only one that can accurately take into account the dynamic panel data model (due to the inclusion of the lagged growth rate as a control variable), unbalanced panel (due to missing values in the sample), small cross-sectional dimension (N) of the sample (referred to as a "macro panel"), and potential endogeneity (due to the potential reverse causation between finance and growth) in our study. The model gives a bias-corrected estimation that can be used to mitigate the bias caused by endogeneity in dynamic panel data models. The following steps outline the methodology for bias-corrected estimation in dynamic panel data models: (i) specify the model, and define the dependent variable and the independent variables, including any time-varying variables; (ii) test for endogeneity, use statistical tests, such as the Hausman test, to determine whether the independent variables are correlated with the errors in the model; (iii) estimate the model, if the test indicates that endogeneity is present, use a bias-corrected estimator, such as the Arellano-Bond estimator or the Blundell-Bond estimator, to estimate the parameters of the model. These estimators use instrumental variables, which are variables that are correlated with the independent variables but not with the errors, to correct for the bias caused by endogeneity; (iv) test the model, use statistical tests to determine whether the estimated parameters are significantly different from zero. This helps to determine whether the independent variables have a significant effect on the dependent variable; and finally (v) interpret the results, use the estimated parameters to interpret the relationship between the independent and dependent variables.

There are two main reasons for choosing the LSDVBC estimator to analyse our data. First, standard panel data estimators (such as pooled ordinary least squares, least-squares dummy variables, fixed effects, and random effects) can produce biased and/or inconsistent estimates due to a correlation between the lagged dependent variable and fixed effects in the error term (Nickell, 1981). In addition, standard panel data esti-

estimators for dynamic panel data models can produce severely biased and imprecise estimates in the case of macro panels with a moderate cross-sectional dimension (N), as shown by Bruno (Bruno, 2005). Second, according to Monte Carlo evidence, the LSDVBC estimator is superior to other estimators in terms of bias and efficiency in the case of macro panels and it performs well in cases where endogeneity may exist (Bruno, 2005).

It is important to note that bias-corrected estimation assumes that the errors in the model are normally distributed and have constant variance. It also assumes that the instrumental variables are valid, which means that they are correlated with the independent variables but not with the errors. Violation of these assumptions can lead to biased or unreliable parameter estimates.

4 Data

The estimations of the impact of state financialisation on economic growth are based on a panel data set from 1995 till 2021 for all countries of the European Union.³ The data is composed of a total of 26 cross-sectional units ($N = 26$) observed over time ($T = 26$). The selection and time period is chosen, because of data availability reasons, but it as well covers the most important period of state financialisation in Europe (Karowowski, 2019; Schwan et al., 2021; Zwan, 2014).

To provide a holistic picture on the state-market nexus, this analysis uses a large data set with various proxies to capture the effect of the financialisation of the state on economic growth. The proxies have been normalised and our results are tested for robustness. The obtainment of the correct proxies is particularly relevant, considering that “defining appropriate proxies for the degree of financial development is, indeed, one of the challenges faced by empirical researchers” (Edwards, 1996). Especially, the analyses of state financialisation has posed difficulties because of qualitative nature of many of the reforms as well as data availability in general (Schwan et al., 2021). Guided by unambiguity and data availability, this thesis measures six variables related to the indicators developed in the literature section (see table 2). These variables aim to capture the different dimensions of state financialisation, namely governance mechanism and sense-making frameworks and each area (public debt management and state asset management) (Schwan et al., 2021).

The data for this essay were obtained from a variety of sources, including national statistical agencies and international organisations such as the World Bank, the UNCTAD and Eurostat. The following variables were included in the analysis (see appendix for plots):

- GDP per capita growth: this variable represents the percentage change in a country’s GDP per capita (gross domestic product per person) over the course of a year. It is a measure of a country’s economic growth and can be affected by a variety of factors, including changes in population, productivity, and the overall level of economic activity.
- Trade openness: this variable represents the percentage of a country’s GDP that is derived from exports and imports of goods and

³Austria, Belgium, Bulgaria, Republic of Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden. The United Kingdom and Norway have been omitted due to data unavailability. For instance, Eurostat is no longer “disseminating new data for the UK, neither through its database nor in other dissemination products” (see Eurostat).

Table 3: Proxies and sources for all variables

Variable	Measurement	Source
Economic Growth (dependent)	GDP per capita growth (annual %)	World Bank
Trade Openness (control)	Exports and imports of goods and services (% of GDP)	World Bank
Education (control)	School enrolment, secondary (% of gross)	World Bank
Inflation (control)	Inflation, consumer prices (annual %)	World Bank
Marketable Debt (independent)	Marketable debt* (% of total general government debt)	Eurostat
Public Debt (independent)	Public debt (% of GDP)	Eurostat
FDI (independent)	Foreign direct investment (% of GDP)	UNCTAD
Financial assets (independent)	Financial assets (% of GDP)	Eurostat
Derivatives (independent)	Total amount of derivatives (% of total financial assets)	Eurostat
Pensions (independent)	Total funded pensions (% of GDP)	Eurostat, OECD

*Marketable debt data is obtained from the Eurostat's debt securities statistics

services. It is a measure of a country's trade openness and can be influenced by factors such as changes in global demand, exchange rates, and trade policies.

- Education: this variable represents the percentage of a country's secondary school-age population that is enrolled in school. It is a measure of a country's investment in education and can be affected by factors such as access to education, funding for schools, and cultural attitudes towards education.
- Inflation: this variable represents the percentage change in a country's consumer price index (CPI) over the course of a year. It is a measure of the general level of prices in the economy and can be influenced by factors such as changes in the money supply, demand for goods and services, and the overall level of economic activity.
- Marketable debt: this variable represents the percentage of a country's total general government debt that is held in the form of marketable securities (such as bonds). It is a measure of a country's reliance on debt financing and can be affected by factors such as changes in interest rates, credit ratings, and investor confidence.
- Public debt: this variable represents the percentage of a country's GDP that is represented by its public debt (debt owed by the government). It is a measure of a country's overall level of debt and can be influenced by factors such as budget deficits, economic

growth, and inflation.

- Foreign direct investment: this variable represents the percentage of a country's GDP that is derived from foreign direct investment (investment made by foreign firms in domestic businesses or operations). It is a measure of a country's attractiveness to foreign investors and can be influenced by factors such as the stability of the political and economic environment, the level of infrastructure, and the availability of skilled labor.
- Financial assets: this variable represents the percentage of a country's GDP that is represented by financial assets (such as stocks, bonds, and cash) held by general government. It is a measure of a country's financial wealth and can be affected by factors such as changes in the stock market, interest rates, and economic growth.
- Derivatives: this variable represents the percentage of a sovereign's total financial assets that are held in the form of derivatives (financial instruments whose value is derived from an underlying asset). It is a measure of a country's exposure to derivatives and can be influenced by factors such as changes in market conditions and investor behaviour.
- Pensions: this variable represents the percentage of a country's GDP that is represented by the total funded pensions' assets (such as retirement savings accounts). It is a measure of a country's investment in retirement security and can be affected by factors such as the level of savings, the performance of financial markets, and the adequacy of pension benefits.

To avoid multicollinearity problems, these proxies will be measured separately from each other. In doing so, this thesis aims to assess state financialisation empirically.

The panel data for these proxies of state financialisation are unbalanced, and consequently the available data for the different variables differs slightly from each other. Although it was possible to collect most data, in all cases it was impossible to collect the complete data for each year and country. In this respect, six unbalanced panels were created (see table 3).

Table 4: Sample composition of each unbalanced panel

	FDI	MD	Derivatives	Financial Assets	Public Dept	Funded Pensions
Austria	1995-2021	1995-2021	1999-2021	1995-2021	1995-2021	2009-2013
Belgium	1995-2021	1995-2021	1998-2021	1995-2021	1995-2021	1995-2020
Bulgaria	1995-2021	1997-2021	1999-2021	1995-2021	1995-2021	2001-2020
Cyprus	1996-2021	1995-2021	1999-2021	1999-2021	1995-2021	n.e
Czech Republic	1995-2021	1995-2021	1999-2021	1995-2021	1995-2021	2001-2020
Denmark	2000-2021	1995-2021	1995-2021	1995-2021	2000-2021	2001-2020
Estonia	1995-2021	1995-2021	1999-2021	1999-2021	1995-2021	2001-2020
Finland	1995-2021	1995-2021	1999-2021	1999-2021	1995-2021	2001-2020
France	1995-2021	1995-2021	1999-2021	1999-2021	1995-2021	2001-2020
Germany	1995-2021	1995-2021	1999-2021	1999-2021	1995-2021	1995-2020
Greece	1995-2021	1998-2021	1998-2021	1995-2021	1995-2021	2007-2020
Hungary	1995-2021	1995-2021	1995-2021	1998-2021	1995-2021	2016-2020
Ireland	1995-2021	1995-2021	1999-2021	1999-2021	1995-2021	2001-2020
Italy	1995-2021	1995-2021	2002-2021	1999-2021	1995-2021	2001-2020
Latvia	1995-2021	1995-2021	1999-2021	1999-2021	1995-2021	2001-2020
(Lithuania)	1995-2021	1995-2021	1999-2021	1999-2021	1995-2021	2010-2020
Luxembourg	2002-2021	1995-2021	1999-2021	1999-2021	1995-2021	2004-2020
Malta	1995-2021	1995-2021	1999-2021	1999-2021	1995-2021	2011-2020
Netherlands	1995-2021	1999-2021	1999-2021	1995-2021	1995-2021	1995-2020
Poland	1995-2021	2000-2021	1999-2021	1999-2021	1995-2021	1999-2020
Portugal	1995-2021	1995-2021	1999-2021	1999-2021	1995-2021	2017-2020
Romania	1995-2021	1995-2021	1999-2021	1999-2021	1995-2021	2007-2020
Slovakia	1995-2021	1995-2021	1999-2021	1999-2021	1995-2021	2001-2020
Spain	1995-2021	1995-2021	1999-2021	1999-2021	1996-2021	2003-2020
Sweden	1995-2021	1995-2021	1996-2021	1996-2021	1995-2021	1995-2020
Observations	691	690	617	610	695	445
Missing values	11	12	85	92	7	257

Source: Fastenrath (2017)

5 Results

In this section, we used the bias-corrected linear growth model to examine the relationship between economic growth and the set of predictor variables for state financialisation. The LSDVC is a widely used method for analysing the determinants of economic growth, as it allows for the examination of the simultaneous effects of multiple variables on growth.

The collected data on state financialisation can be view in the data section (table 2) and I used the ‘xtlsdvc’ command in Stata to estimate the model. The results of the LSDVC provide insights into the factors that drive economic growth and can inform policy decisions aimed at promoting long-term development. Moreover, it sheds light on the effect of the financialisation of the state, and on which factor - in fact - do influence economic growth.

In the following sections, we present the results of the LSDVC and discuss the implications of the findings for policymakers and practitioners.

5.1 Linear growth model

For each variable, the table (table 5) provides the mean, standard deviation, minimum value, and maximum value. The mean is a measure of central tendency, representing the average value of the variable. The standard deviation is a measure of dispersion, representing how spread out the values of the variable are. The minimum and maximum values represent the lowest and highest values of the variable, respectively.

These descriptive statistics can help understand the distribution of values for each variable and identify any outliers or unusual values. They also provide a starting point for further analysis, such as testing hypotheses about the relationships between variables or comparing the values of the variables between different groups or time periods.

One of the variables we included in our analyses was ”inflation”, which measures the rate of price increases in a country. However, we decided to drop this variable from our final model for two reasons. First, when we examined the descriptive statistics for the ”inflation” variable, we found that it had high skewness. Skewness refers to the degree to which the values of a variable are distributed symmetrically around the mean. A variable with high skewness may have a few extremely high or low values that pull the mean away from the center of the distribution, potentially distorting the results of the analysis. In our case, the high skewness of the ”inflation” variable indicated that there were a few extreme values that could have a strong influence on the results.

Table 5: Descriptive statistics of each variable

Variable	Mean	Standard Deviation	Minimum	Maximum	Skewness
Economic Growth	.0241169	.0387528	-.1446433	.2320087	-.3555232
Trade Openness	.0282994	.4785552	-.9913408	1.356146	.3663691
Eduction	1.064448	.1663913	.7415001	1.639347	1.435695
Inflation	.0529327	.4088033	-.044781	10.58374	24.51851
Marketable Dept	.531069	.2135067	5.27e-08	.8756816	-.8957727
Public Debt	.7254024	.23526	.1949359	1.436315	.0663293
FDI	-.8053024	1.139641	-3.819711	2.979476	1.179816
Financial assets	2.628253	.9267723	.6082725	5.617978	.108914
Derivatives	.0008897	.0381848	-.5837015	.3494845	-4.554734
Pensions	.4011847	.345852	0	1.516355	1.350249

Source:

Second, when we included the "inflation" variable in our initial models and performed an F-test, it was not statistically significant. This means that the relationship between "inflation" and the other variables in the model, as tested by the F-test, was not strong enough to be considered reliable. Given these considerations, we decided to drop the "inflation" variable from our final model. We believe this was a necessary step to ensure the robustness and reliability of our results.

Table 6 shows the correlations between the independent variables listed in the rows and columns. The values in the cells of the table represent the strength and direction of the relationship between the variables. A value of 1 indicates a perfect positive correlation, meaning that as one variable increases, the other also increases. A value of -1 indicates a perfect negative correlation, meaning that as one variable increases, the other decreases. A value of 0 indicates no correlation.

The values in the cells with an asterisk (*) next to them are statistically significant at the level ($p < 0.05$). This means that there is a low probability that the observed relationship between the variables is due to chance. For example, the value in the cell at the intersection of the "Growth" row and the "Dept" column is -0.3029*. This indicates a negative, statistically significant correlation between growth and the level of public dept. This means that as the gross dept level of sovereigns increase, the per capita growth is likely to decrease in the long run. The same negative relationship (that is statistically significant) can be

Table 6: Correlation matrix

	Growth	IFDI	MD2	Der	FinAs	Dept	Pensions
Growth	1.0000						
IFDI	-0.0367	1.0000					
MD2	-0.0890*	-0.0024	1.0000				
Der	-0.0673	-0.0231	-0.0287	1.0000			
FinAss	0.0447	0.0143	0.2755*	-0.0486	1.0000		
Dept	-0.3029*	-0.0479	0.3369*	0.0692	0.1667*	1.0000	
FunPen	-0.1794*	0.1415*	0.1842*	-0.1311*	-0.2044*	-0.0204	1.0000

* statistically significant at the level ($p < 0.05$)

found for the variables marketable dept (MD2) and funded pensions (FunPen).

One concern when building statistical models is the presence of multicollinearity, which occurs when two or more predictor variables are highly correlated with each other. Multicollinearity can cause unstable coefficient estimates and make it difficult to interpret the individual contributions of the predictor variables. In our analysis, we performed tests for multicollinearity and found that while there was some moderate multicollinearity in the model, there were no worryingly high levels of correlation between the predictor variables. As a result, we did not need to reject any variables from the model.

However, to be cautious and avoid potential multicollinearity problems in the future, we have decided to measure the predictor variables separately from each other. This will allow us to more accurately assess the individual contributions of each variable to the model. Overall, the results suggest that multicollinearity is not a major concern in this model, but steps have been taken to ensure the robustness and interpretability of our results.

The results of the linear growth model are presented in table 7. The coefficient estimates represent the expected change in economic growth for a one unit change in the predictor variable, holding all other variables constant. The standard error of the coefficient estimate represents the precision of the estimate. The z-statistic and p-value are used to test whether the coefficient is significantly different from zero, indicating the presence of a relationship between the predictor and outcome variables. The confidence interval provides a range of values within which the true

coefficient is likely to fall, based on the data and the model.

Based on these results, it shows that most of the predictor variables are significantly related to economic growth. Specifically, an increase in FDI, Financial assets, education and trade are associated with an increase in economic growth. In the table, the coefficients represent the relationship between the variables listed in the "Coef." column and the dependent variable, "Growth" For example, the coefficient for the variable "IFDI" is 0.009158, which means that for every unit increase in "IFDI," there is a corresponding 0.009158 unit increase in "Growth." The "Std. Err." column represents the standard error of the coefficient estimate, and the "z" column shows the z-score, or the number of standard deviations the coefficient is from zero. The "P_z" column indicates the p-value, or the probability that the relationship between the variables is due to chance. If the p-value is less than 0.05, the relationship is statistically significant. The "95% Conf. Interval" column gives the 95% confidence interval for the coefficient estimate, which is a range of values within which the true coefficient is likely to fall.

Various conclusions can be drawn from the results. First, the FDI variable presents a positive relationship with the economic growth. The use of the FDI variable has to taken with caution, because the relationship with state financialisation may be overestimated. However, the literature on state financialisation clearly acknowledges its importance. Schwan et al. (2021) note that: " if the economy becomes penetrated by capital inflows, states, in turn, may tend more frequently to act as shareholders on their own, either to countervail the foreign grip on certain industries or to participate in booming international businesses (Schwan et al., 2021). Overall, FDI can contribute to economic growth by increasing the capital available for investment, improving the efficiency and productivity of domestic firms, creating new jobs, and increasing trade. However, it is important to note that the impact of FDI on economic growth can vary depending on the specific circumstances of the host country and the nature of the investment. To capture financial accumulation and the reliance on financial markets as a governance mechanism FDI is thus used. This variable is closely related to the literature on the financialisation of the firm as it identifies the reliance of financial markets as a governance mechanism. In this respect, indicators used to measure private sector financialisation are included to analyse the effect of state financialisation on economic growth.

Second, the size of financial assets held by governments negatively affects economic growth. This clearly support the general argument of financialisation scholars that financial assets are harmful to growth (Alexiou et al., 2018; Arcand et al., 2015; Cecchetti & Kharroubi, 2012;

Table 7: Results of the regression analyses

	Coef.	Std. Err.	z	P $\hat{\lambda} - z$	95% Conf. Interval
Growth	.4957945	.1051934	4.71	0.000	.2896191 .7019698
IFDI	.009158	.0041886	2.19	0.029	.0009486 .0173674
Trade	.0974254	.0190467	5.12	0.000	.0600945 .1347564
Education	.039203	.019128	2.05	0.040	.0017127 .0766932
Growth	.3537335	.0785299	4.50	0.000	.1998178 .5076492
MD2	-.0146998	.0165395	-0.89	0.374	-.0471167 .017717
Trade	.0850239	.0191873	4.43	0.000	.0474175 .1226303
Education	.0221416	.025891	0.86	0.392	-.0286039 .072887
Growth	.5483305	.108523	5.05	0.000	.3356294 .7610316
FinAs	-.0064077	.0028163	-2.28	0.023	-.0119276 -.0008878
Trade	.1328933	.0218475	6.08	0.000	.0900729 .1757136
Education	.0446515	.0224815	1.99	0.047	.0005887 .0887144
Growth	.4319735	.0707159	6.11	0.000	.2933729 .5705741
Dept	-.0538424	.0175353	-3.07	0.002	-.088211 -.0194738
Trade	.101518	.0162814	6.24	0.000	.0696071 .1334289
Education	.0531956	.0199852	2.66	0.008	.0140254 .0923659
Growth	.6813921	.1498242	4.55	0.000	.3877421 .9750421
Pensions	.0091679	.037018	0.25	0.804	-.0633861 .081722
Trade	.1471091	.0253992	5.79	0.000	.0973276 .1968907
Education	.0445215	.0216805	2.05	0.040	.0020286 .0870145
Growth	.5410703	.1222712	4.43	0.000	.3014232 .7807174
Der	-.0089808	.0620842	-0.14	0.885	-.1306635 .1127019
Trade	.1198471	.0215088	5.57	0.000	.0776906 .1620036
Education	.0431443	.0200602	2.15	0.031	.0038271 .0824615

Ferreiro & Gómez, 2016; Huang & Lin, 2009; Law & Singh, 2014; Moosa, 2018; Sawyer, 2016; Sen, 2020; Tori & Onaran, 2020). Although the effect only appears to be quite small (a one unit increase in the financial assets variable result in a .0064 unit decrease in the per capita growth), the specification nonetheless shows that it is not beneficial for growth in the long-run. This could pose implications for policymakers and practitioners as these findings go against to main trend in current economic policy in Europe (Bavoso, 2017; Braun et al., 2018; Fastenrath et al., 2017; Godechot, 2016; Hübner, 2016; Karowowski, 2019; Quaglia & Howarth, 2018). For instance, Hubner (2016) has found that the EU has implemented various strategies, including increasing private or retail investment and creating new financial instruments, to revitalise secondary markets through securitisation. Huber has argued that these efforts to promote securitisation and market-based finance have their roots in the ECB's attempts to stabilise the euro zone.

Third, the results also indicate the level of public debt has a negative effect on economic growth. This corroborates the hypothesis that public debt levels negatively effect growth. The trend towards increasing levels of public debt since the 1970s is well-established, but the shift from a "tax state" to a "debt state" and eventually a "consolidation state" offers further insight into the political and economic foundations of this trend (Streeck, 2014). Initially, public debt allowed governments to avoid difficult fiscal decisions and temporarily mitigate distributional conflicts. However, as global economic integration progressed, public debt was seen as a hindrance to future growth, even as it continued to grow. Consequently, it can be argued that the average level of public debt plays a key role in state financialisation and economic growth (Karowowski, 2019; Schwan et al., 2021).

Unfortunately, the independent variables for pension, the use of derivatives and marketable debt are insignificant. This makes it more difficult to draw a clear relationship between these variables and economic growth. That being said, the use of derivatives by sovereigns appears to have a negative relation to growth, which could indicate that the use of derivatives too is harmful for economic growth. This would be in accordance with the financialisation literature (Fastenrath et al., 2017; Karowowski, 2019; Quaglia et al., 2016; Schwan et al., 2021). Interestingly, the variable measuring the marketable debt is insignificant too, which is unfortunate as it is identified as a good proxy for state financialisation. However as these values are insignificant they are not further included in the discussion.

There are many potential reasons why these variables may not have a significant effect on the dependent variable being studied. Some pos-

sibilities include (i) the variables are not related to the dependent variable; (ii) the variables are related to the dependent variable, but the relationship is not strong enough to be statistically significant, (iii) the sample size may be too small to detect a significant relationship between the variables; (iv) there may be other confounding variables that are masking the relationship between the independent variables and the dependent variable, and finally, (v) the variables may be correlated with each other, which can make it difficult to determine the unique effect of each variable on the dependent variable.

All in all, the findings are ambiguous on the effect of state financialisation on economic growth. Whereas FDI positively effect growth, public dept and the amount of financial assets of sovereigns has a negative relationship. Interestingly, both variables measured the reliance on the market as a governance mechanism. It thus can be concluded that this dimension of state financialisation has bigger implications on economic growth than the adoption of a sense-making framework grounded in financial economics and the shareholder value model.

6 Limitations

One significant limitation of this research is the availability of data for the analysis. The data for the study covers all EU countries from 1995 to 2021, but the data on derivatives and financial assets have many missing values (see table 3). Additionally, the statistic on funded pensions were is only available from 2001 to 2020 for most countries, which restricts the sample period for the preferred model specification, despite the main variables of interest having longer time series data. The low data coverage raises concerns about the validity of the results and suggests that future studies should prioritise obtaining more comprehensive data for all variables under consideration.

Besides, it may be useful to note that most of the data availability comes from the fact that much of the data on state financialisation is qualitative in nature (Schwan et al., 2021). This makes it difficult to collect a significant amount of data which is necessary for explaining them in growth models. It would therefore, be beneficial for future research to consider improving data coverage on state financialisation. Having better data on state financialisation could provide a more complete understanding of economic growth and its deterministic. This information could be useful in analysing the factors contributing to economic growth and for the development of strategies addressing growth.

Additionally, during the data cleaning process, a few outliers were identified that could not be explained or identified as errors. These

outliers may have influenced some of the results and could be the cause of unexpected findings. Especially, the derivatives data set had some outliers which could not be explained. This may be the reason for its insignificance. It is important to consider the potential impact of these outliers when interpreting the results of the study.

All in all, the models used in this study demonstrate reasonable levels of explained variation and are able to explain a significant portion of the variance in the dependent variables. However, including additional covariates in the models that may be of influence on growth, such as inflation, labor force participation, model of governance, or the development of institutions, and technology could provide further insights into the factors influencing income inequality. These variables could potentially be useful in explaining the variance on economic growth beyond what is captured by the current models.

The findings of this study are somewhat ambiguous with regard to the effect of state financialisation on economic growth. While foreign direct investment was found to have a positive effect on growth, public debt and the amount of financial assets held by sovereigns had a negative relationship with growth. This is somewhat surprising, as both public debt and financial assets can be seen as measures of the reliance on the market as a governance mechanism. This suggests that this aspect of state financialisation may have more significant implications for economic growth than the adoption of a sense-making framework based on financial economics and the shareholder value model.

One possible explanation for these conflicting findings is that the impact of state financialisation on economic growth may depend on the specific circumstances of the economy. In some cases, the benefits of increased foreign investment or effective risk management through the use of derivatives may outweigh the negative effects of higher public debt or increased reliance on financial markets. In other cases, the opposite may be true.

It is also worth noting that the relationship between state financialisation and economic growth may be more complex than a simple positive or negative correlation. For example, there may be threshold levels of public debt or foreign investment beyond which the impact on growth becomes negative. Further research will be needed to fully understand the nuances of this relationship.

Overall, these findings suggest that state financialisation is a multifaceted and potentially influential factor in economic growth. Further research is needed to better understand the mechanisms through which state financialisation impacts economic growth and to identify the conditions under which it is most likely to be beneficial or detrimental.

7 Conclusion

This thesis aimed to identify the effect of state-financialisation on economic growth in the member states of the European Union (EU). In doing, so this thesis tackled one of the most empirically contested areas of research in contemporary international and comparative political economy - the process of state financialisation (Amable et al., 2019). Having developed an analytically clear and concise framework, the concept of financialisation of the state and its effect on economic growth includes two dimensions: (i) the reliance on the market as a governance mechanism, and (ii) the adoption of a sense-making framework grounded in financial economics and the shareholder value model. This model was based on the relevant literature and used to analyse the relationship between states and markets. It allowed to make a distinction between financial accumulation and financial logics used by governments (Schwan et al., 2021).

To examine the relationship between economic growth and state financialisation in 26 EU countries from 1995 to 2021 using a linear growth model. Six variables of state financialisation were identified as potentially impacting economic growth: marketable debt, the share of public debt, funded pensions, the use of swaps, financial assets, and foreign direct investment. Three control variables were also included in the analysis: the inflation rate, the degree of trade openness, and the education level of the population. The results of the analysis showed an ambiguous relationship between economic growth and state financialisation. These findings suggest that further research is needed to fully understand the connection between these two factors. The variables identified in this study may not be exhaustive and there may be other factors that contribute to the relationship between economic growth and state financialisation. Further investigation is necessary to fully understand the impact of state financialisation on economic growth and to inform policy decisions.

There are a few ways in which state financialisation can impact economic growth. One way is through public debt held by the government. If a government takes on too much debt, it can lead to a burden on the economy as the government may have to devote a large portion of its budget to debt repayment, leaving less resources available for other priorities such as education, healthcare, and infrastructure. This can lead to slower economic growth. Another way in which state financialisation can impact economic growth is through financial assets held by the government, such as sovereign wealth funds. If a government invests in financial assets, it can potentially earn a return on those investments

which can then be used to fund public projects or initiatives. However, if the investments do not perform well, it could lead to a decline in the government's financial resources, which could negatively impact economic growth. Finally, foreign direct investment (FDI) can also be affected by state financialisation. If a government actively encourages and facilitates FDI, it can bring in capital and expertise from abroad, which can help stimulate economic growth. However, if a government is perceived as being too financially interventionist or unpredictable, it may discourage FDI and hinder economic growth. Overall, state financialisation can have both positive and negative effects on economic growth depending on how it is implemented and managed.

This study makes two significant contributions to the existing literature on the relationship between state financialisation and economic growth. Firstly, it is the first study to use quantitative analysis to examine this topic. Other studies, such as Fastenrath (2017), have attempted to investigate this relationship but have only described state financialisation itself. Secondly, this study aims to go beyond the traditional "state versus market" paradigm by examining how the factors that drive economic growth in the private sector are related to financialisation of the state (Karowowski, 2019) The inclusion of private sector indicators in the analysis of state financialisation allows for a more comprehensive understanding of its impact on economic growth, as it incorporates perspectives from different scholarly fields.

The main limitation of this study is the low availability of data for all variables included in the analysis. Further research could focus on better data coverage, especially on the various aspects of state financialisation.

References

- Acemoglu, D., Johnson, S., & Robinson, J. A. (2005). Institutions as a fundamental cause of long-run growth. *Handbook of economic growth*, 1, 385–472.
- Alesina, A., & Giuliano, P. (2015). Culture and institutions. *Journal of economic literature*, 53(4), 898–944.
- Alexiou, C., Vogiazas, S., & Nellis, J. G. (2018). Reassessing the relationship between the financial sector and economic growth: Dynamic panel evidence. *International Journal of Finance & Economics*, 23(2), 155–173.
- Amable, B., Regan, A., Avdagic, S., Baccaro, L., Pontusson, J., Van der Zwan, N., Amable, B., Regan, A., Avdagic, S., Baccaro, L., et al. (2019). New approaches to political economy. *Socio-economic review*, 17(2), 433–459.
- Arcand, J. L., Berkes, E., & Panizza, U. (2015). Too much finance? *Journal of Economic Growth*, 20(2), 105–148.
- Arnold, J. M., Brys, B., Heady, C., Johansson, Å., Schwellnus, C., & Vartia, L. (2011). Tax policy for economic recovery and growth. *The Economic Journal*, 121(550), F59–F80.
- Awokuse, T. O. (2008). Trade openness and economic growth: Is growth export-led or import-led? *Applied economics*, 40(2), 161–173.
- Babic, M., Garcia-Bernardo, J., & Heemskerk, E. M. (2020). The rise of transnational state capital: State-led foreign investment in the 21st century. *Review of International Political Economy*, 27(3), 433–475. <https://doi.org/10.1080/09692290.2019.1665084>
- Bacchiocchi, E., Ferraris, M., Florio, M., & Vandone, D. (2019). State-owned banks in the market for corporate control. *Journal of Economic Policy Reform*, 22(2), 120–147.
- Balassa, B. (1993). Public finance and economic development. *Policy choices for the 1990s* (pp. 205–219). Springer.
- Bank, W. (1994). *Averting the old age crisis: Policies to protect the old and promote growth. summary*. The World Bank.
- Barro, R. J. (1990). Government spending in a simple model of endogenous growth. *Journal of political economy*, 98(5, Part 2), S103–S125.

- Barro, R. J. et al. (2003). Determinants of economic growth in a panel of countries. *Annals of economics and finance*, 4, 231–274.
- Barro, R. J., & Sala-i-Martin, X. (1992). Public finance in models of economic growth. *The Review of Economic Studies*, 59(4), 645–661.
- Baum, A., Mogues, T., & Verdier, G. (2020). Getting the most from public investment. *Well Spent: How Strong Infrastructure Governance Can End Waste in Public Investment*, 30–49.
- Bavoso, V. (2017). High quality securitisation and eu capital markets union—is it possible? *Accounting, Economics, and Law: A Convivium*, 7(3).
- Beck, T., Demirgüç-Kunt, A., & Maksimovic, V. (2005). Financial and legal constraints to growth: Does firm size matter? *The journal of finance*, 60(1), 137–177.
- Bergh, A., & Henrekson, M. (2011). Government size and growth: A survey and interpretation of the evidence. *Journal of Economic Surveys*, 25(5), 872–897.
- Bonizzi, B., & Churchill, J. (2017). Pension funds and financialisation in the european union. *Revista de economia mundial*, (46), 71–90.
- Braun, B., Gabor, D., & Hübner, M. (2018). Governing through financial markets: Towards a critical political economy of capital markets union. *Competition & Change*, 22(2), 101–116.
- Bruno, G. S. (2005). Approximating the bias of the lsdv estimator for dynamic unbalanced panel data models. *Economics letters*, 87(3), 361–366.
- Bun, M. J., & Carree, M. A. (2005). Bias-corrected estimation in dynamic panel data models. *Journal of business & economic statistics*, 23(2), 200–210.
- Bun, M. J., & Kiviet, J. F. (2003). On the diminishing returns of higher-order terms in asymptotic expansions of bias. *economics Letters*, 79(2), 145–152.
- Callaghan, H. (2015). Who cares about financialization? self-reinforcing feedback, issue salience, and increasing acquiescence to market-enabling takeover rules. *Socio-Economic Review*, 13(2), 331–350.
- Cecchetti, S. G., & Kharroubi, E. (2012). Reassessing the impact of finance on growth.

- Chortareas, G., Magkonis, G., Moschos, D., & Panagiotidis, T. (2015). Financial development and economic activity in advanced and developing open economies: Evidence from panel cointegration. *Review of Development Economics*, 19(1), 163–177.
- Corsetti, G., Meier, A., & Müller, G. J. (2012). What determines government spending multipliers? *Economic Policy*, 27(72), 521–565.
- Cournède, B., & Denk, O. (2015). Finance and economic growth in oecd and g20 countries. (1223). <https://doi.org/https://doi.org/https://doi.org/10.1787/5js04v8z0m38-en>
- Cournède, B., Goujard, A., & Pina, Á. (2014). Reconciling fiscal consolidation with growth and equity. *OECD Journal: Economic Studies*, 2013(1), 7–89.
- Davis, L. E. (2017). Financialization and investment: A survey of the empirical literature. *Journal of Economic Surveys*, 31(5), 1332–1358.
- Del Bo, C. D., Ferraris, M., & Florio, M. (2017). Governments in the market for corporate control: Evidence from m&a deals involving state-owned enterprises. *Journal of comparative economics*, 45(1), 89–109.
- Edwards, S. (1996). Why are latin america’s savings rates so low? an international comparative analysis. *Journal of development economics*, 51(1), 5–44.
- Epstein, G. (2005). Introduction, financialization and the world economy [w:] financialization for the world economy, ed. G. Epstein, E. Elgar, Northampton-Cheltenham.
- Fastenrath, F., Schwan, M., & Trampusch, C. (2017). Where states and markets meet: The financialisation of sovereign debt management. *New political economy*, 22(3), 273–293.
- Ferreiro, J., & Gómez, C. (2016). Financialization and the financial balance sheets of economic sectors in the eurozone. *Financial liberalisation* (pp. 87–131). Springer.
- Fournier, J.-M. (2016). The positive effect of public investment on potential growth.
- Godechot, O. (2016). Financialization is marketization! a study of the respective impacts of various dimensions of financialization on the increase in global inequality. *Sociological Science*, 3, 495–519.
- Gruber, J. (2005). *Public finance and public policy*. Macmillan.

- Hardie, I. (2012). *Financialization and government borrowing capacity in emerging markets*. Springer.
- Hassel, A., Naczyk, M., & Wiß, T. (2019). The political economy of pension financialisation: Public policy responses to the crisis.
- Huang, H.-C., & Lin, S.-C. (2009). Non-linear finance–growth nexus: A threshold with instrumental variable approach 1. *Economics of Transition*, 17(3), 439–466.
- Hübner, M. (2016). Securitisation to the rescue: The european capital markets union project, the euro crisis and the ecb as” macroeconomic stabilizer of last resort”. *FEPS Studies*.
- Johansson, Å. (2016). Public finance, economic growth and inequality. (1346). <https://doi.org/https://doi.org/https://doi.org/10.1787/094bdaa5-en>
- Johnson, C. L., & Kriz, K. A. (2019). *Tax increment financing and economic development: Uses, structures, and impact*. SUNY Press.
- Johnson, N. D., & Koyama, M. (2017). States and economic growth: Capacity and constraints. *Explorations in Economic History*, 64, 1–20.
- Jong-Il, Y., & Dutt, A. K. (1996). Government debt, income distribution and growth. *Cambridge Journal of Economics*, 20(3), 335–351.
- Karowowski, E. (2019). Towards (de-)financialisation: The role of the state. *Cambridge Journal of Economics*, 48(1), 1001–1027.
- Karowowski, E. (2022). The regional distinctiveness and variegation of financialisation in emerging economies. *Cambridge Journal of Economics*, 46(5), 931–954.
- King, R. G., & Levine, R. (1993a). Finance and growth: Schumpeter might be right. *The quarterly journal of economics*, 108(3), 717–737.
- King, R. G., & Levine, R. (1993b). Finance, entrepreneurship and growth. *Journal of Monetary economics*, 32(3), 513–542.
- Kiviet, J. F. (1995). On bias, inconsistency, and efficiency of various estimators in dynamic panel data models. *Journal of econometrics*, 68(1), 53–78.
- Krippner, G. R. (2011). *Capitalizing on crisis: The political origins of the rise of finance*. Harvard University Press.

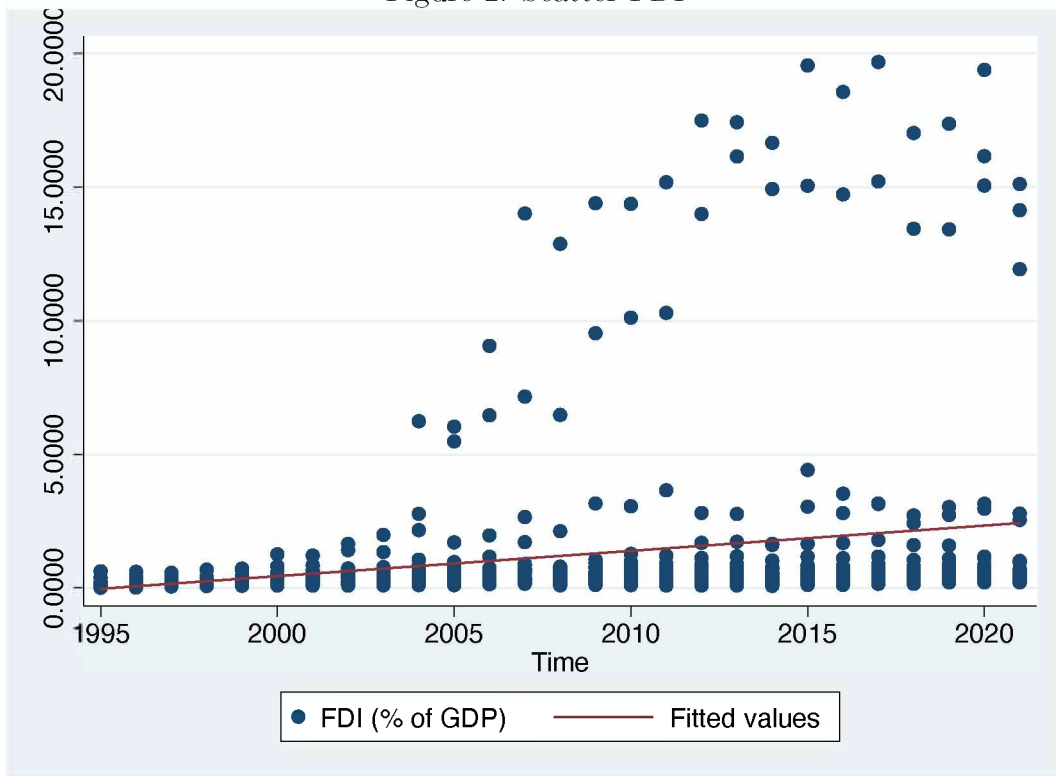
- Lagna, A. (2016). Derivatives and the financialisation of the Italian state. *New Political Economy*, 21(2), 167–186.
- Law, S. H., & Singh, N. (2014). Does too much finance harm economic growth? *Journal of Banking & Finance*, 41, 36–44.
- Lazonick, W. (2011). From innovation to financialization: How shareholder value ideology is destroying the US economy. *Handbook of the political economy of financial crises*, 52–74.
- Levine, R. (1997). Financial development and economic growth: Views and agenda. *Journal of Economic Literature*, 35(2), 688–726.
- Levine, R. et al. (2003). More on finance and growth: More finance, more growth? *Review-Federal Reserve Bank of Saint Louis*, 85(4), 31–46.
- Levine, R. (2005). Finance and growth: Theory and evidence. *Handbook of economic growth*, 1, 865–934.
- Mankiw, N. G., Romer, D., & Weil, D. N. (1992). A contribution to the empirics of economic growth. *The quarterly journal of economics*, 107(2), 407–437.
- Michell, J., & Toporowski, J. (2013). Critical observations on financialization and the financial process. *International Journal of Political Economy*, 42(4), 67–82.
- Moosa, I. A. (2018). Does financialization retard growth? time series and cross-sectional evidence. *Applied Economics*, 50(31), 3405–3415.
- Myles, G. D. (2009). Economic growth and the role of taxation-disaggregate data.
- Nickell, S. (1981). Biases in dynamic models with fixed effects. *Econometrica: Journal of the econometric society*, 1417–1426.
- OECD. (2022). *Oecd sovereign borrowing outlook 2022* (O. Publishing, Ed.). <https://doi.org/https://doi.org/https://doi.org/10.1787/b2d85ea7-en>
- on Financial Markets, D. C., & of Experts on Government Debt Management, D. G. (1982). *Government debt management* (Vol. 1). Organisation for Economic Co-operation; Development.
- Parui, P. (2021). Government expenditure and economic growth: A post-keynesian analysis. *International Review of Applied Economics*, 35(3-4), 597–625.

- Pecchi, L., & Piga, G. (1995). Does debt management matter? a market-oriented response from the italian case. *Economic and Financial Review*, 2(1), 29–36.
- Piga, G. (2001). Do governments use financial derivatives appropriately? evidence from sovereign borrowers in developed economies. *International Finance*, 4(2), 189–219.
- Purewal, K., & Haini, H. (2022). Re-examining the effect of financial markets and institutions on economic growth: Evidence from the oecd countries. *Economic Change and Restructuring*, 55(1), 311–333.
- Quaglia, L., & Howarth, D. (2018). The policy narratives of european capital markets union. *Journal of European Public Policy*, 25(7), 990–1009.
- Quaglia, L., Howarth, D., & Liebe, M. (2016). The political economy of european capital markets union. *J. Common Mkt. Stud.*, 54, 185.
- Romp, W., & De Haan, J. (2007). Public capital and economic growth: A critical survey. *Perspektiven der wirtschaftspolitik*, 8(Supplement), 6–52.
- Sawyer, M. (2011). Re-structuring the financial sector to reduce its burden on the economy. *The financial crisis* (pp. 114–136). Springer.
- Sawyer, M. (2016). Confronting financialisation. *Financial liberalisation* (pp. 43–85). Springer.
- Schelkle, W., & Bohle, D. (2021). European political economy of finance and financialization. *Review of international political economy*, 28(4), 761–774.
- Schwan, M., Trampusch, C., & Fastenrath, F. (2021). Financialization of, not by the state. exploring changes in the management of public debt and assets across europe. *Review of International Political Economy*, 28(4), 820–842.
- Sen, S. (2020). Financialization, speculation and instability. *The routledge international handbook of financialization* (pp. 448–457). Routledge.
- Solow, R. M. (1956). A contribution to the theory of economic growth. *The quarterly journal of economics*, 70(1), 65–94.
- Strange, S. (2015). *States and markets*. Bloomsbury Publishing.
- Streeck, W. (2014). *Buying time: The delayed crisis of democratic capitalism*. Verso Books.

- Tori, D., & Onaran, Ö. (2020). Financialization, financial development and investment. evidence from european non-financial corporations. *Socio-Economic Review*, 18(3), 681–718.
- Valickova, P., Havranek, T., & Horvath, R. (2015). Financial development and economic growth: A meta-analysis. *Journal of economic surveys*, 29(3), 506–526.
- Wang, Y. (2015). The rise of the ‘shareholding state’: Financialization of economic management in china. *Socio-Economic Review*, 13(3), 603–625.
- Yanikkaya, H. (2003). Trade openness and economic growth: A cross-country empirical investigation. *Journal of Development economics*, 72(1), 57–89.
- Zwan, N. v. d. (2014). Making sense of financialization. *Socio-economic review*, 12(1), 99–129.

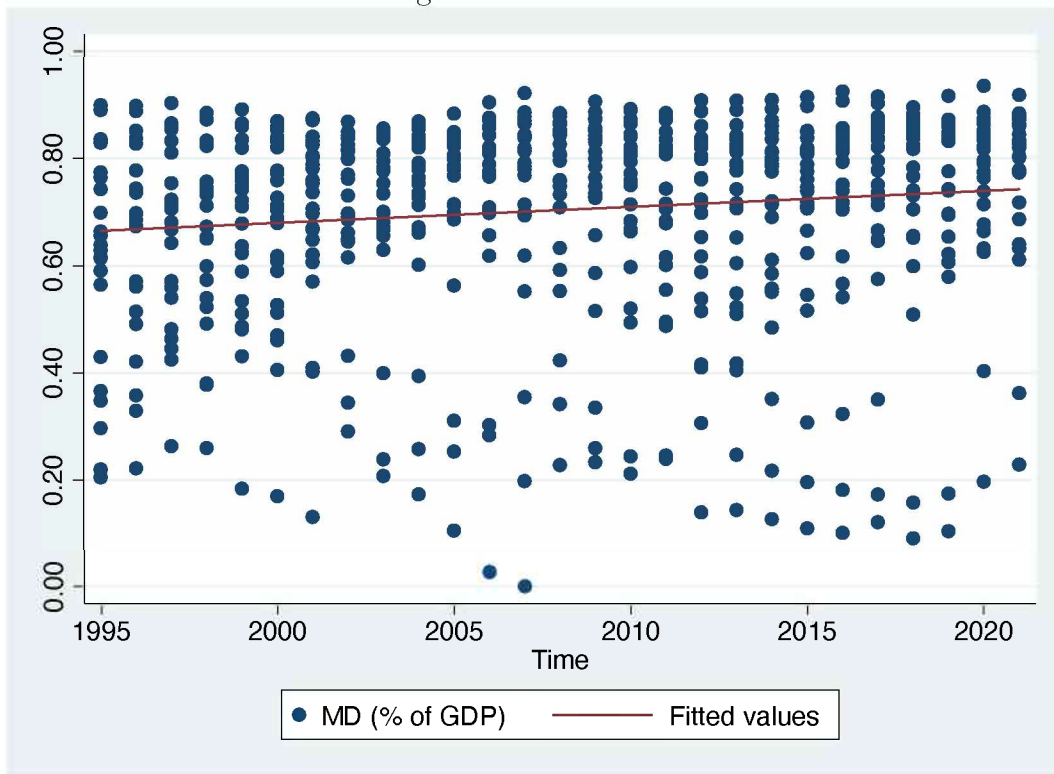
8 Appendix

Figure 2: Scatter FDI



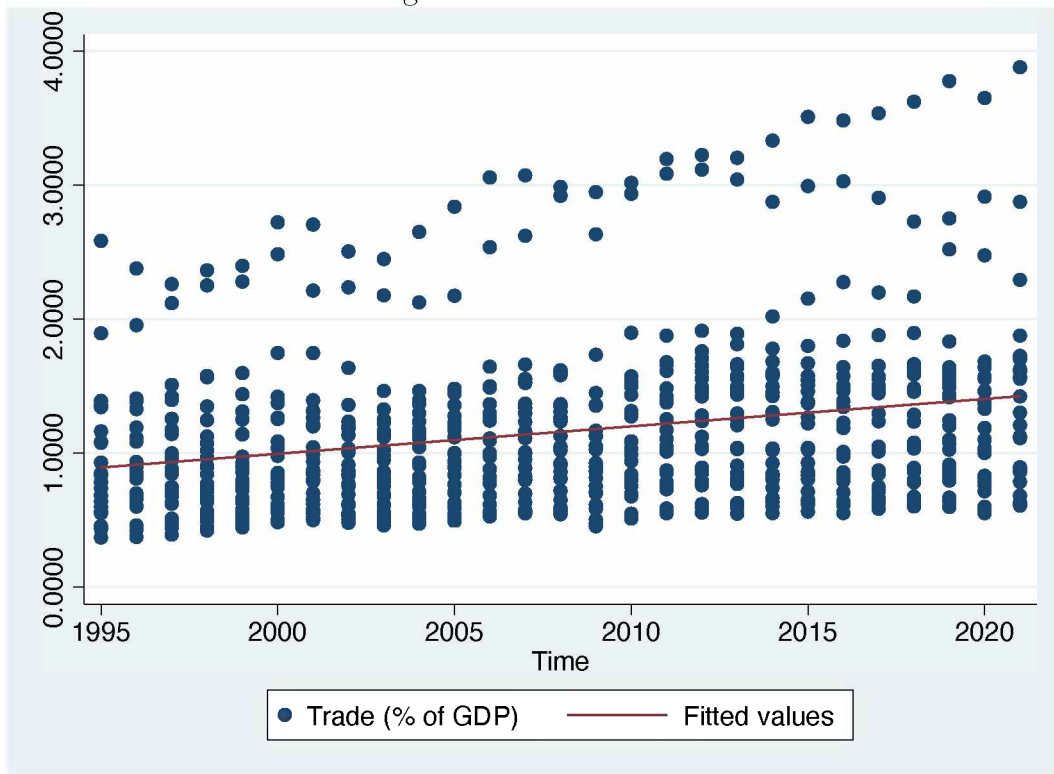
Source: Authors' own calculations

Figure 3: Scatter MD



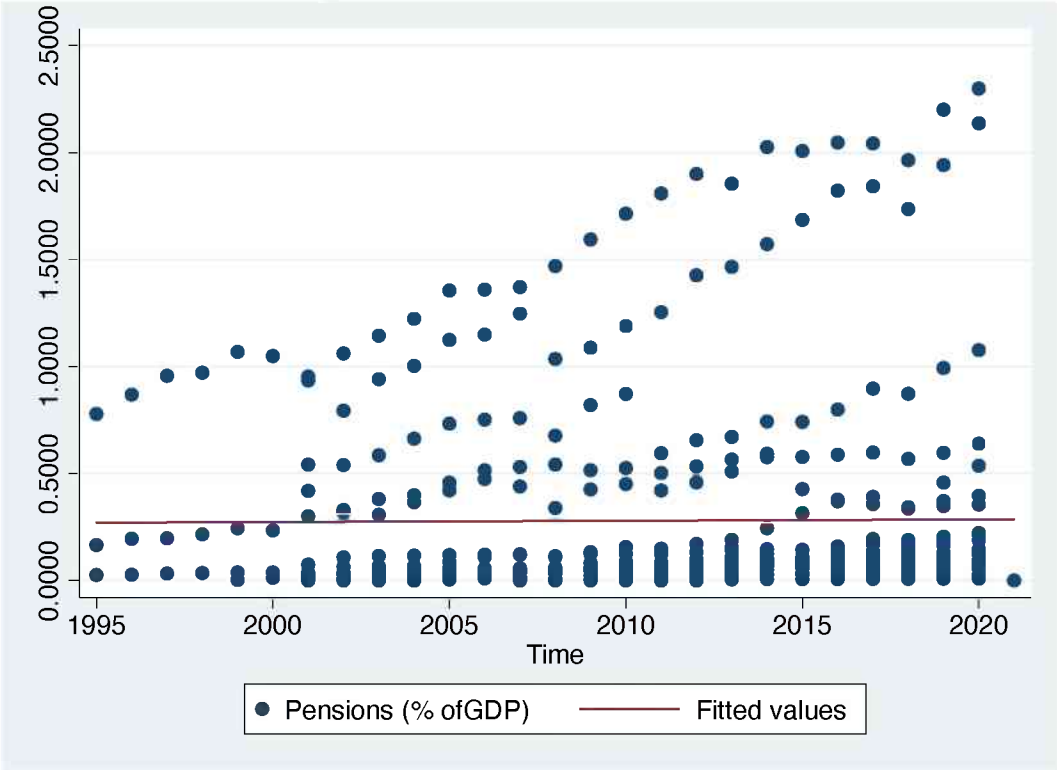
Source: Authors' own calculations

Figure 4: Scatter Trade



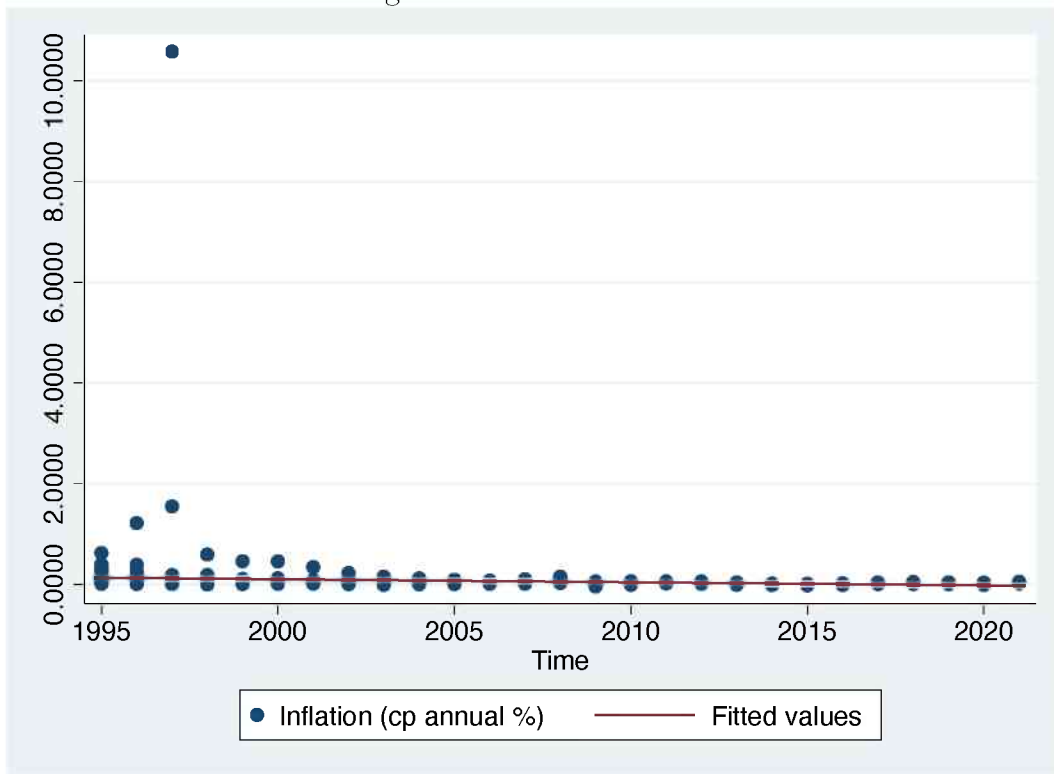
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Figure 5: Scatter Funded Pensions



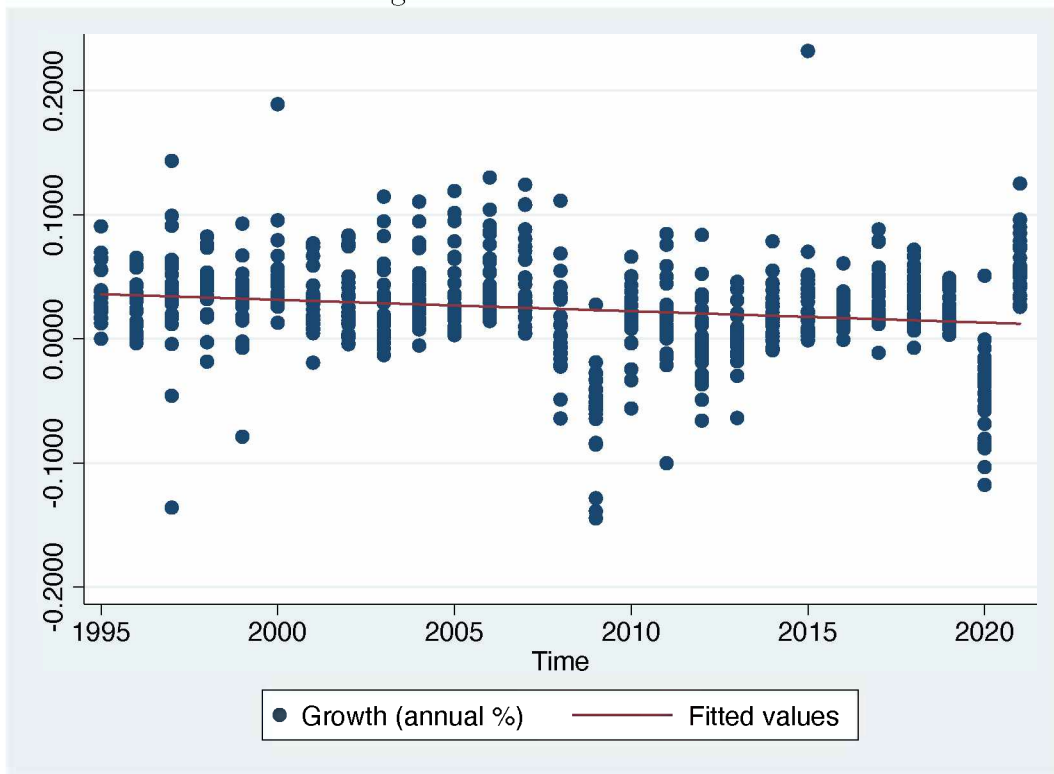
Source: Authors' own calculations

Figure 6: Scatter Inflation



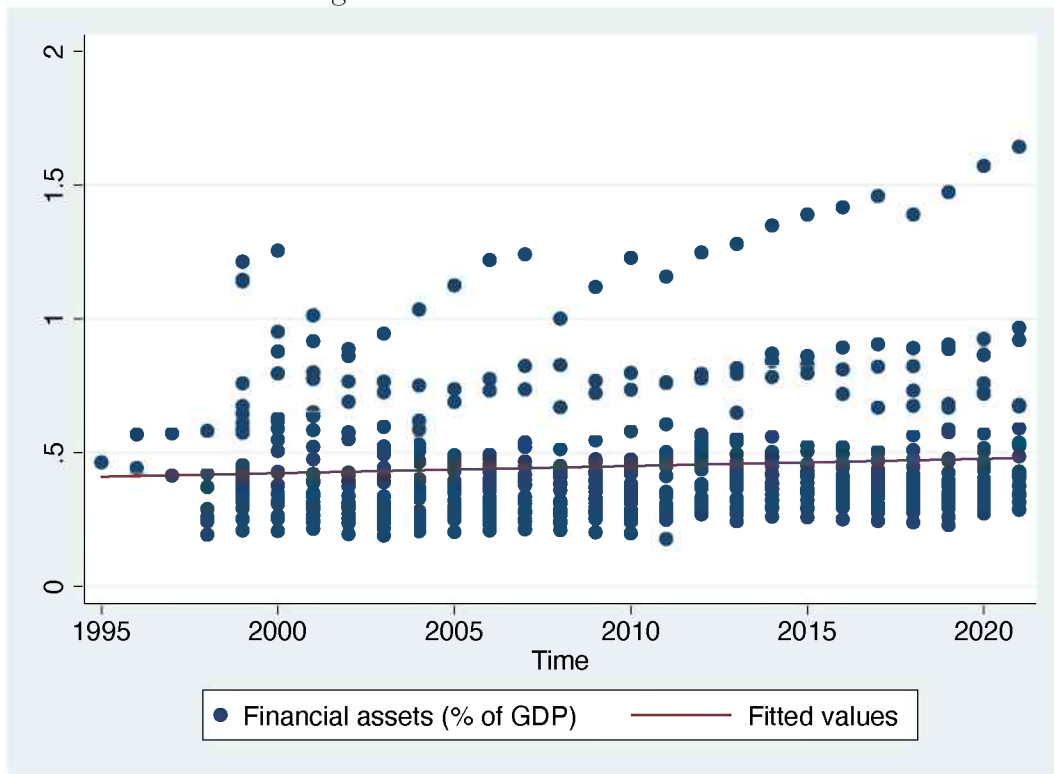
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Figure 7: Scatter Growth



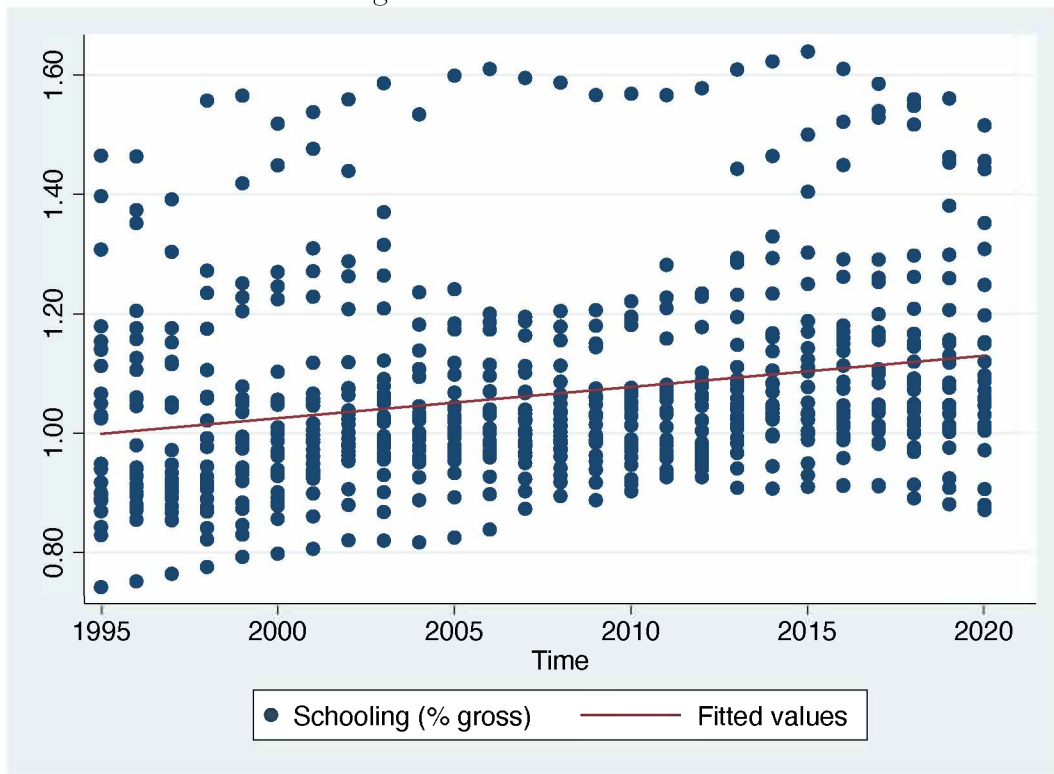
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Figure 8: Scatter Financial Assets



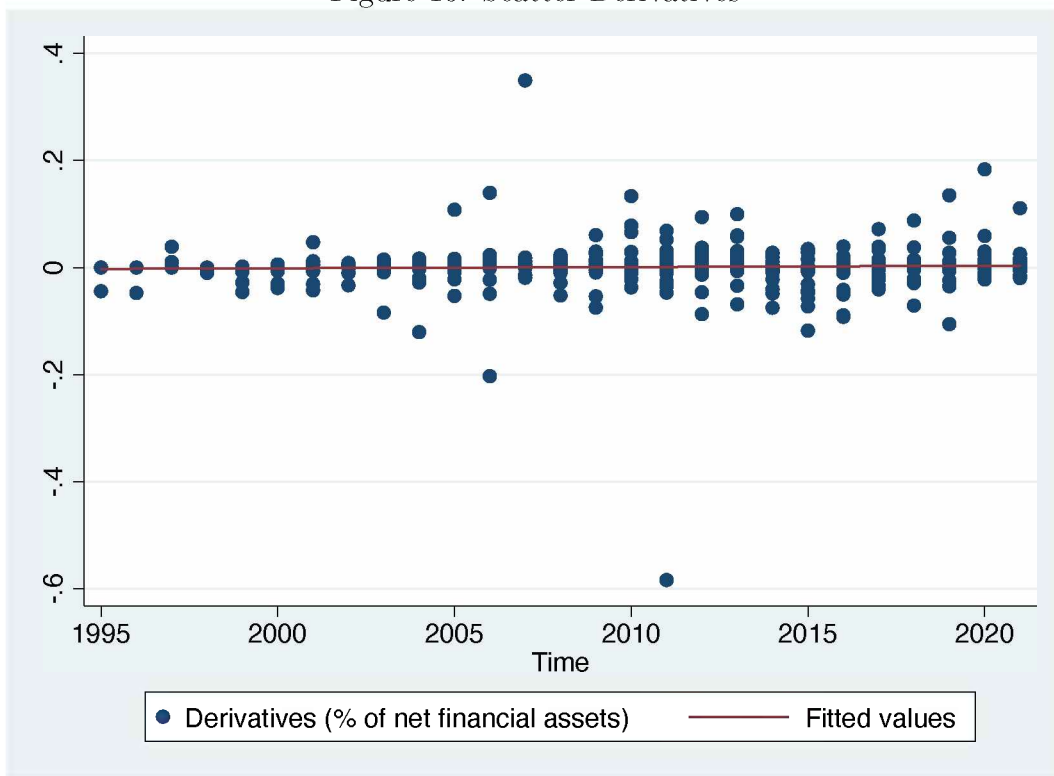
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Figure 9: Scatter Education



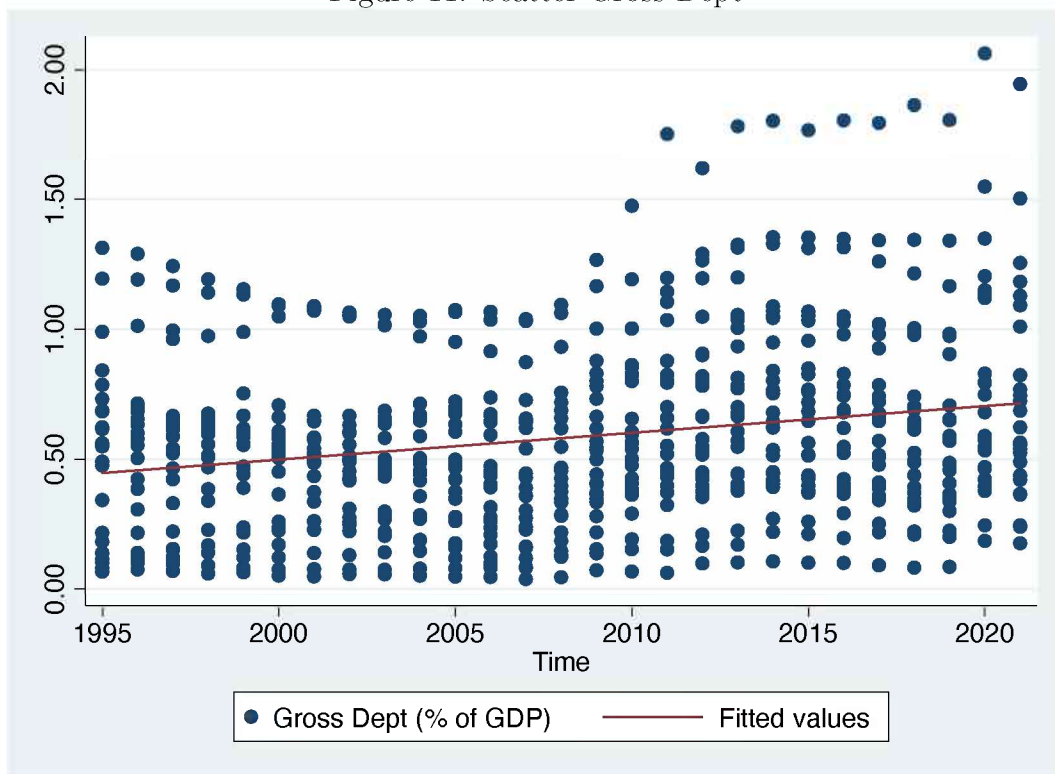
Source: Authors' own calculations

Figure 10: Scatter Derivatives



Source: Authors' own calculations

Figure 11: Scatter Gross Dept



Source: Authors' own calculations