Programa de Doctorado en Diseño, Gestión y Evaluación de Políticas Públicas
de Bienestar Social (R.D. 99/2011)
Instituto de Investigación en Políticas de Bienestar Social (POLIBIENESTAR)

TESIS DOCTORAL

El papel de las reglas fiscales en el proceso de acumulación de deuda en el sector privado

The role of fiscal rules in private debt accumulation

Presentada por: ESTRELLA GARCÉS DURÀ

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DR. ENRIQUE DEVESA CARPIO
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Depositada en septiembre, 2024

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HACEN CONSTAR:

Que la presente memoria, titulada "El papel de las reglas fiscales en el proceso de acumulación de deuda en el sector privado. *The role of fiscal rules in private debt accumulation*", corresponde al trabajo original realizado bajo su dirección por Dña. Estrella Garcés Durà, para su presentación como Tesis Doctoral en el Programa de Doctorado en Diseño, Gestión y Evaluación de Políticas Públicas de Bienestar Social de la Universitat de València.

Y para que conste firman el presente documento en Valencia, a 4 de septiembre de 2024.

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RESUMEN

El papel de las reglas fiscales en el proceso de acumulación de deuda en el sector privado

La bibliografía sobre reglas fiscales ha destacado principalmente su papel en la sostenibilidad fiscal y la estabilización macroeconómica, con un enfoque en la deuda pública. El objetivo principal de esta tesis es analizar otros posibles efectos de las reglas fiscales y demostrar que, en presencia de restricciones fiscales, los agentes políticos tienen incentivos para fomentar el consumo y la inversión basados en deuda privada mediante la desregulación financiera. Para ello, se propone en primer lugar un modelo conceptual basado en las teorías de agencia política y señalización de mercado para estudiar la relación entre las reglas fiscales y el crédito privado. Para desarrollar este primer objetivo se utilizan casos de estudio a nivel país. El segundo objetivo es probar empíricamente la dimensión de agencia política del modelo conceptual. Para ello se analiza el efecto de las reglas fiscales sobre la deuda privada y las reformas financieras de desregulación. La señalización de las reglas fiscales en los mercados se discute cualitativamente, ya que su inclusión en el análisis empírico cambiaría fundamentalmente la naturaleza del trabajo de investigación, que necesitaría enfocarse más cuantitativamente en las disciplinas de economía y finanzas. En general, los resultados empíricos respaldan fuertemente la noción de que restringir la política fiscal mediante marcos de políticas públicas basadas en reglas no es suficiente para reducir la miopía política que pone en peligro la estabilidad financiera y el estado de bienestar, ya que los políticos con restricciones fiscales son más propensos a implementar políticas financieras imprudentes de liberalización. Esta tesis tiene como objetivo contribuir a una creciente bibliografía que enfatiza el papel cada vez más importante de la política fiscal para la estabilidad financiera, así como el papel subyacente de la agencia política en la liberalización financiera y el desmantelamiento del estado de bienestar.

Palabras clave: restricciones fiscales, reglas fiscales, deuda privada, financiarización, agencia política, señalización de mercado, reforma financiera, liberalización financiera.

ABSTRACT

The role of fiscal rules in private debt accumulation

The bibliography on fiscal rules has primarily highlighted their role in fiscal sustainability and macroeconomic stabilization, with a focus on public debt. The main goal of this thesis is to analyze other potential effects of fiscal rules and demonstrate that, in the presence of fiscal constraints, political agents have incentives to promote consumption and investment based on private debt through financial deregulation. To achieve this, a conceptual model based on political agency and market signalling theories is proposed to study the relationship between fiscal rules and private credit. Country-level case studies are used to develop this first objective. The second goal is to empirically test the political agency dimension of the conceptual model. This involves analyzing the effect of fiscal rules on private debt and financial liberalization. The signalling of fiscal rules in markets is discussed qualitatively, as its inclusion in the empirical analysis would fundamentally alter the nature of the research, requiring a more quantitative focus on economics and finance disciplines. Overall, the empirical results strongly support the notion that restricting fiscal policy through rule-based public policy frameworks is insufficient to reduce the political myopia that endangers financial stability and the welfare state, as fiscally constrained politicians are more prone to implement imprudent financial liberalization policies. This thesis aims to contribute to a growing body of literature emphasizing the increasingly important role of fiscal policy for financial stability, as well as the underlying role of political agency in financial liberalization and the dismantling of the welfare state.

Keywords: fiscal constraints, fiscal rules, private debt, financialisation, political agency, market signalling, financial reform, financial liberalization.

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LIST OF ACRONYMS

BBRs	Balanced Budget Rules
BCBS	Basel Committee on Banking Supervision
CEBS	Committee of European Banking Supervisors
CDOs	Collateralized Debt Obligations
CDS	Credit Default Swaps
CPI	Consumer Price Index
CEB	Central and Eastern European and Balkan
CCP	Counterparty Clearing House
DRs	Debt Rules
EA	Euro Área
ECB	European Central Bank
ECOFIN	Economic and Financial Affairs Council
EDIS	European Deposit Insurance Scheme
EDP	Excessive Deficit Procedure
EBA	European Banking Authority
EIOPA	European Insurance and Occupational Pensions Authority
EMDEs	Emerging Markets and Developing Economies
EMU	Economic and Monetary Union
ERs	Expenditure Rules
ESMA	European Securities and Markets Authority
EU	European Union
FIRE	Finance, Insurance, and Real Estate
FNMA	Federal National Mortgage Association
FSA	Financial Services Authority
GDP	Gross Domestic Product
GFC	Global Financial Crisis **HH** Household
HICP	Harmonised Index Consumer Prices
IFS	International Financial Statistics
IFIs	Independent Fiscal Institutions
IMF	International Monetary Fund
KLEMS	Capital, Labour, Energy, Materials, and Service

LSE	London Stock Exchange
LTV	Loan to Value
MBSs	Mortgage-Backed Securities
NFC	Nonfinancial Corporation
OECD	Organization for Economic Co-operation and Development
PPPs	Public-private partnerships
RRs	Revenue Rules
PSBR	Public Sector Borrowing Requirement
SEC	Securities and Exchange Commission
SGP	Stability and Growth Pact
SnP	Standard and Poor's
SMEs	Small and Medium Size Enterprises
SSM	Single Supervisory Mechanism
TFP	Total Factor Productivity
UK	United Kingdom
US	United States
VAT	Value-Added Tax
WB	World Bank
WDI	World Development Indicators

1. INTRODUCTION

1 INTRODUCTION

Over the past half-century, the global economy has undergone profound transformations driven by processes of globalization and economic liberalization. These forces have prompted significant economic policy shifts, including the pursuit of monetary policy independence and a focus on fiscal austerity. fiscal austerity, characterized by efforts to reduce government deficits and debt, has often been linked to policies aimed at limiting public spending and promoting market-oriented reforms. Alongside these developments, the financial industry has seen a dramatic rise in influence, a phenomenon known as financialisation: the increasing dominance of financial motives, markets, and institutions in shaping economic and social outcomes.

This thesis explores the intricate connection between fiscal austerity and financialisation, examining how the drive for fiscal discipline (via the establishment of fiscal rules) may have inadvertently fueled the expansion of the financial sector and private debt. The relationship between these processes is complex: while fiscal austerity often aims to restrain public sector growth and reduce reliance on government intervention, it can also create opportunities for the financial sector to expand as individuals and businesses turn to private markets to meet needs that might previously have been addressed by the state.

Fiscal imbalances in many OECD and developing countries during the 1970s and 1980s created large amounts of outstanding public debt. In response to the wave of sovereign debt crises that followed, a doctrine of fiscal austerity emerged. Toward the end of the 1970s, high inflation in the US and Europe prompted measures to tighten the monetary policy. The increase in interest rates led to a wave of sovereign defaults as many developing countries, especially in Latin America, were unable to pay their debt

(Devlin and Ffrench-Davis, 1995). The importance of sound public finances became clear, triggering a push to tie policy makers' "fiscal hands" and prevent shortsighted fiscal policy leading to excessive borrowing, ballooning public debt, inflationary biases, and financial crises, as happened during the late 1980s (Rogoff, 1990; Canova and Pappa, 2005; Debrun and Kumar, 2007; Milesi-Ferretti, 2004).

The goal of this approach to fiscal policy was aimed at achieving a balance between controlling government actions and leaving a buffer for stabilization policy, and it developed mostly in the United States (balanced budget provisions at the State level) and in the EU (first the Maastricht Treaty in 1992 and later the Stability and Growth Pact in 1999) (Canova and Pappa, 2005; Brunila et al., 2001). An important consequence of this approach to fiscal policy has been the constraint of the operation of welfare states, which at the same time have had to cope with stagnation or even decline in employment rates in many sectors of the economy. In fact, several authors identify that welfare benefits in Europe were already cut before the 2008 crisis and the subsequent wave of austerity measures (Buendia et al., 2020; Rueda, 2015; Pontusson and Weisstanner, 2016).

A common element in fiscally conservative frameworks are fiscal rules, which are long-lasting constraints on fiscal policy through numerical limits on budget balances, public debt, and, to a lesser extent, on expenditure and revenue (Schaechter et al., 2012b). Fiscal rules can mitigate the impact of the "common pool problem" in public finances (Debrun and Kumar, 2007), and provide a mechanism through which regional costs of fiscal indiscipline in monetary unions can be internalized (Kumar et al., 2009). Although during the 1980s and 1990s fiscal rules were a "quasi-exclusive element of fiscal policy in advanced economies" (Bova et al., 2014), the adoption of fiscal rules has grown rapidly in emerging markets and developing economies (EMDEs) over the past 15 years. At the end of March 2012, the number of countries with fiscal rules was 76 (Schaechter et al., 2012b).

In the Economic and Monetary Union (EMU), the case for fiscal rules stems from requirements from low-debt countries toward countries with higher debt levels for a balanced budget (e.g., frugal countries like Germany and The Netherlands require high debt countries like Spain or Italy to lower their public debt). In the Euro Area (EA), Member States

are required to comply with the so-called convergence or Maastricht criteria (based on Art. 140 of the Treaty on the Functioning of the European Union) in order to enter the third stage of the Economic and Monetary Union to adopt the euro and remain in it. Fiscal criteria establish that the annual general government deficit must remain below 3 percent of GDP and the government debt-to-GDP ratio below 60 percent at the end of the fiscal period.

While taking for granted that a fiscal framework including fiscal rules is needed to support the institutional architecture of the EMU, a question arises regarding how and through which channels constraints on fiscal policy might be linked to increasing excessive credit growth and private debt in the first place. Although private credit growth has often been associated with financial deepening and long-term economic growth (Levine, 1997), it is also closely related to boom-bust cycles conducive to financial crises (Schularick and Taylor, 2009; Alberola-Ila et al., 2016). Furthermore, enhanced private sector leverage has been associated with the process of financialisation in the political economy literature. Since the 1970s and 1980s, many countries have experienced a financialisation process in their economies (Battiston et al., 2018). Financialisation is a relatively new phenomenon and a term for which a common agreement on its definition is still pending (Epstein, 2005). According to Krippner (2005), in short, financialisation is the "growing weight of finance in the economy". Other authors offer similar definitions, such as "a pattern over time of economic activity where profit accumulates increasingly through financial activities rather than through the production of commodities and trade" (Arrighi, 1994). For Bottomore et al. (1981) financialisation is the process by which financial capitalists accumulate power and increasingly concentrate rents. Financialisation is associated with deregulation and empowerment of financial institutions (D'Arista, 2005; Dodd, 2005; Parenteau, 2005). For Epstein (2005) financialisation means "the increasing role of financial motives, financial markets, financial actors, and financial institutions".

Financialisation implies an increased focus of households and nonfinancial corporations in financial income (rather than in the nonfinancial income streaming from their nonfinancial/productive activities), meaning an increased focus on increasing shareholder value, instead of customer value. For households, it means increased amounts of financial assets (such as consumer debt and mortgages, investments in capital markets) in the balance sheet. It also implies a focus on short-term profit generation, as this is what

shareholders look for when they invest in a company, rather than the creation of long-term and sustainable value. In practice, this is related to the generation of profits in capital markets with the issuance and trading of corporate bonds.

A direct consequence of the ubiquitous role of finance in the economy is the increased leverage in the system, especially in the household sector. In the US, the median real household debt increased by 179 percent in the twenty years going from 1989 to 2007, and total household debt as a percentage of GDP increased during these same years from 58 percent to 97 percent. In 2007, the aggregate ratio of household debt to income was around 119 percent (Goldstein, 2013). The following chart from the IMF Global Debt Monitor 2023 shows the large increase in household debt since the 1950s. Nonfinancial corporation debt also displays a larger increase since the 1950s than public debt, which has fluctuated over time.

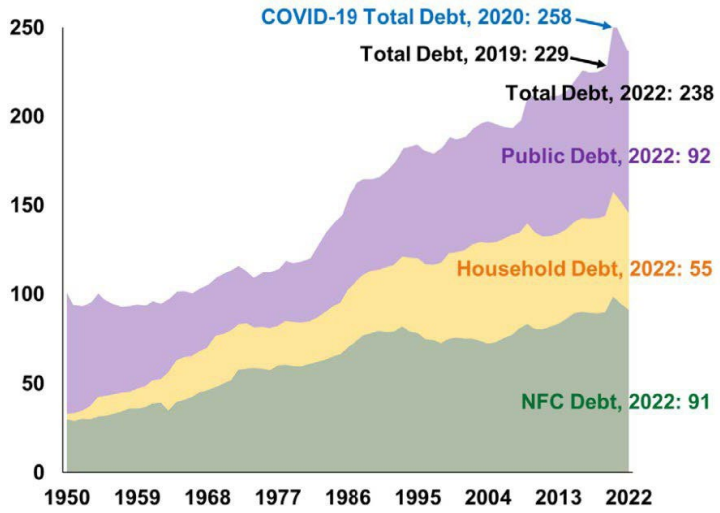


Figure 1: Global public and private debt, 1950–2022 (Percent of GDP).
Source: IMF Global Debt Monitor 2023.

This thesis analyzes how and through which channels constraints on fiscal policy (i.e., strength of fiscal rules) may have impacted credit market outcomes and, more specifically, the large increase in private debt. More concretely, the thesis attempts to provide a political economy explanation of why recent decades have seen a rapid increase in private leverage, especially in household leverage, by looking at politicians´ incentives in

the context of budgetary constraints they face. The thesis departs from the assumption that fiscal policy makers have incentives to stimulate credit market activity in order to generate consumption, investment, and thereby economic growth, and that these incentives become stronger when their discretion over fiscal policy is limited through institutional set-ups such as fiscal rules. Although the importance of lobbying forces in shaping the financial regulatory process (Kroszner and Strahan, 1999) should not be downplayed, this thesis argues that the rise of financialisation since the late 1960s has been primarily rooted in budgetary and regulatory innovations of policymakers.

In order to study this relationship, this thesis proposes a novel conceptual model based on two transmission channels through which fiscal constraints can lead to higher private debt: the political agency channel and the market signalling channel. The political agency channel is based on the principal-agent and moral hazard theory (Dutta and Radner, 1994; Dow, 2012; Schuknecht, 2004) applied to the context of fiscal rules and private debt. The market signalling channel is anchored in the information that fiscal policy decisions, such as the implementation of a fiscal rule, provide to market participants (Akerlof, 1978; Melosi, 2017; Debrun and Kumar, 2007). The empirical analysis focuses on the channel of political agency by studying the impact of fiscal rules on private debt and financial deregulation. The market signalling channel is treated in this thesis as an additional scope consideration, and therefore it is only discussed qualitatively.

First, empirical results show that the strength of the fiscal rule enhances private credit. Second, the thesis looks at political incentives to steer credit-based consumption and investment in the presence of fiscal rules by deregulating financial markets. In this sense, empirical results show that fiscal rules have a statistically positive effect on financial deregulation. Overall, the findings strongly support the notion that tying policy makers' hands (Giavazzi and Pagano, 1988) through rules-based policy frameworks is not sufficient to curtail political shortsightedness that endangers financial stability. Fiscal rules require institutional arrangements to be strong and credible, but they also require frameworks to mitigate the downside risks of their circumvention.

This thesis contributes to several streams in the literature. First, it expands on the growing literature studying the institutional and political fundamentals of the dynamics

of the credit market and its implications for financial stability (Ansell, 2014; Calomiris and Haber, 2014; Knott, 2010). Second, this research adds to the rapidly growing literature on the critical links between fiscal policy and the dynamics of the credit market (Lucas, 2016, 2014b; Alberola-Ila et al., 2016; Porta et al., 2002; Menaldo, 2015). Third, this thesis contributes to the literature on financialisation, which is a "widely-perceived but little-examined phenomenon" (Krippner, 2005), and to understanding the causes and consequences of the rise of finance over recent decades (Jordà et al., 2016). Fourth, I am providing a novel explanation as to why policymakers have facilitated the rise of the financial industry, during the process of financialisation, which has in fact become a key political player (Witko, 2015; Fernandez-Villaverde et al., 2013). Finally, over the past decade there has been an increase in the sociology literature linking financialisation to fiscal regimes, thereby zooming into the "fiscal-financial nexus" (Quinn, 2017). Therefore, I also contribute to the research that has been developed in the sociology literature on the relationship between fiscal and financial institutions (Gotham, 2006; Davis and Kim, 2015; Carruthers, 2015), by providing a review of government policies that contributed to the rise and global use of financial markets to engineer income distribution and economic growth.

The rest of the thesis is structured as follows. Chapter 2 presents the theoretical framework that sets the political, economic and historical context, the definition and scope of the key concepts studied (fiscal rules and financialisation), and the theoretical assumptions (for political agency and market signalling) on which the research rests. Chapter 3 presents the objectives of the thesis and the hypothesis under investigation. Chapter 4 provides an overview of the methodology, namely a combination of country case studies (qualitative approach) and empirical analysis (quantitative approach). Chapter 5 presents the results: from a qualitative point of view, the investigation results in the development of a conceptual model based on the application of political agency and market signalling theories to the relationship between fiscal rules and private credit; from a quantitative point of view, the chapter presents the results of the empirical testing of the effect of fiscal rules on private debt and financial liberalisation. This chapter also includes a discussion on the limitations of the research. Chapter 6 presents the conclusions and Chapter 7 discusses the policy implications of the results. The Appendix includes tables for robustness checks, descriptive statistics, and a description of all variables employed in the empirical analysis.

2. THEORETICAL FRAMEWORK

2 THEORETICAL FRAMEWORK

The theoretical framework is broken down in different sections. First, it discusses the political, economic, and historical environment in which this thesis is situated and presents the relevance of the topic for the current context, making use of academic concepts and research. Second, a literature review on fiscal rules is developed. Third, a literature review on financialisation is presented. Finally, the theoretical framework covers the political agency and market signalling concepts and assumptions.

2.1 Political, economic and historical context

The world economy and economic thought have undergone major transformations driven by crises and new phenomena such as globalization and international trade, liberalism, the rise of finance, technological advances, the digital revolution, and the urgent need to fight climate change. Economic thought has evolved from a rational-efficient agent model to acknowledge the roles of individual behaviors, psychology, politics, and institutional setups in shaping economic outcomes. These transformations have been further influenced by pivotal crises like the Global Financial Crisis (GFC) and the COVID-19 pandemic, which exposed and challenged the existing economic paradigms.

Since the onset of the GFC, debates on financial greediness and stability have become prevalent. This crisis primarily affected the private sector (households and firms), leading to government bailouts and increased public debt. Countries like the US used fiscal stimulus for recovery, while the EU adopted austerity measures, impacting the speed of recovery. The GFC was, in part, rooted in undesirable policy responses

triggered by the doctrine of fiscal austerity and financial liberalization of the past decades (Eichengreen, 2008). The COVID-19 pandemic marked a new era for fiscal policy and government roles. Unlike the GFC, the COVID-19 crisis saw extensive use of fiscal policy to address sharp drops in GDP, partly due to the lessons learned from the GFC. This shift highlighted the necessity of substantial fiscal support and challenged the previous doctrine of fiscal austerity.

As depicted in Figure 2, the correlation between bank funding costs (Credit Default Swaps CDS) and sovereign bond spreads highlights the increasing interdependence of private and public debt during this period (Panetta et al., 2011). In fact, banking and sovereign debt crises are increasingly interlinked (Correa and Sapriza, 2014). In Figure 2 the horizontal axis shows the banking sector's consolidated claims on the public sector of the respective country as a percentage of Tier 1 capital (that is, the exposure of banks to their sovereign). The vertical axis shows the correlation between the average five-year CDS premium for large banks and the CDS premium of sovereign debt (weighted by GDP). Each dot represents a bank.

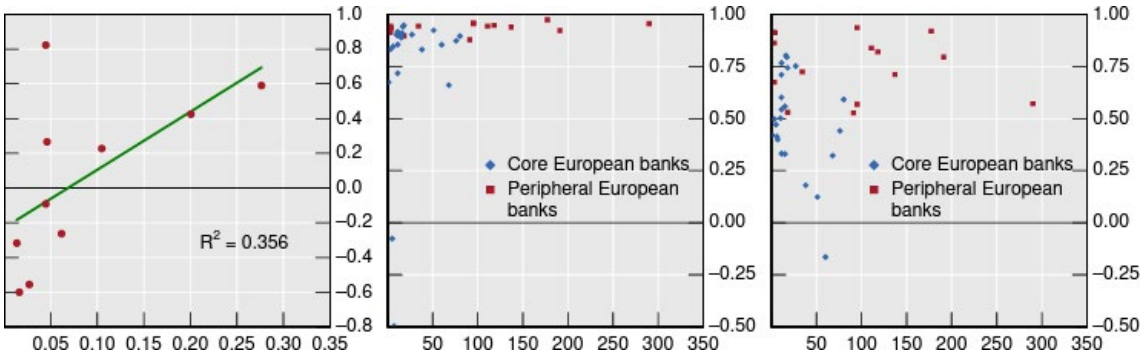


Figure 2: Correlation between bank and sovereign funding costs.
Source: Panetta et al. (2011).

According to Panetta et al. (2011), the transmission channels through which sovereign risks can affect bank funding costs are:

- losses on government debt that affect bank balance sheets,
- sovereign risk lowers the value of collateral used for wholesale funding and central bank liquidity,
- credit rating downgrades for sovereigns are normally followed by rating downgrades for domestic banks (which increases their funding costs and market access), and
- sovereign risk reduces the benefits banks receive from explicit and implicit government guarantees.

The European sovereign debt crisis illustrated how banking and sovereign debt crises are interconnected, due to the strong and persistent connection between domestic banks and the government. In the EA, the high demand and supply of credit during the decade before 2009 caused an expansionary boom in the financial cycle and a pronounced increase in private sector debt (i.e., household and nonfinancial corporations), which increased from 110 percent of GDP in 1999 to 147 percent in 2009; since then, the ratio of private debt to GDP in the EA has decreased and reached 139 percent in 2016 (ECB Economic Bulletin, Issue 4 / 2017). When large amounts of this outstanding private debt turned sour after the financial crisis, governments, such as the one in Greece, carried out extensive national bailout packages to recapitalize and reform the banking sector, which almost exhausted their entire fiscal space and virtually stood on the verge of financial collapse and sovereign default.

This link between banks and government has been termed the “sovereign-bank nexus”, where vulnerabilities in one sector lead to adverse feedback loops that multiply and accelerate vulnerabilities in the other sector (Dell’Ariccia et al., 2018). The bank-sovereign nexus is activated through three different channels:

- direct sovereign exposures: banks are a key source of finance for the government through the provision of direct loans, and at the same time, sovereign debt is demanded by banks for liquidity management and market-making purposes.

- provision of government guarantees: governments are exposed to banking crises through the activation of publicly provisioned debt guarantees, as well as costly resolution or recapitalization procedures. Similarly, deterioration in public finances impairs the government's ability to provide financial assistance to the banking sector in the form of guarantees.
- the health of both banks and governments depends on macroeconomic conditions: economic slowdowns affect banks and governments alike via higher funding costs, higher uncertainty, deterioration of loan portfolios, and government finances.

Based on data from the European Banking Authority (EBA) stress test in 2011, the average exposure of banks to their sovereign in 2010 was 86 percent of total sovereign debt in the balance sheet, with Spain, Greece, and Italy (in that order) being the highest with almost 100 percent of exposure to their home sovereign out of the total sovereign exposures in bank portfolios in those countries. Politics is a driving force behind the bank-sovereign nexus, since numerous European banks are partially state owned or have former politicians on the board of directors (De Marco and Macchiavelli, 2016).

Although during the 1980s, unsustainable public spending and ballooning public debt were identified as the "evil" ingredient leading to financial crises, following the financial meltdown in 2008, reckless lending by banks and rapidly growing private debt received most of the blame (Schularick and Taylor, 2009). However, the private sector was not alone in the making of the GFC. There is widespread agreement that the crisis was a toxic combination of credit booms and housing bubbles fueled by regulatory arbitrage by banks, but also driven by too light regulation and oversight of the financial system (Acharya and Richardson, 2009; Levine, 2010). Regulatory arbitrage, on the one hand, was driven by the placement of certain assets, such as securitized mortgages, in off-balance sheet entities, which allowed banks to avoid significant regulatory requirements for those assets. On the other hand, capital requirements were reduced for the best-rated tranches (that is, AAA) of securitized positions on the balance sheet (Acharya and Richardson, 2009). The outcome was a generalized undercapitalization of the financial system.

Authors like Levine (2010) discuss the critical role politicians played in the build-up of the crisis. The crisis uncovered malign incentives for private and public agents (in financial markets and in policy making), meaning that individuals did not act in a rational and welfare maximizing way. This line of thought contrasts with those of many relevant researchers and policy makers that argue that the housing bubble was built through rapid and large inflows of capital into the US, which lowered interest rates and generated a credit boom in mortgages, coupled with poor underwriting standards, and fueled financial innovations that led to an excessive and unsustainable credit boom. This stance blames reckless bankers and places politicians as victims of a crisis that they had to deal with. Levine argues that this stance is not only incomplete, but also prevents the kind of discussion and thought that would lead to effective reforms and improvements in how policy is conducted: "While large international capital flows to the United States fueled speculative investments in real estate and while financial shenanigans helped destabilize the global financial system, a different view holds that policies caused this crisis" (Levine, 2010). In his paper, Levine argues that the Federal Reserve, the Securities and Exchange Commission, the US Congress, and other agencies actively conducted policies to incentivise risk taking, which eventually led to a failing financial system. In this way, it redirects attention to potential policy-related causes of the crisis.

As a response to the GFC, the Basel Committee on Banking Supervision (BCBS)[1] developed Basel III, which is an internationally agreed set of measures aimed at strengthening the regulation, supervision and risk management of banks[2]. Together with monetary policy easing and fiscal austerity, the Basel III reform is a key policy response to the GFC that continues to be refined and shape national financial policies to this day. In the EU, the Basel III standards have been implemented through new financial

1 The BCBS is an international committee that sets global standards for the regulation and supervision of banks. Established in 1974 by the central bank governors of the G10 countries, the BCBS aims to enhance financial stability by providing a framework for sound banking practices. It develops guidelines and regulatory standards, such as the Basel Accords (Basel I, II, and III), which national authorities use to ensure that banks operate safely and manage risks effectively. The BCBS operates under the Bank for International Settlements (BIS) in Basel, Switzerland.

2 Before Basel III, the BCBS developed Basel I and then Basel II standards. Basel III consists of more complex and comprehensive standards, aimed at increasing the quantity and the quality of capital buffers in the system.

and banking regulations, such as the Capital Requirements Regulation (the first version was in 2014 with subsequent revisions) and Capital Requirements Directive. Besides introducing new harmonized legal frameworks at the EU level, the Banking Union was created with the aim to strenghten the banking system. The Banking Union is a key complement to the Monetary Union as it supports the smooth transmission of monetary policy and reduces the sovereign-bank nexus. These reforms are beneficial to insulate financial stability from opportunistic objectives of elected politicians seeking to incentivise risk taking.

The GFC highlighted the flaws in a growth system focused on short-term profits and maximizing shareholder value instead of societal value (welfare). This system was in place since the 1970s and emerged after the opposing doctrine of Keynesianism faced issues that it could not solve, such as high inflation and low growth. During this time, central banks were primarily tasked with managing economic cycles through interest rate adjustments and other monetary tools, under the belief that fiscal interventions should be minimal due to concerns over budget deficits and public debt. There was a focus on market and economic efficiency as a means for wealth redistribution (as opposed to government spending). Fiscal policy had been relegated to a secondary role; there was "widespread consensus among economists that fiscal policy is not useful as a countercyclical instrument" (Feldstein, 2009). Among other factors, it was perceived as subject to political influences (Dow, 2012). It did not fit in an economic doctrine where individuals are rational and free of bias:

> *"Fiscal policy is deeply intertwined with politics since it is mostly about redistribution across individuals, regions, and generations: the core of political conflict."* (Alesina and Passalacqua, 2016)

However, the global financial crisis of 2008 and the subsequent economic challenges highlighted the limitations of monetary policy, particularly in a low-interest-rate environment where conventional tools like rate cuts became less effective. The COVID-19 crisis also exposed issues that could not be addressed merely by adjusting interest rates and money supply. The large amount of fiscal support released to compensate for lockdowns and supply chain disruptions returned fiscal policy to a

central stage, as governments provided support to households and firms through debt moratoria, guarantees, and unemployment compensation. Unlike during the Global Financial Crisis (GFC) and preceding decades, large fiscal spending was now deemed essential to prevent a major economic collapse and facilitate the transition towards a greener and digitalized economy.

This has led to a renewed recognition of the role fiscal policy can play in stimulating demand, addressing inequality, and fostering long-term economic growth. Unlike the monetary policy approach, which operates indirectly by influencing borrowing costs and financial conditions, fiscal policy directly injects resources into the economy through government spending and tax measures. The current policy landscape reflects a broader acceptance of the complementary roles that both fiscal and monetary policies must play in ensuring economic stability and growth, signaling a paradigm shift from the previously held notion of monetary policy supremacy.

According to Saraceno (2023), the "reappraisal of fiscal policy happened in three stages". First, following the GFC, the focus was on how to use counter-cyclical fiscal policy to stabilize the economy. Second, the debate shifted towards the need for a longterm perspective in public investment and industrial policy to foster potential growth while allowing for a more sustainable management of public budgets. Third, with the COVID19 pandemic, fiscal policy became an even more evident tool to provide capital, public goods, and ecological and digital transitions. The following extract from a Bloomberg article summarizes this transition.

> *"In 2020, when the pandemic hit and economies around the world went into lockdown, policymakers effectively short-circuited the business cycle without thinking twice. In the U.S. in particular, a blitz of public spending pulled the economy out of the deepest slump on record — faster than almost anyone expected — and put it on the verge of a boom. The result could be a tectonic transformation of economic theory and practice. The Great Recession that followed the crash of 2008 had already triggered a rethink. But the overall approach — the framework in place since President Ronald Reagan and Federal Reserve Chair Paul Volcker steered U.S. economic*

> *policy in the 1980s — emerged relatively intact. Roughly speaking, that approach placed a priority on curbing inflation and managing the pace of economic growth by adjusting the cost of private borrowing rather than by spending public money. The pandemic cast those conventions aside around the world. In the new economics, fiscal policy took over from monetary policy. Governments channeled cash directly to households and businesses and ran up record budget deficits. Central banks played a secondary and supportive role — buying up the ballooning government debt and other assets, keeping borrowing costs low, and insisting that this was no time to worry about inflation."*[3]

As the COVID-19 crisis brought the role of governments and fiscal policymakers back to the center of economic management, it dismantled (albeit temporarily) the fiscal constraints that were a key component of neoliberal thought and the wave of financial liberalization leading to financialization and the GFC. This shift underscores the need to analyze and monitor the increased role of fiscal policymakers to prevent distortions in a complex system where decision-making is not always rational or welfare-maximizing. Fiscal policy's resurgence underscores the importance of studying political agency (i.e., the capacity of political agents to make decisions, strategic choices, and produce effects toward political goals) in this context. The first crisis evidenced the fragility of financial systems and the dangerous rise of financialization, a direct consequence of the marriage between speculative finance and financial deregulation in the 1970s, 1980s, and following decades. The COVID-19 crisis reaffirmed the need for substantial fiscal support, effectively causing the doctrine of austerity to retreat rapidly worldwide.

In the past, extensive research and thought were dedicated to the topic of central bank independence (Hibbs, 1977; Blinder, 1998; Alesina and Stella, 2010a). Since 2008 the major central banks, such as the Fed or the ECB, have taken unconventional monetary policy measures which effectively blur the line between monetary/financial stability mandates (e.g., lender of last resort) and fiscal policy (Jayadev et al., 2018). Marmefelt (2020) explores the interaction between monetary and fiscal policies during

3 "The COVID Trauma Has Changed Economics Maybe Forever", Bloomberg News 06/01/2021.

the pandemic, emphasizing the need for coordination between these two areas to effectively address the crisis. The experience of the pandemic provides valuable insight into economic policy making, emphasizing the need for preparedness, flexibility, and resilience in economic structures.

In the same vein that possible undesirable policy responses due to central bank independence have been analyzed in the literature (Aklin and Kern, 2021), possible undesirable policy responses of the fiscal set-up must also be explored. Fiscal rules are a key unit of study to this end because they impact policy makers' incentives and impose decision constraints to use a determined policy mix or another. As we will argue in the thesis, fiscal rules can be a source of malign incentives when policy makers are constrained and opt for using unconventional methods for economic and redistribution purposes. At the same time, this rules-based institutional arrangement provides important support in a monetary union. Fiscal rules were part of the monetarist paradigm that relegated fiscal policy and aimed at containing deficits. However, fiscal rules and the set-up around them can be a crucial piece of the new economic paradigm with fiscal dominance. For this, fiscal rules require a reform where they are adapted to the new reality of green and digital transformation, and where their definition is broadened. Fiscal rules do not tend to account for off-balance items such as government guarantees and contingent liabilities, hence the stock of guarantees is not controlled (Razlog et al., 2020). During the COVID-19 crisis, governments have provided extensive debt guarantees which could pose financial stability concerns if they materialize in a timely and concentrated way.

In the context of the EMU, the COVID-19 crisis has brought additional considerations and discussions regarding the fiscal framework, strengthening the case for reform (Beetsma, 2022). More concretely, it has opened a discussion regarding the need to reevaluate the fiscal rule framework and adapt it to the new reality brought by the COVID-19 crisis, a reality marked by historically high public debt levels and guaranteed debt coupled with a very large need for public investment and growth, and a period of monetary policy normalization following the inflationary environment after the COVID-19 pandemic and the war in Ukraine. Against this context, many asked for a fully-fledged review of the fiscal rules that limit fiscal spending and public debt in the EA, in order to

find the right approach to make fiscal policy supportive of sustainable growth. Fiscal rules need to be designed in a way that allow for green deals, forward-looking investments and digital transitions. Common fiscal rules in the EMU are still needed after COVID-19, but at the same time the fiscal framework has to be revisited to adapt to the new reality brought by the COVID-19 crisis. Together with the review of ECB monetary policy there needs to be a dialogue between the fiscal and monetary governance to find a coordinated solution. In the context of the COVID-19 crisis, the EU activated the escape clause of the fiscal rule framework, meaning the rules no longer applied for a determined time period. This opened up a window of opportunity to review the framework, as demanded by some of the Member States already before the COVID-19 pandemic who viewed the framework as insufficiently plausible.

The 2008 financial crisis and the COVID-19 pandemic have both played significant roles in exacerbating income inequality, each acting as a catalyst for widening the economic divide. The 2008 crisis, triggered by the collapse of the housing market and the subsequent failure of financial institutions, led to a prolonged recession. The recovery from this downturn was uneven, with wealthier individuals, who had more assets and stocks, benefiting disproportionately from the rebound in financial markets, while lowerincome groups faced persistent unemployment and wage stagnation. Moreover, austerity measures in many countries disproportionately affected social services that support the lower-income population, further entrenching inequality. The graph below from the New York Times shows the evolution of the SnP 500 (a stock market index that represents the stock performance of 500 large companies listed on stock exchanges in the United States) since the 1980s. The fiscal stimulus measures and monetary policies had a positive effect on stock market confidence and performance.

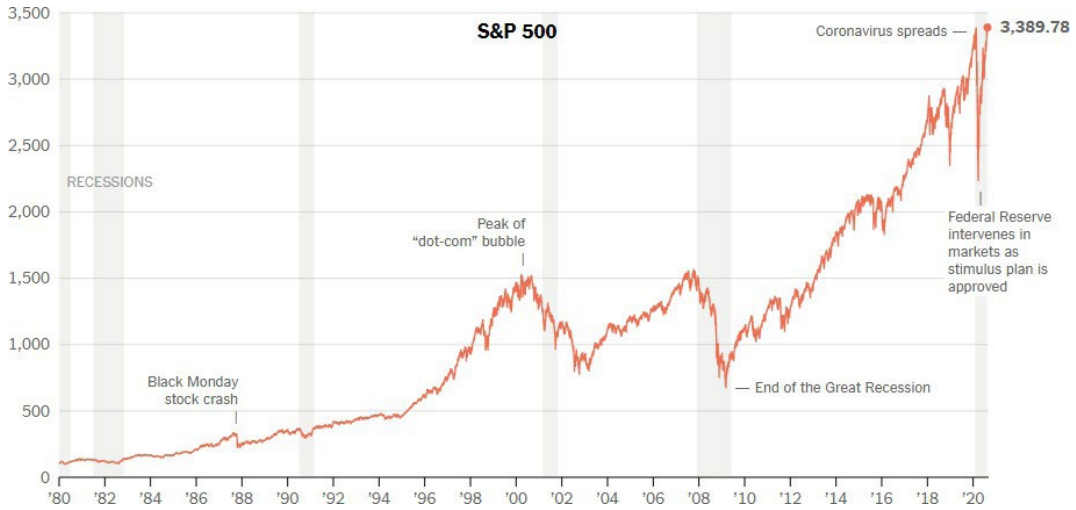


Figure 3: Standard and Poor's 500 historical evolution.
Source: New York Times,[4]18 August 2020.

The COVID-19 pandemic compounded these disparities. While the economic shutdowns caused widespread job losses, particularly in service industries with lower wages, the shift to remote work and the booming tech and finance sectors led to significant wealth accumulation for those at the top, especially for individuals with substantial stakes in digital and technology companies. Additionally, the pandemic highlighted and deepened existing inequalities in healthcare access and educational opportunities, which are closely linked to economic outcomes. As a result, those already at a disadvantage experienced harsher economic impacts, while the wealthy were often insulated, and in some cases, even benefited from the economic shifts caused by the pandemic. This dual crisis scenario has laid bare the structural inequities in global economies, prompting calls for more equitable policy responses to foster a more inclusive recovery. The following chart illustrates the wealth gap.

4 "This Market Is Nuts: SnP 500 Hits Record, Defying Economic Devastation", Matt Phillips, 18 August 2020.

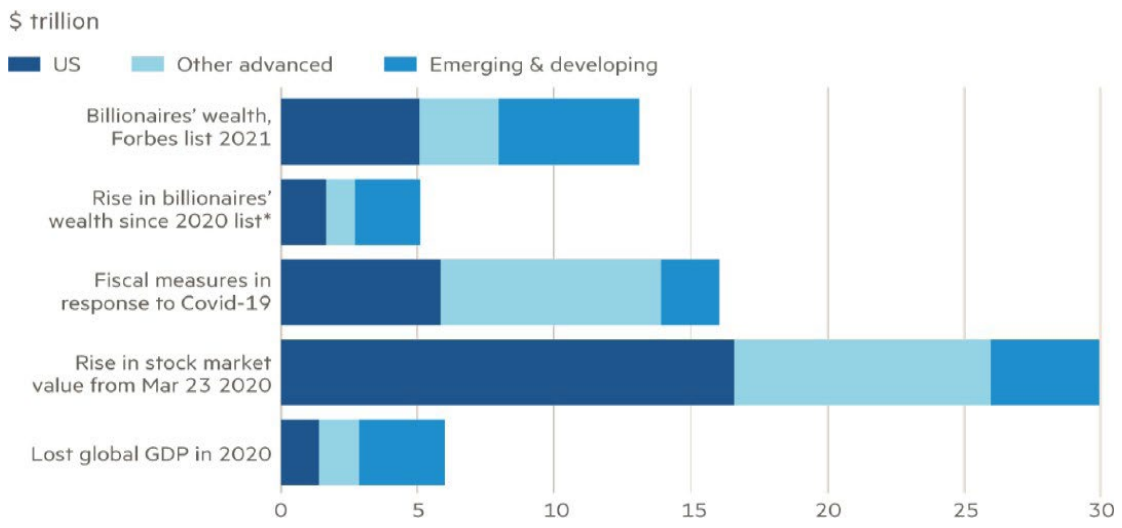


Figure 4: Wealth Gap.
Source: Financial Times[5], 14 May 2021.

Coordination between monetary and fiscal policy can help mitigate the factors that lead to high income inequality by stimulating economic opportunities for all segments of society, improving social mobility, and ensuring that the benefits of economic growth are more evenly distributed. Such strategic collaboration between monetary and fiscal policies is essential for tackling the complex challenge of income inequality, which has reached all-time highs in many developed nations following the two crises discussed above.

In conclusion, there has been a paradigm shift from the rational-efficient agent model to a broader perspective that incorporates behavioral economics, political influence, and institutional frameworks (Minsky, 1977; Kahneman and Tversky, 2013; Acemoglu, 2003). This shift has been catalyzed by the deep impact of the two crises, which not only upended global financial stability but also exposed and intensified the underlying inequities within societies. The aftermath of the GFC unveiled the perils of financial deregulation and the dangers of private debt accumulation, while the COVID-19 pandemic reminded us of the indispensable role of fiscal policy in crisis management and the importance of government intervention in the face of economic downturns.

5 "The billionaire boom: how the super-rich soaked up COVID cash", Ruchir Sharma, 14 May 2021.

2.2 What are fiscal rules?

This section provides a literature review on fiscal rules, focusing on both theoretical and empirical discussions in academic research.

Fiscal rules are numerical limits on budgetary aggregates that aim to ensure fiscal sustainability by limiting for instance how much debt a country can issue. There are also procedural fiscal rules, but in this thesis the focus lies on the numerical rules only, as they present more tangible and measurable characteristics. The procedural rules aim to establish good practices in budgetary processes to make them more transparent and predictable (Schaechter et al., 2012a). Four types of numerical fiscal rules can be distinguished on the basis of the budget item that they target: the overall budget and public debt, the expenditure side, or the revenue side. The different types of fiscal rules offer different advantages and disadvantages. Given the trade-offs, countries normally choose to have two or more rules in place.

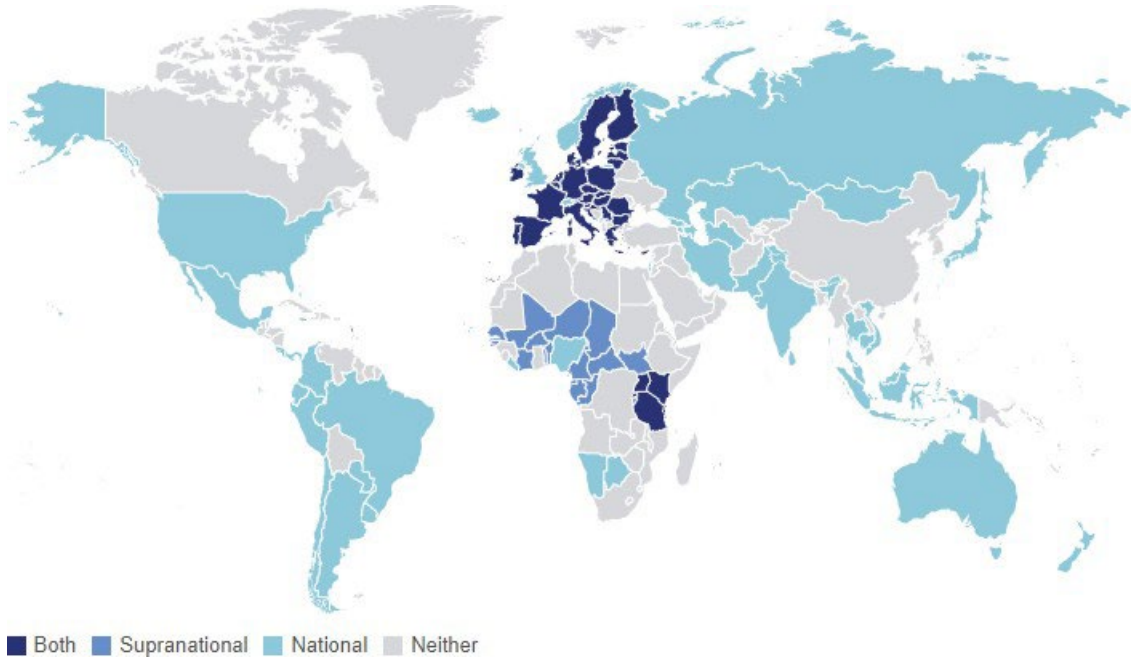


Figure 5: Number and type of fiscal rules.
Source: IMF Fiscal Rules Data Mapper.

- **Balanced budget rules** aim at constraining the GDP variable in the debt ratio and can be defined as overall balance, structural or cyclically adjusted balance, and balance over-the-cycle. The latter three rules account for economic shocks typically through an output gap measure, which also makes them more difficult to communicate and monitor given the need to estimate the adjustment required to stabilize the economy after an economic shock. Overall budget balance rules can provide clear operational guidance towards debt sustainability, but the exclusion of interest payments from the rule (exclusion because they are not directly influenced by fiscal policymakers) weakens the link to debt sustainability. Similarly, a "golden rule", which excludes capital expenditures in the overall balance target, also blurs the link to debt sustainability (Schaechter et al., 2012a).

- **Debt rules** establish a limit to public debt as a percentage of GDP. Normally debt levels take time to fully show the impact of fiscal measures, therefore a debt rule does not provide clear short-term guidance regarding the budget for policymakers. In addition, the measure could be affected by developments in interest rates or exchange rates outside of the government's control or by temporary measures such as support to the financial sector or the calling of public guarantees. On the other hand, this type of rule has a direct link to debt sustainability and is easy to communicate and monitor (Schaechter et al., 2012a).

- **Expenditure rules** aim to limit spending in terms of growth rates or as a percent of GDP oftentimes for a horizon of three to five years. Because expenditure rules do not affect revenue, they show a weaker link to debt sustainability but can act as strong counter-cyclical mechanisms during an expansion of the business cycle, where deficit limits are easy to comply with. This is especially the case if expenditure items such as unemployment support are excluded from the rule measurement, although this would also create a larger decoupling from debt sustainability. Creative accounting practices can be a challenge to monitor expenditure rules when their coverage is not broad if certain items are excluded, such as tax expenditure, governments will tend to shift expenditures under those items (Schaechter et al., 2012a).

- **Revenue rules** have a weak link to debt sustainability, as they do not constrain government spending, but rather set limits (ceilings or floors) on revenues in order

to increase collections or prevent excessive tax burdens. If implemented alone, a revenue rule can be very pro-cyclical as it does not account for the impact of automatic stabilizers (Schaechter et al., 2012a).

In addition, fiscal rules can contain escape clauses, which introduce flexibility in the case rare events occur. Examples of escape clause triggers can include natural disaster, economic recession, banking system bailout and guarantee schemes, change in government, change in budget coverage, or other events outside the government's control (Schaechter et al., 2012a). An example of an escape clause for a revenue rule can be found in Denmark, where deviation from the rule is allowed if the tax increase is for environmental reasons or to fulfill Denmark's responsibility towards the EU budget. In most cases, for debt and balanced budget rules, the escape clause can be activated if there are significant deviations from the rules due to a relevant growth downturn. For instance, to facilitate a "resolute, ambitious and coordinated policy response"[6] to the COVID-19 crisis, the ECOFIN Council activated the general escape clause in the Stability and Growth Pact on 23 March 2020.

The main argument for the establishment of a fiscal rule framework is to limit fiscal discretionary spending and large deficits, which can become unsustainable and lead to inflation or to economic crises. Examples of discretionary fiscal policy is for instance a change in taxes or spending before elections (Fatás and Mihov, 2007). Such practices have been studied as part of the political credit cycles literature (see for instance Kern and Amri (2021)). Besides establishing empirically that fiscal policy can be discretionary, Fatás and Mihov (2007) also find that fiscal policy is pro-cyclical. This has an impact on the volatility of the business cycle (i.e., economic output) and impairs long-term growth. Therefore, from a theoretical perspective, fiscal constraints can help mitigate the discretionary and pro-cyclical nature of fiscal policy:

> *"Incompetent or greedy politicians can generate substantial volatility in fiscal policy instruments."* (Fatás and Mihov, 2007)

6 Statement of EU ministers of finance on the Stability and Growth Pact in light of the COVID-19 crisis.

However, when looking at the empirical literature, it remains unclear whether fiscal constraints prevent the misuse of public funds and limit excessive public spending. In fact, the empirical results remain mixed (Poterba, 1994; Bohn and Inman, 1996; Von Hagen, 1991; von Hagen and Wolff, 2006; Moriyama and Milesi-Ferretti, 2004; Fatas et al., 2003). An IMF Working Paper from 2022 shows that fiscal rules have generally been sufficiently flexible in crisis times (as shown by the COVID-19 pandemic where escape clauses were widely used), however they have not prevented the large and persistent accumulation of debt. Past experience has shown that deviations from debt limits are for instance very difficult to reverse. The paper highlights the complex policy trade-offs ahead (e.g., between flexibility and credibility) and the need to further improve rulesbased fiscal frameworks (Davoodi et al., 2022). Flexibility in fiscal rules is required for macroeconomic stabilization during economic cycle downturns, as discretionary fiscal policy measures can be effective in mitigating the impact of economic fluctuations (Fatás and Mihov, 2012). However too much flexibility reduces the credibility of fiscal rules.

Poterba (1994) finds that stricter fiscal institutions at the State level in the United States are correlated with a more rapid fiscal adjustment to unexpected deficits. Drazen (2004) discusses the rationale for fiscal rules, such as the inconsistency in time between policy choices, where policymakers announce a policy choice and then implement another one. These factors lead to deficit bias, which in theory can be solved with the introduction of fiscal rules. The concept of time inconsistency highlights the tendency of governments to make promises about fiscal discipline but then change their minds when faced with short-term pressures or opportunities. They may promise to keep spending in check, but when the time comes to actually implement these policies, they find it tempting to spend more, especially if they believe it will bring short-term benefits like boosting the economy or winning votes. This inconsistency leads to a deficit bias in fiscal policy. Governments often end up running larger budget deficits than they initially planned because they prioritize short-term gains over long-term stability (Drazen, 2004).

Bohn and Inman (1996) find evidence that fiscal rules reduce public deficit when they are adequately designed and enforced. In addition, they find that fiscal rules are more effective if they are applied to year-end audited balances, if they are grounded in the constitution instead of statutory law, and if they are enforced by the Supreme Court.

However, while Bohn and Inman (1996) find "little evidence that the constraints force deficits into other fiscal accounts", several other studies find that fiscal constraints lead to fiscal innovations and a sale of government assets (Von Hagen, 1991; Moriyama and Milesi-Ferretti, 2004).

Gootjes et al. (2020) find strong evidence that fiscal rules mitigate political credit cycles and that the effect is larger in democracies, countries with left-wing governments, countries with few veto players, and in more globalized or open economies. In a similar vein, Rose (2006) find that strict budget balanced rules mitigate the political credit cycle and prevent deficits from being carried over to the next year.

Andrés et al. (2005) analyze how fiscal rules affect the effectiveness of fiscal policy as a macroeconomic stabilization tool. The authors find that fiscal rule strength, or tightness, does not impact the discretionary fiscal policy or the automatic stabilizers. They conclude that fiscal rules are therefore not effective in reducing large and long-lasting deviations from the steady-state debt level.

Grembi et al. (2016) focus their empirical study in Italy, where the central government established fiscal rules at the municipal level in 1999. The rules were relaxed in the following years for smaller municipalities, and the authors find that this policy change led to higher deficits and lower tax revenues. The authors also find that the effect is bigger when the mayor can go for re-election, there is a higher number of political parties (i.e., more fragmented political system), and the voter population is older.

Sub-national fiscal rules that limit tax revenues and debt ceilings of regional govern-ments might give place to moral hazard misbehavior and interest misalignment between central and regional governments. For example, during the 1970s and 1980s, local governments in Italy regularly exceeded their budget limits and asked the central government for additional transfers, threatening to stop otherwise the provision of public services (Bordignon, 2000). Other studies have also shown that central government debt tends to be higher in countries in which sub-national governments are subject to debt rules, implying central government borrowing on behalf of sub-national governments, and increased central government financial vulnerability (von Hagen and Eichengreen, 1996).

Opposition to fiscal rules tends to argue that fiscal policy is a powerful tool to manage the business cycle and limiting this tool could have amplifying effects (Levinson, 1998). While originally intended to work as smoothing counter-cyclical instruments, fiscal rules can actually have pro-cyclical effects and thus lead to enhanced leverage in the private sector (Bova et al., 2014). For instance, in the case of the EMU, economists have indeed warned that the fiscal framework is pro-cyclical and fiscal rules make fiscal policy a source of macroeconomic instability. This is an issue that Southern European Countries faced during the sovereign debt crisis, as the strong requirement for fiscal consolidation and fiscal conservativeness slowed down the economic recovery after the 2008 financial crisis and 2012 sovereign debt crisis in the EA in comparison with other countries such as the US and UK. Fiscal consolidation, while intended to reduce government deficits, often leads to short-term economic contractions or slowdowns in economic output (Giavazzi et al., 2012). Furthermore, a purely economic interpretation of fiscal consolidation does not factor in the significant role that political preferences, institutions, and electoral cycles play in shaping the accumulation and management of public debt (Alesina and Passalacqua, 2016). This is one of the drivers of ongoing debates about the need to reform the fiscal rule framework to make it more flexible and less rule-based. Jonung and Debrun (2020) examine the role of fiscal rules in anchoring expectations or disciplining governments in Europe, and discuss whether fiscal rules effectively shape expectations about fiscal policy and whether they discipline governments to adhere to fiscal targets. They conclude that "rules-based fiscal policy is facing existential threats". Other recent papers have examined the political economy aspects of fiscal surveillance, particularly in the European Union context, discussing how political factors influence the effectiveness and implementation of fiscal rules and surveillance mechanisms (Beetsma et al., 2022).

In advanced economies, there is the growing conviction that fiscal rules have become too complicated and rigid, rendering them unfit for the purpose of framing and guiding fiscal policy. Fiscal rules have received increased criticism over recent years as many EMU countries, such as Italy, Spain, or France lacked the fiscal space to conduct much needed public investment and structural reforms. Countries with tight fiscal space, such as the southern countries in the EA, are requesting increased flexibility in the application of fiscal rules in order to be able to conduct reforms such as green infrastructure projects or digitalization. A history of low compliance has generated doubts about the effectiveness

of the rules in safeguarding fiscal sustainability. In fact, some studies covering the EU Monetary Union show that fiscal rules did not effectively limit deficits in Member States (Fatas et al., 2003; Benito et al., 2015). Going further, there is evidence of the use by governments of creative accounting and other undesirable side effects such as under-provision of public investment and social spending (Eyraud et al., 2018).

Fiscal rules were increasingly mentioned already before COVID-19 in macroeconomic debates, as they prevent a more active fiscal policy to complement monetary policy efforts in supporting economic growth. Central bankers, such as Presidents of the European Central Bank, Mario Draghi and Christine Lagarde, have repeatedly voiced the need for more fiscal policy given the gradual exhaustion of monetary policy tools (e.g., record low interest rates). While fiscal policy was relatively shy in providing the necessary support to monetary policy, partially due to the fiscal constraints, during the COVID-19 crisis the rules were lifted so that governments could spend and provide the necessary stimulus to the economy. Currently there continues to be a strong disagreement regarding the Stability and Growth Pact, which reflects not just opposing ideologies, but also that the academic debate itself around what constitutes an adequate fiscal rule framework is far from being concluded Badinger (2009).

In the US, limits on State debt date back to 1842 (Heins, 1963). However, in the US Constitution, there are no provisions for fiscal rules, meaning that the federal government is not legally required to have a balanced budget. Balanced budget rules (BBRs) exist only at the State level (with the exception of Vermont). The first wave of adoption of BBRs in the US took place in the 19th century (1842 1857), which is linked to the financial crisis of 1837 and subsequent economic depression. During these times, several US states defaulted and as a consequence implemented rules to prevent unsustainable taxation or infrastructure spending in the future. For example, such rules established that State governments needed to go through a referendum before issuing new debt. After the Civil War, new States entering the Union had to incorporate debt limits in their constitution (Henning and Kessler, 2012; Bohn and Inman, 1996). More recently, the Republican Party has been calling through its “Contract with America” for a BBR at the federal budget (Inman, 1996).

Wyplosz (2005) compares fiscal rules in the US and the EU. While the US approach to fiscal rules is more oriented towards stricter quantitative limits, the approach of fiscal rules in the SGP builds on external restraint and peer pressure. While both economic regions employ quantitative fiscal rules, the rules at State level in the US establish debt ceilings between 10-5 percent of the Gross State Product, and sometimes even lower. A reason for this is the very large size of the federal budget, which provides counter-cyclical transfers. In contrast, the SGP framework relies on external restraint and peer pressure, partly due to an implementation mechanism that is lengthy (e.g., sanctions seen as a deterrent never to be used to avoid triggering anti-European feelings in the country).

Empirical studies on fiscal rules in developing economies are scarce compared to studies in developed countries. Bova et al. (2014) report that since the 2000s, the use of fiscal rules has been more widespread in developing countries. The adoption has been driven by economic integration, such as joining a currency union, and by the adoption of reforms following a period of low economic stability. The authors also find that fiscal rules have not prevented pro-cyclical fiscal policy in the adopting countries, but this could be improved by using cyclically adjusted targets, clearly defined escape clauses, and support from legal and enforcement mechanisms. In a similar vein, Thornton (2009) do not see an improvement in the fiscal performance of emerging countries that adopt fiscal rules compared to emerging countries that do not adopt fiscal rules. Having said this, fiscal policy in developing economies tends to be generally more pro-cyclical than in developed economies due to the lower quality and stability of the institutional setup, the reduced access to capital markets for public debt financing, weaker forecasting capabilities, higher output and economic volatility, and less predictable business cycles (Bova et al., 2014).

Regarding the determinants of fiscal rule adoption, Altunbas¸ and Thornton (2017) study the economic, institutional, and political factors that affect the probability that a fiscal rule is adopted by a country. The results show that the likelihood that a rule is adopted increases with public debt, with less flexible exchange rate regimes, with an inflation target for monetary policy, and with a more developed financial market. Additionally, the results also show that the effect of monetary unions on the likelihood of adopting a debt rule is stronger in high-income countries.

Amid this mixed and controversial research picture, a very relevant question is: what are the possible risks of implementing fiscal rules? The potential downside risk of fiscal rules is a topic that has not been explored to a large extent in the existing literature, which has primarily emphasized the importance of healthy and ample fiscal positions to counteract economic downturns and the negative consequences of financial volatility (Alberola-Ila et al., 2016). In particular, the impact of quantitative fiscal constraints on the real economy and the financial system provides unexplored ground for future research (Canova and Pappa, 2005).

In sum, most of the academic literature on fiscal rules has focused on the flexibility vs credibility trade-off, the impact on public debt and fiscal deficits, and the institutional set-up. However, there is little focus on the connection between fiscal rules and private debt. This thesis aims to address this gap.

The fiscal rule framework in the EU

Since the creation of the EMU in 1992 through the Maastricht Treaty (which entered into force in 1993), a fiscal rule framework has been in place to oversee and coordinate the fiscal policies in Member States in order to support the sustainability of their public finances and thereby the stability of the Euro. Notwithstanding this, fiscal policy in the EU has often been pro-cyclical and debt levels have remained high in many countries, which have struggled to reduce their deficits and comply with the fiscal rules in place. In addition, public investment has remained subdued, dragging back on economic growth. Following considerable criticism, the economic governance and fiscal framework in the EU is under review since the beginning of 2020 with the aim of reducing complexity, increasing transparency, and enhancing compliance with the framework. This is not the first time that the fiscal rule framework in the EU is reviewed. The chart below illustrates the divergence across EU Member States in terms of public debt since the 2000. Countries are grouped based on their average debt levels in 2011-2019.

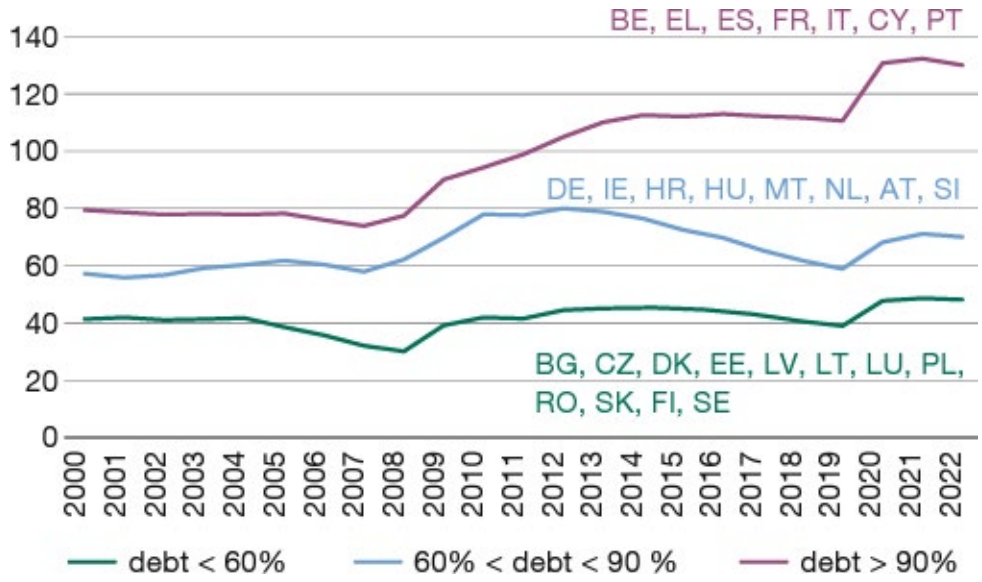


Figure 6: Gross government debt, as percentage of GDP.
Source: Beetsma (2022).

When the fiscal framework was created, it had only two rules: a 3 percent deficit rule and a 60 percent debt-to-GDP rule. Since its inception on 1992, the framework has been gradually augmented through the introduction of "second-generation rules" to increase flexibility as well as monitoring and governance. Nowadays several rules coexist together with provisions for escape clauses and exceptions, as well as additional fiscal rules at the national and subnational level in each Member State. In Spain, for instance, sub-national governments (i.e., "Comunidades Autónomas" and municipalities) manage around 50 percent of the total government expenditure, showing a relatively high degree of decentralization. In this context, sub-national governments need to receive the approval of the central government to in order to borrow and they need to comply with their deficit targets (Hernández de Cos and Pérez García, 2013).

In 2005 a structural balance rule was introduced in the EU fiscal framework, which states that the structural balance of each Member State has to be equal or larger than a medium-term objective (e.g., -0.5 percent of GDP) which set by each country in its Stability Convergence Program. For countries with a debt-to-GDP ratio well below 60 percent, the medium-term objective can be lower (e.g., -1 percent of GDP). Later on in 2011 a rule on expenditure growth was also established, which defines expenditures net of discretionary revenue measures, interest expenditures, expenditures on EU program,

and cyclical unemployment expenditures. The two rules introduced in 2005 and 2011 are interlinked: in countries where the budget balance rule is complied with (i.e., structural balance is equal or higher than the medium-term objective), the expenditure growth has to be less than or equal to the medium-term growth rate of potential GDP. Overall, the structural balance should be improving or constant (Reuter, 2020).

As public expenditures and revenues are highly sensitive to the economic cycle, certain adjustments can be made in the measurement. In the EU, as unemployment expenditures are the main cyclical component of public expenditures (average 3.1 percent of total expenditures), the European Commission nets cyclical unemployment expenditures from total public expenditures. Similarly, tax revenues are removed from the calculation of cyclically-adjusted revenues. Cyclically-adjusted revenues are adjusted to reflect a closed output gap, that is to say, to reflect that GDP is at its full potential (Reuter, 2020).

The activation of the fiscal rule escape clause in the EU due to the COVID-19 pandemic brought an opportunity to rethink the fiscal framework. On 26 April 2023, the European Commission proposed three legislative packages to redefine the economic governance framework of the Stability and Growth Pact. First, the package proposes to establish country-specific fiscal targets (in terms of net primary expenditures covering at least four years), structural reforms and investment commitments, which will be used by the EC to monitor progress by each Member State and provide technical guidance. Second, while the 3 percent deficit ratio and the 60 percent debt ratio rules remain, the corrective measures once a Member States breaches these are amended. Under the proposed framework, the excessive deficit procedure (EDP) would not be automatically triggered when a Member State breaches the 3 percent deficit ratio and the 60 percent debt ratio rules. Instead, a Member State can avoid the EDP if it complies with its country-specific net expenditure path. However if a Member State deviates from its net expenditure path and the deficit and debt rules, a corrective net expenditure path is triggered, meaning that the net expenditure path is adjusted by 0.5 percent of GDP. In addition, Member States would face fines until effective action is taken. Third, the proposal includes amending the budgetary rules for Member States and strengthening the national competent authorities for monitoring the implementation of fiscal frameworks nationally (known as Independent Fiscal Institutions). This encompasses the preparation of budget forecasts, sustainability

assessments, and ex-post evaluations of fiscal plans. A key element of this third proposal is to harmonize public sector accounting (Martin, 2023).

Fiscal rules are of little use if they are not supported and complemented by sound mechanisms of enforcement, monitoring, and transparency (Alt et al., 2012). Studies in the EMU show that fiscal rules did not effectively limit deficits in Member States (Fatas et al., 2003). For example, many local Spanish governments are exceeding their nonfi-nancial surplus and net operating balance limits, especially during election years (Benito et al., 2015). Dosi et al. (2015) develop a series of analyses focusing on the EMU, and they find that fiscal rules are detrimental for economic performance by increasing unemployment, output volatility, and increasing the risk of an economic crisis. Therefore the authors conclude that austerity policies are "self-defeating" because fiscal rules depress the economy while not improving the public debt to GDP ratio. The authors argue that a dual-mandate Taylor rule focusing on inflation and economic growth leads to better economic performance. In other words, this experimental study suggests that fiscal rules destroy economic growth, and that a combination of unconstrained fiscal policy and dualtarget monetary policy (focused on both price stability and employment) would render lower GDP volatility and probability of a crisis without leading to higher inflation and public debt (Marmefelt, 2020).

Recent academic research on fiscal rules in the EU has focused on how the framework can be reformed to ensure sustainable public finances while facilitating investment in climate policies and technological innovation (Sweeney and Canelli, 2023). Amtenbrink (2023) argue that the EMU fiscal framework has potential to contribute to financial stability by putting in place more institutional safeguards. However, the author concludes that "the capability of the current EMU legal framework and its application in practice to provide fiscal stability, is inadequate". The author argues this is because of the still limited fiscal capacity at the supra-national level, as currently there is no "permanent large-scale European shock-absorption or stabilization function". Although the NextGenerationEU initiative goes in this direction, it remains of a temporary nature. In this regard, the North-South political divide continues to prevent the design of ambitious fiscal policy capabilities at the EU level (Wasserfallen, 2023). Bordignon and Baglioni (2018) call for the introduction of a common fiscal capacity and provide both economic and political arguments for this. From an economic perspective, a common fiscal capacity would reduce

disparities between Member States' output gaps, and this would provide overall resilience for the Euro. From a political perspective, a common fiscal capacity could reduce political backlash against the EU and the Euro by discontent sectors of the population and populist parties, as this would show that "Europe cares" about individual Member States. Saraceno (2023) discusses how EU policymakers have hesitated using fiscal policy as a long-term economic stabilization tool, until the COVID-19 pandemic, and concludes that the level of political ambition is still far from what would be required to establish a common solution.

2.3 What is financialisation?

Since the mid 1980s, many countries have experienced a process of financialisation of their economies (Battiston et al., 2018), a process that is oftentimes cited in research next to neoliberalism and globalization as being the major forces shaping profound transformations in world economies (Epstein, 2005; Foster, 2007; Palley, 2016). As Epstein points out, while a lot of research has already been produced on globalization and neoliberalism, financialisation is a relatively new concept and a term for which many definitions coexist in the outstanding literature (Epstein, 2005), as it has very broad effects on the functioning of the economy, at both the macro as well as the micro level. Despite this, research into financialisation tends to be anchored on two convictions: (i) financial circumstances and events are increasingly important in the world economy, and (ii) some of its effects can be very detrimental for society and welfare (Epstein, 2005). In fact, it has been linked to declines in productivity, slower economic growth, higher household debt, higher income inequality, and the financial crisis of 2008 (Kaplan and Rauh, 2010; Zalewski and Whalen, 2010; Palley, 2016; Freeman, 2010).

In one of the early and most impactful works on the topic, Krippner (2005) defines financialisation as the "growing weight of finance in the American economy". In her paper, Krippner presents empirical evidence of the financialisation of the US economy. She takes an accumulation-centered view in order to analyze where are profits being accumulated in the economy and what is ultimately driving structural economic change. To do this, she uses two different indicators. On the one hand, she uses the source of non-financial firm revenues, where she demonstrates that portfolio income has gained importance relative

to corporate cash flows. Portfolio income is generated via interest payments, dividends, and capital gains on investments, while corporate cash flows are essentially the profit generated by the production activities (the goods or services actually produced, sold, and distributed by the non-financial firm). On the other hand, she uses the source of economic profits, where she shows that profits in the financial sectors have grown more than in non-financial sectors. Krippner concludes that accumulation is increasingly driven by financial channels, however she explicitly clarifies that her work does not allow for the conclusion that financialisation is a new phase of capitalism.

Arrighi (1994) in a paper dated from 1994 provide a similar definition to that given by Krippner, which is quoted in her paper: "a pattern over time of economic activity where profit accumulates increasingly through financial activities rather than through the production of commodities and trade" (Arrighi, 1994). In a similar vein, for Epstein (2005) financialisation means "the increasing role of financial motives, financial markets, financial actors and financial institutions", that is to say, the increase in the scale of the activity of financial markets, actors, and institutions. In another piece of early work on the topic, Phillips (2003) argues that financialisation has increased wealth and income inequality in the US, thereby eroding the social bases of democracy. Despite the importance and proactiveness of the works by Arrighi (1994) and Phillips (2003), none of them are able to provide empirical evidence on the existence of the financialisation process, partly due to the many methodological issues present financial data tends to be very granular and hence its aggregation to be examined at the macro-level is challenging (Krippner, 2005).

According to Palley (2016), financialisation is "the most recent stage of capitalist economic development", corresponding to financial neoliberalism and characterized by the dominance of financial sector interests over economic policy and the macroeconomy. As such, financialisation cannot be understood without understanding neoliberalism, which is the driving force behind it. In the book *Financialisation: the economics of finance capital domination*, Palley (2016) writes that "fully understanding financialisation is no longer just a matter of formal macroeconomic analysis, but also involves understanding the political and sociological dynamics that explain those societal choices". By looking into the data, Palley (2016) shows that before the financialisation of the economy began (before 1980), growth in demand was mainly driven by wages. However, after the

1980s demand was increasingly driven by inflation in asset prices and borrowing. In a similar vein, Foster (2007) also links financialisation to neoliberalism and affirms that the financialisation of capitalism is one of the key issues of our time, as it shifts economic activity from production to finance. However, in contrast to Palley (2016), Foster (2007) does not support that financialisation is an entire new stage of capitalism, but rather a new hybrid phase characterized by financial monopolies.

Economic orthodoxy sees in financialisation many benefits, such as greater discipline on private and especially public decision-makers. The doctrine maintains that if institutions are defined in order to mitigate moral hazard and markets can function freely, the market can correctly price sovereign debt. This way the reckless politicians with a tendency to overspend have strong incentives to adhere to hard budget constraints. If public finances deviate from the market expectations, or from the "path that financial market participants deem sustainable" (Jayadev et al., 2018), the market will ask for higher risk premia on sovereign debt and this will restore public discipline and prudence. As observed by Jayadev et al. (2018), "it is evident that the proponents of the doctrine welcome an environment in which financial market participants can act as the ultimate arbiters of fiscal policy". In *Financialisation and the World Economy*, Epstein (2005) analyses the distributional implications of financialisation and develops several case studies (Mexico, Turkey, Argentina, Brazil and South Korea) linking financialisation to financial crises in emerging markets during 1980s and 1990s. Epstein also discusses policy responses such as capital controls and taxes on securities transactions. The chapter "The Rise of Rentier Incomes in OECD Countries" discusses four factors that likely contributed to increasing rentier incomes in many OECD countries since the mid 1970s: the first factor is the implementation of tight monetary policies in 1979 and 1980, in the US and UK, where interest rates were increased to reduce inflation, and there was a shift towards independent central banks and inflation-targeting in monetary policy. The second factor is financial liberalization (including elimination of capital controls), which allowed for a significant expansion of financial activities, financial innovation, and financial profits. A third factor of structural and policy change is fiscal austerity, although the authors mention that in principle this can have mixed effects (on the one hand government deficit reduction may lead to lower interest payments to rentiers, on the other hand lower government spending also leads to lower inflation which is in turn good for rentiers).

In his work, Witko (2015) provides a political explanation to the rapid rise of financialisation, by looking into changes in the relative power of organizations of winner groups and loser groups of the process of financialisation. Witko (2015) concludes that a key cause of financialisation is the political mobilization of the financial industry, which has influenced policy and led to an uneven distribution of costs and benefits. His findings also suggest that when unions are stronger and the Democratic party is in office, financialisation moves at a slower pace.

For other authors, financialisation is associated with deregulation and empowerment of financial institutions. For instance, D'Arista (2005) points out at the international monetary system as a key element in the financialisation of the world economy. More specifically, in most industrialized and emerging economies, the increase in credit growth has been larger than the increase in GDP growth and trade growth, and according to D'Arista (2005) this can be attributed to the "credit-generating character" of international reserves. This can be explained by the hegemony of the dollar as primary reserve currency for foreign exchange transactions. D'Arista (2005) explains that the international monetary regime following the Bretton Woods system counted with a fiat standard for international payments. In this system international reserves were a mix of gold (a commodity, an asset which does not entail credit or interest-bearing features) and foreign exchange reserves, which were held by countries to invest in foreign deposits or securities (in other words, in interest-bearing credit instruments of other countries) of other issuer countries or in the external "Euro" market. In this context, the US Treasury required countries holding dollar reserves in the US to invest these in government securities. Through this, the US extracted a growing amount of wealth from emerging and developing countries, in particular, but also from developed countries that held large amounts of reserves to protect the value of their domestic currencies. As a main component of international reserves were holdings of foreign exchange invested in debt instruments, international reserves became full of foreign reserves, especially dollar reserves and reserves of other strong currencies and related denominated assets. The main role of these reserves was to expand credit in the strong economies that issues them (i.e., in the industrial countries), rather than in the countries holding the foreign reserves (D'Arista, 2005).

Davis and Kim (2015) offer a comprehensive set of explanations regarding the rise of financialisation. The Marxist political economy literature sees financialisation as the way the rentier class continued to accumulate profits despite the stagnation of industrial capitalism. These theorists believe that industrial capitalism has a natural tendency to stagnate in the absence of a wealth redistribution mechanism, as wealth is accumulating in the rentier classes while the general population lacks income to sustain the demand needed to absorb the industrial production. Hence the rentier classes increasingly engage in financial activities to compensate for the stagnation of industrial output and profits, giving place to a new form of capitalism (financial capitalism instead of industrial capitalism). The economic sociologist literature sustains that financialisation has primarily emerged from the development of a corporate takeover market, which was in turn caused by several factors such as the low corporate profitability of 1970s, financial industry deregulations by the Reagan Administration, and technological advances fostering financial innovations and new markets such as for junk bonds. In this process, corporate ownership became concentrated in a few institutional investors focused on short-term profits and maximizing shareholder value. A third explanation comes from the political sociology literature, which focuses on the role of the state and the policy response to several crisis during the 1970s. At the end of the Vietnam War, there was a social crisis characterized by high tensions among different social groups, a fiscal crisis driven by the increasing deficit, and a government legitimacy crisis where a large portion of the population lost confidence in the Administration. These crises were resolved by the US Administration by "delegating difficult decisions on prioritizing diverse social needs to the market mechanism and by deregulating financial market which created the (false) sense of resource abundance through increased accessibility to credit and the influx of foreign capital" (Davis and Kim, 2015). This is in line with Krippner (2012), who also argues that the government effectively "transformed the resource constraints of the 1970s into a new era of abundant capital". The thesis will delve deeper into this in the US country case study in the methodology chapter.

In a very comprehensive literature review, Levine (2005) extensively covers the relationship between finance and economic growth. According to Levine (2005), three broad conclusions can be drawn regarding the relationship between finance and economic growth. First, countries that have more developed financial systems also grow faster.

Second, whether the financial sector of a country is bank-based or market-based does not matter much for economic growth. Third, one important mechanism through which finance influences economic growth is the easing of external financing conditions, thereby facilitating the access to finance in capital markets to domestic firms. Researchers like Robinson (1979) have argued that finance does not cause economic growth and it simply responds to the needs of the real economy. On the other hand, authors like Miller (1998) support the idea of a finance-growth nexus and argue that without understanding this, economic knowledge is impaired. However, there is a growing body of empirical studies (at firm, industry, country, cross-country level) that provide evidence on the strong link between the well-functioning of the financial system and long-term economic growth.

From a political economy/science perspective, scholars like Pagliari and Young (2020) see financialisation as a political phenomenon as it is engineered by political decisions and decision, and at the same time it has important implications and consequences for political processes and the design of public policies. Fine (2012) provides a multifaceted analytical framework that links financialisation and social policy, and defines financialisation following eight central issues:

1. Financialisation is associated with an unprecedented expansion of financial assets and activity in comparison with the real economy. As evidence, one only needs to look at the growth of financial assets over recent decades (see McKinsey's Mapping Global Financial Markets (October 2008): global financial assets rose from 12 trillion USD in 1980 to 196 trillion USD in 2007).

2. Financialisation is associated not only with an increasing amount of financial assets, but also with the proliferation of many different types of financial assets, such as securitizations, derivatives, exchange rate speculation, and futures for currencies and commodities.

3. The expansion and proliferation of financial assets has taken place at the expense of the amount and efficacy of investments in the real economy. In other words, real investment has been decreasing and progressively replaced by speculative investment.

4. Financialisation is defined not only by financial system aspects, but also by the relation between the financial system and the industry in the real economy. In this regard, we can find evidence in the fact that non-financial corporations are increasingly involved in financial deals and rely on these kind of deals as an additional source of profit.

5. Financialisation is dependent on consumer-led booms, based on the expansion of credit. In this regard, the housing market has been particularly important as a speculative asset: "as long as the housing bubble could be sustained, so could consumer credit and expenditure" (Fine, 2012).

6. Financialisation is tightly associated with mortgage financing, which has become a symbol of how finance has penetrated in aspects of every day economic and social life such as housing, pensions, education, health, and provision of economic and social infrastructure (e.g., through PFIs as we will see in the UK case study). One of the reasons why finance has penetrated so deeply in these economic and social areas is due to the "increasing private provision of such activities at the expense of the public sector and the need for consumers to rely upon credit to be able to afford the corresponding services" (Fine, 2012).

7. Financialisation, together with deregulation, privatisation and commercialisation, has promoted a specific culture with particular practices where market efficiency and efficacy has acquired an almost sacrosanct status. This has come along a corresponding reliance on private capital and a dismissal of the state driven by a neoliberalism ideology.

8. Governments (the state) have played a major role in promoting financialisation, and they have done this both via the state finances (e.g., issuance of government bonds and increasing dependency to capital markets) and also via public policies that directly or indirectly have promoted the financialisation process. In fact, as Brown et al. (2017) points out, wage stagnation together with austerity in fiscal policy have impaired aggregate demand. This has caused an increase in the demand for consumer credit to safeguard or maintain consumption levels: "the sharp rise in

household debt has been fostered also by a Veblenian conspicuous consumption[7] due to increasing inequality" (Brown et al., 2017).

Karwowski et al. (2017) investigate the dimensions and determinants of financialisation across multiple countries. The research identifies key determinants of financialisation such as economic factors (e.g., GDP per capita, income inequality, trade openness) and institutional characteristics (e.g., legal systems, regulatory frameworks). The researchers observe that various measures of financialisation exhibit only a limited correlation, indicating the presence of separate financialisation pathways. Across all sectors, compelling evidence indicates a close connection between financialisation and asset price inflation, alongside a correlation with a demand regime fueled by debt. Furthermore, financial deregulation promotes financialisation, particularly within the financial and household sectors.

Dodd (2005) focuses on derivatives and their role in the rise of finance. More specifically, the author points at the rapid growth of this financial instrument and the associated interest of the public sector in this rapid growth. Some examples of why derivatives are beneficial for the public sector is that they increase risk-taking by lowering its cost and making it more available, they can be used to bypass regulations, and they can distort pricing and be used to window-dress accounting. Hence while derivatives can bring benefits for financial development and risk management, they can also decrease welfare and support unproductive activities.

In more recent papers, Jordà et al. (2016) show that the share of mortgage lending out of total lending over recent decades has increased substantially, being mortgage credit lent by banks the driving force behind the increased financialisation in advanced economies. In fact, the share of mortgage loans in bank lending portfolios has increased from around 30 percent in 1900 to 60 percent in 2010. Furthermore, mortgage debt held by households has increased at a faster pace than the value of the assets backing the debt (e.g., housing

7 Veblenian conspicuous consumption is a concept introduced by the economist and sociologist Thorstein Veblen. It refers to the practice of purchasing and displaying goods and services to signal social status and prestige rather than for their intrinsic value or utility.

prices), which has left a too high number of highly leveraged households vulnerable to shocks to their income or balance sheet and hence to the financial system (Jordà et al., 2016). As pointed out earlier in the thesis, in the most recent financial meltdown of 2008, a key driver was the high private debt of households and wave of defaults on mortgage loans (Acharya et al., 2009).

Overall, *The Routledge International Handbook of Financialisation* (Mader et al., 2020) offers a comprehensive collection of essays and provides an important academic reference for the study of financialisation, including considerations from political, technological, cultural, societal and the economical perspectives. The handbook covers various aspects of financialisation, including its historical roots, conceptual models for understanding it, empirical studies on its effects across different sectors and regions, and its implications for policy-making and society at large. It explores how financialisation has reshaped economic governance, influenced corporate behavior, altered household finances, and impacted inequality.

In the case of the EU, Battiston et al. (2018) provide evidence of increased financialisation through several indicators such as the ratio of financial assets to GDP, exposure to financial and real sectors, or the ratio of financial to fixed assets. The paper shows that households have in the EU a large exposure to the financial sector (around 80 percent of household balance sheet) in the form of deposits at commercial banks, insurance and pensions schemes. At the same time, banks' largest exposure to the real sector consists of loans to households for housing mortgages. Battiston et al. (2018) also show that financialisation leads to instabilities and could become a hurdle for the EU's 2030 Agenda, because excessive financialisation in the economy can lead to lower growth, innovation, rising inequality and financial instabilities. The authors explain that economic growth can be negatively affected by financialisation because a larger share of the credit available is used for unproductive investments, while financial instabilities can arise due to the higher leverage and interconnectedness between financial institutions and the risk of not pricing the value of assets accurately. Innovation is hampered because of the decoupling between risk-taking and profitability, and inequality increases as the higher income groups gain bargaining power and public budgets bail-out with taxpayer money financial institutions during a crisis. In this sense, the role of monetary policy should be

to “keep the credit creation sufficient to meet the financing requirements of innovation, while avoiding cycles caused by excessive credit creation. Such a monetary regime would need to prevent excessive financialisation” (Marmefelt, 2020). Bieling (2013) argues that the bank bailouts after the 2008 financial crisis, the austerity policies put in place, and the rejection of a stronger bank and financial regulation, have led to a “state-backed and increasingly politicized mode of financialisation”. For more in-depth assessment of financialisation in the EU please see Brown et al. (2017); Doling and Ford (2003); Stolbova et al. (2017).

2.4 Theoretical assumptions

This section of the literature review presents an overview of the main assumptions underlying the political agency and market signalling concepts. The political agency channel is based on the principal-agent and moral hazard theory (Dutta and Radner, 1994; Dow, 2012; Schuknecht, 2004) applied to the context of fiscal rules and private debt. The market signalling channel is anchored in the information that fiscal policy decisions, such as the implementation of a fiscal rule, provide to market participants (Akerlof, 1978; Melosi, 2017; Debrun and Kumar, 2007).

2.4.1 Political agency theory

According to Jayadev et al. (2018), “the triumph of finance has been most decisive in the realm of ideas”. This is symbolized by the thought (shared by many economists in Europe) that rational financial markets can be relied on to impose fiscal discipline on irrational sovereigns. This thinking holds that if institutional arrangements are designed to prevent moral hazard and the free market is left to work, then financial markets will adequately price sovereign debt, and in doing so, irrational politicians will be disincentivized to run fiscal deficits and at the same time incentivized to stick to fiscal numerical constraints. If at any point in time there is a deviation of the public budget from the expectations in the free market and the hard fiscal constraints, then the rational financial market will increase the risk premium of the sovereign debt, which will act as a disciplinary device to restore fiscal prudence and conservatism. Hence according to the financialisation doctrine,

rational financial markets are the ultimate arbitrators for fiscal policy (Jayadev et al., 2018). However, this "doctrine" fails to acknowledge the impact of political agency and takes a narrow definition of budgetary discipline. It does not reflect the reality that "irrational sovereigns" are in the end political agents with their own objectives and incentives, willing to bypass the budgetary discipline imposed by financial markets. Against this background, a strong institutional framework becomes key to mitigate the negative impact that political agency can have on social welfare:

> *"Well-designed institutions increase the costs faced by policymakers in case of deviations from sound policies."* (Debrun and Kumar, 2007)

Political agency can be understood as a moral hazard mechanism, where governments do not factor in the full risk (or long-terms effects) of their current decisions. In the political economy research field, moral hazard is the risk that "individuals threaten the functioning of markets" (Dow, 2012). This contrasts with the economic research field where moral hazard refers to a rational choice that an individual takes to increase risk taking while at the same time hide information about the risk behaviour. For instance, Paul Krugman, economist, defines moral hazard as "any situation in which one person makes the decision about how much risk to take, while someone else bears the cost if things go badly" (Ahmad and Mazumder, 2012). In political economy, it is understood that markets are prevented from reaching the socially optimal outcome due to the actions of individuals. In this thesis, the individuals are elected and fiscally constrained politicians that influence outcomes in financial markets to achieve their own political goals (Dow, 2012). The political economy literature has traditionally employed open system frameworks for analysis, which incorporate elements such as the institutional evolution and change, or the evolving relationships between individuals and their creative behaviour. The institutional set-up is a source of stability and relative certainty, hence the importance of the social and human element is acknowledged (Dow, 2012) in the political economy field, in contrast to traditional economics. There are three key assumptions underlying political agency:

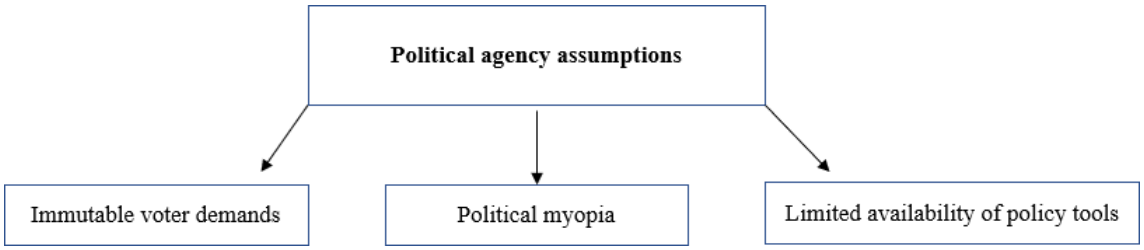


Figure 7: Political agency theoretical assumptions.

Immutable voter demands

A key assumption in the political credit cycles theory (Kern and Amri, 2021) is that politicians have strong incentives to achieve economic growth while they are in the government because this increases their chances of being re-elected, and that these incentives do not disappear once fiscal constraints are in place. Voter demands for economic growth (and hence lower unemployment) are a constant variable that will try to be addressed by politicians (regardless of ideological orientation) using one of three tools: monetary, fiscal, or credit-enhancing policies. In other words, "governments are intrinsically motivated to manipulate the economy to generate political gains" (Aklin and Kern, 2021), and they have incentives (e.g., re-election in democracies) to stimulate credit market activity to generate consumption, investment, and thereby economic growth. This is even more so the case when fiscal and monetary policy tools are limited through institutional set-ups, such as fiscal rules. The political agency theory linking fiscal constraints and financialisation is more likely to hold in democracies.

Political myopia

As political incentives to spur economic growth and wealth do not disappear once fiscal rules are put in place, "governments are present-biased toward spending" (Halac and Yared, 2018). This implies that in a situation facing fiscal constrains, policymakers might seek ways around these constraints, in order to match popular demands for growth and employment creation. In other words, we assume that governments are short-sighted in nature, largely

focused on immediate political and influence gains, and their actions and policies are to a large extent guided by election cycles. That is, governments are incentivized to spur economic growth in the short-term in order to increase their popularity among voters. Furthermore, governments do not take into account future costs of excessive borrowing today, such as costs related to loosening up the financial system (Acharya, 2011; Ahlquist and Ansell, 2012). This is the basic idea underneath our hypothesis and the core of the thesis that policymakers alter the financial regulatory environment and "manufacture financial booms by strategically relaxing regulatory standards, holding interest rates low, or subsidizing speculative activities" (Lipscy, 2011, 10).

It is well established in the literature that governments tend to be short-sighted and excessively oriented towards current economic activity (Edwards and Tabellini, 1991; Rogoff and Sibert, 1988; Acharya, 2011; Drazen, 2004). The literature on political credit cycles (Kern and Amri, 2021) provides supporting evidence for this assumption. It has analysed and explained how government short-term incentives can be at the centre of financial market distortions and credit boom-bust cycles. In order to fuel economic growth, especially around elections, governments often liberalize financial markets and provide deposit guarantees, hence allowing for excessive competition and risk taking in financial activities (Acharya, 2011):

> *"Governments often have short-term horizons and are focused excessively on the level of current economic activity, disregarding whether financial sector regulation designed to achieve it leads to long-term instability. Their short-term objective can be well served through policies governing competition and risk taking in the financial sector. By allowing excessive competition, providing downside guarantees, and encouraging risky lending for populist schemes, governments can create periods of intense economic activity fueled by credit booms. This way, governments effectively operate as "shadow banks" in the financial sector, a moral hazard that can have even more adverse consequences than risk-taking incentives of the financial sector."* (Acharya, 2011)

Limited availability of policy tools

Following the decision-theoretic model of Aklin and Kern (2021), from a macroeconomic policy perspective, governments have several tools to manage the business and financial cycles. This includes, spurring economic growth and employment creation, as well as counterbalancing pro-cyclical periods in the business and financial cycles. To manage the macroenvironment, redistribute wealth and spur economic growth, a policymaker can either use (i) monetary policy (e.g., by changing interest rates or exchange rates), (ii) fiscal policy (e.g., increase government spending, change taxes) or (iii) conduct structural reforms (e.g., in the labour market, in the financial market). For instance, reforming the financial market by relaxing regulatory standards can enhance credit demand and supply which can translate into higher consumption and investment (i.e., economic growth, at least in the short term).

In this context, fiscal rules essentially limit governments' tools and resources to generate growth or to redistribute wealth. Furthermore, when a government is part of a monetary union (like in the euro zone) or the central bank is independent, it does not have decision-making power over monetary policy instruments such as interest rates or exchange rates. Given that sound fiscal balances in member states are important for the success of a monetary union, it is often the case that monetary unions impose fiscal deficit limits to their members (as is the case in the EMU). In such a context, when both monetary and fiscal policies are constrained, the government is left only with structural reforms to promote economic growth. The following two quotes summarize this assumption:

> *"When monetary policy is conducted at the union level, a member country abdicates a tool to counteract idiosyncratic asymmetric (i.e., country-specific) shocks."* (Hebous and Weichenrieder, 2015)

As Aglietta (2012) puts it:

> *"The euro is essentially a foreign currency for every EA country. It binds them to rigidly fixed exchange rates, regardless of their underlying economic realities, and strips them of monetary autonomy."* Aglietta (2012)

2.4.2 Market signalling theory

This section presents an overview of existing literature regarding market signalling assumptions in the context of fiscal rules. Most research on market signalling has been produced at a micro-economic level for specific markets such as second-hand cars (Akerlof, 1978) and the job market (Spence, 2002). At a macro level, decisions implemented by policy makers and observed by the public convey information to market participants (i.e., to the private sector) (Melosi, 2017; Melosi et al., 2022). The behavioral finance literature has emphasized the role of market expectations and reactions in the functioning of economic systems (Minsky, 1977). These expectations and reactions can amplify shocks and pricing beyond what the rational-decision theories would predict, generating propagation effects (López-Salido et al., 2017).

There are two key assumptions underlying market signalling dynamics: (i) presence of information asymmetries (Debrun and Kumar, 2007) and (ii) effectiveness of fiscal rules in reducing policy discretion (Fatás and Mihov, 2007).

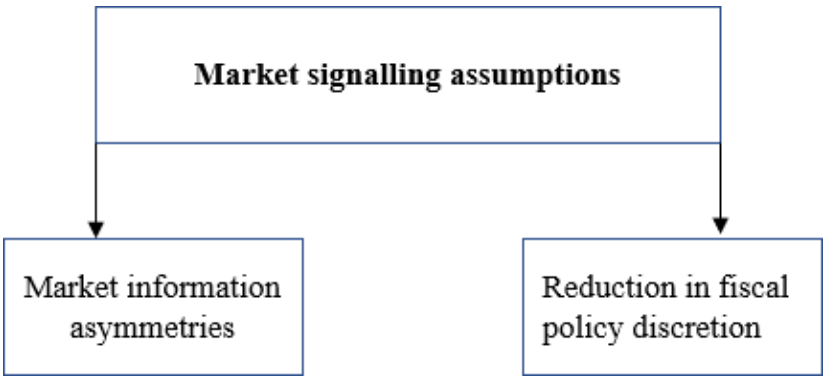


Figure 8: Market signalling theoretical assumptions.

Market information asymmetries

Assuming a situation of imperfect market information, fiscal rules can act as a signalling device for market participants as they enhance fiscal transparency and reveal the underlying fiscal preferences and plans of governments: “under incomplete information

(i.e., the public does not know the true motivation and competence of the government), institutional reform may play an important signalling role" (Debrun and Kumar, 2007). The market can interpret that a country that self-selects into a fiscal rule framework is showing a commitment to the sustainability of its public finances.

In their paper, Heinemann et al. (2014) conclude that fiscal rules have a large potential to restore confidence in financial markets in countries with a poor historical reputation in terms of deficit accumulation. The following quote from their paper helps illustrate the market signalling effect:

> *"The interaction of stability preferences and rules points to a particular potential of fiscal rules to restore market confidence in countries with a historical lack of stability culture."* Heinemann et al. (2014)

Fiscal rules complement market discipline. For instance, the Stability and Growth Pact "provides guidance and a common language to financial markets" (Manganelli and Wolswijk, 2007), and thereby supports the functioning of the EA. The joint effect of market discipline and fiscal rules increases the costs of fiscal indiscipline and thus encourages governments to have robust and sustainable fiscal policies.

Reduction in fiscal policy discretion

Another key assumption for the market signalling effect is that, by reducing political temptations for policymakers to go on spending sprees, fiscal rules generate and signal a more stable (i.e., less uncertain) environment for consumption and investment (Hatchondo et al., 2012). In fact, when policymakers' hands can be credibly tied to fiscal targets, "policy surprises" leading to inflationary pressures threatening individual wealth become less likely, thereby fiscal institutions and policy targets can anchor expectations on debt sustainability (Wyplosz, 2005). Similarly to central banks and the definition of their longrun objective of price stability, fiscal policy makers also have to define their long-term objective of debt sustainability. This definition can change over time depending on the

demographics, political disruptions, war or natural disasters, etc. However, establishing a long-term objective of debt sustainability helps in anchoring expectations by providing a clear and understandable policy objective (Wyplosz, 2005).

Fiscal rules, by reducing discretionary fiscal policy, can reduce macroeconomic volatility and therefore give place to less volatile business cycles (Fatas and Mihov, 2006). This is in line with the findings of Poterba (1994), which point out at a faster speed of fiscal adjustment to unexpected deficits (e.g., when actual revenues are lower than expected or spending is higher than initially forecasted).

At the same time, fiscal rules also create rigidity and decrease governments´ responsiveness to business cycle fluctuations (Fatas and Mihov, 2006). Slow fiscal adjustments degrade investor perception of the quality of government by generating fear of populism and a subsequent capital outflow (Caballero and Krishnamurthy, 2004). This was the case, for example, in the Argentina crisis in 1998. In contrast, the Lula administration in Brazil responded to the economic downturn in a timely manner by tightening fiscal discipline. Markets responded positively to this, viewing the government as less populist and reversing capital outflow. However, markets' sensitivity to potentially populist fiscal policies might be lower in developed countries with strong government institutions. In fact, financial markets take budget deficits less into account in pricing sovereign debt when a country has a strong finance minister (Hallerberg and Wolff, 2006). This highlights the importance of building a comprehensive institutional framework to complement and support fiscal rules.

3. OBJECTIVES AND HYPOTHESIS

3 OBJECTIVES AND HYPOTHESIS

The main objective of this thesis is to prove that, in the presence of fiscal constraints, politicians have incentives to steer credit-based consumption and investment by deregulating financial markets. More concretely, the thesis has two specific objectives.

First, the objective is to synthesize a conceptual model that helps explain the linkages between fiscal rules and financialisation. This conceptual model builds on the context, definitions, and assumptions outlined earlier in the literature review chapter, as well as in the case studies analysed in the methodology chapter. The case studies are instrumental to investigating the extent to which political actors, institutions, and processes influence the relationship between fiscal rules and financialisation. By integrating both political economy and market concepts and mechanisms, the conceptual model aims to provide a simplified and interdisciplinary qualitative framework of how fiscal rules can influence private debt dynamics.

The second objective of the thesis is to empirically test the political economy dimension of the qualitative model: does political agency have an impact on the relationship between fiscal rules and private debt? By empirically examining this political economy dimension, the thesis seeks to validate the novel conceptual model and provide evidencebased insights into the role of political agency in shaping the linkages between fiscal policy and private debt. This empirical analysis will contribute to a deeper understanding of the practical implications of fiscal rules and inform policy recommendations.

In sum, fiscal rules, representing a significant restraint on public finances, increase governments' incentives to engage in arbitrating financial market manipulations to fuel

credit-based consumption, investment, and economic growth. Synthesizing the theoretical findings, the following hypothesis is stipulated:

> ***H0: The more binding fiscal rules are, the more governments will use private credit markets to stimulate the economy. The strength of fiscal rules encourages financial liberalisation and increases private credit.***

The objective of this thesis is not to fully empirically test the novel conceptual model developed as a result of the qualitative investigation. The market signalling aspects are discussed as additional scope considerations without which the conceptual model would be incomplete. Narrowing the scope of the thesis in the empirical analysis to political agency is in line with the objectives of the PhD Program under which this thesis is being produced. Political agency involves the power and influence that different stakeholders, including governments, interest groups, and citizens, exert in the policy-making process. This focus enables a deeper understanding of how public policies are formulated and enacted, and how they address or exacerbate social inequalities, promote economic development, and ensure the welfare of populations.

Including the market signalling channel in the empirical analysis would fundamentally change the nature of the investigative work, which would need to be more quantitatively focused in the discipline of economics and finance. Hence focusing on political agency helps maintain the public policy and political economy character of the thesis. Furthermore, feedback effects (Dornbusch et al., 1990) and second-round behavioural effects (Akin and Akin, 2024) at play in market signalling present empirical modelling challenges that go beyond the scope and purpose of this thesis (i.e., the development of a behavioral model of the credit cycle (Bordalo et al., 2018) is beyond the objectives of this thesis). Further research outside of this thesis could be developed to model empirically the market signalling channel of the conceptual model presented in the results of this thesis.

4. METHODOLOGY AND DATA

4 METHODOLOGY AND DATA

This section outlines the methodological steps that have been followed to attain the objectives of this thesis: first, the synthesis of a conceptual model that helps explain the linkages between fiscal rules and private debt, with a focus on political agency; and second the empirical testing of political agency, by regressing the effect of fiscal rules on private debt and financial reform.

Regarding the first objective, three case studies are developed from a wide range of academic literature spanning economics, political economy, finance, and sociology disciplines. Evidence is collected to build country case studies for the US, UK and Spain in a chronological way. The case studies are then compared and analysed to understand how political agency mechanisms operate within different contexts and how they influence the relationship between fiscal rules and private debt. The comparative analysis of the case studies, together with the literature review, provides the basis for the qualitative results of this thesis and is structured along the following dimensions: (i) evidence of fiscal constraints, (ii) evidence of financialisation, (iii) evidence of political agency, (iv) key financial reforms credit demand, and (v) key financial reforms credit supply.

Regarding the second objective, the methodology employed is an econometric analysis to test, firstly, whether fiscal rules have an effect on private debt, and secondly, whether fiscal rules have an effect on financial reform (which is used as a proxy for political agency).

4.1 Qualitative country case studies

The country case studies do not aim at presenting a comprehensive or exhaustive overview of economic or financial reforms, but rather provide anecdotal evidence to support the hypothesis, the conceptual model, and the empirical testing. The use of case studies is important to illustrate the critical mechanisms linking fiscal constraints and private debt.

The thesis focuses on three country case studies to expand the discussion on how fiscal constraints may be linked to financialisation via political incentives.

The thesis provides below statistical evidence on the sharp increase in private debt, both on the household and non-financial corporation sectors, across the focus countries. For comparison purposes, the charts also include data from Denmark, Germany, France, and Italy.

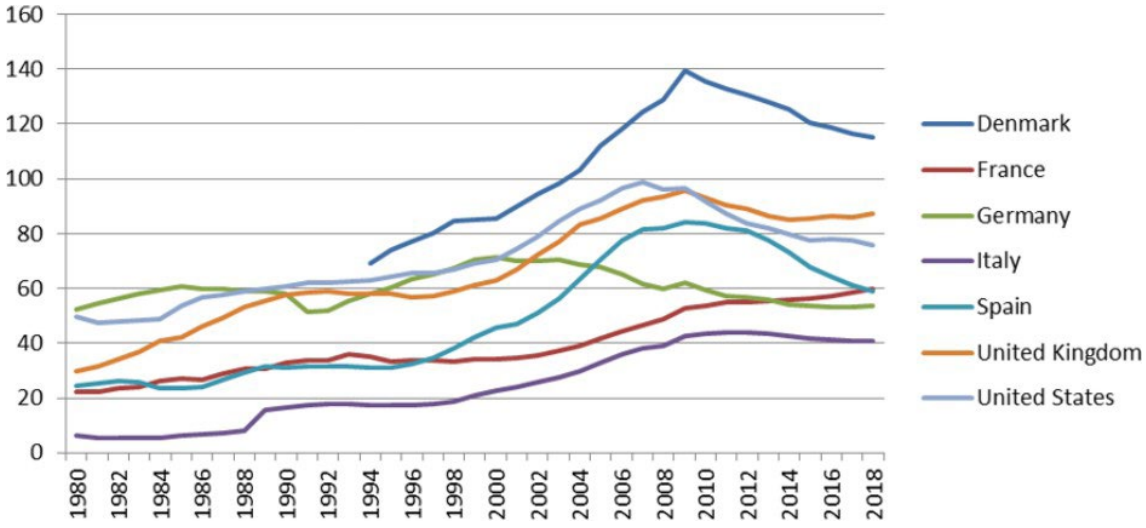


Figure 9: Household debt, all instruments, as percentage of GDP.
Source: IMF Global Debt Database.

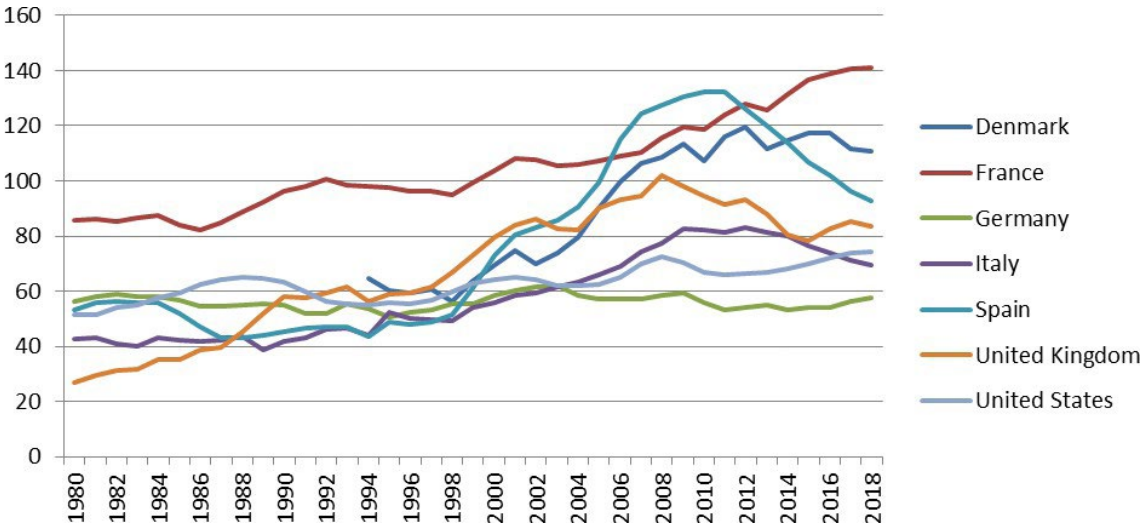


Figure 10: Nonfinancial corporations debt, all instruments, as percentage of GDP.
Source: IMF Global Debt Database.

The case studies have been selected for their relevance and because they highlight different ways in which political agency has intended to bypass fiscal constraints through the financial system. Hence, the US case study highlights the use of government-backed securities to generate credit and economic expansion. The UK case study highlights the use of PFIs (Private Finance Initiatives) to bypass fiscal constraints. Finally, the Spanish case provides information on the impact of the entry in the EMU on credit dynamics and fiscal consolidation, and highlights the use of construction and real estate development (i.e., housing policy) to achieve economic growth without making use of the public budget.

4.1.1 United States Government-backed securities

Financialisation, the process by which financial markets, financial institutions, and financial elites gain greater influence over economic policy and economic outcomes, has deep roots in the United States. Emerging in the post-World War II era, this phenomenon has been characterized by a shift in the economy from a focus on industrial production and manufacturing to one that prioritizes financial services, markets, and instruments. The US, with its advanced financial markets and institutions, became the epicenter of this transformation, leading the way for other countries and setting a global benchmark

for financial market development and sophistication. It is widely known and commented on that financial markets have an enormous influence on the US economy and politics (Parenteau, 2005). The role of the government in this process has been crucial:

> *"This government role appears to have been at the center of recent boom and bust cycles, especially in the housing sector in the United States through the presence of government-sponsored enterprises (Fannie Mae and Freddie Mac), and continues to pose a threat to financial stability"* (Acharya, 2011).

This case study and the research cited within are key evidence in support of the hypothesis being defended. It supports the notion that financialisation and the high indebtedness of the private sector in the US are the outcome of a series of strategic policy-driven interventions in credit markets, which started in the post-World War II times. We provide historical and empirical evidence from the outstanding literature that monetary tightening and public budget constraints were strategically counterbalanced with policy interventions in credit markets and financial deregulation (Fligstein and Goldstein, 2012). Key policy reforms instrumental to reform financial markets while keeping the public budget in check were the Participation Sales Act in 1966, the Federal Consumer Credit Protection Act and the Fair Housing Act in 1968, the Alternative Mortgage Transaction Parity Act in 1982, and the repeal of regulation Q and the repeal of the Glass-Steagall Act over several years.

Characteristics of financial system

The US financial sector is characterized by fragmentation (large number of institutions), diversity, and a market-based system where a large part of credit is extended through securities rather than direct lending. This can be seen in the large number of commercial banks and in the wide range of specialized business models, such as mutual savings banks, savings and loan associations, and mortgage banks. These types of business model are mainly focused on originating and servicing mortgages for residential real estate, and in some cases they also repackage the loans and sell them to investors. In addition, there are

other specialized business models, such as consumer finance firms, credit unions, sales finance firms, and industrial banks.

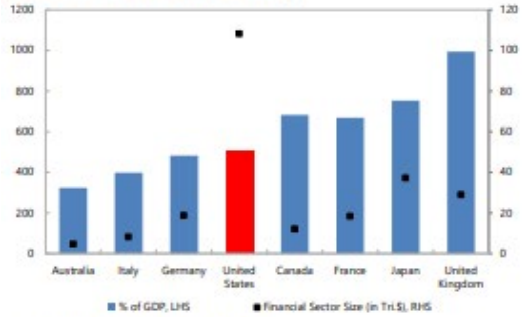
Regarding the relative importance of direct finance (e.g., where the public can extend credit directly to the borrower via the purchase of securities without financial intermediation), in the US around 50 percent of credit to non-financial corporations has been raised directly from selling securities. This compares to 10 percent in other developed economies such as Germany or Japan. The most important players in the financial system are commercial banks, mutual savings banks and savings and loan associations, finance companies, and other specialized lenders (such as consumer finance companies and mortgage banks), insurance companies, pension funds, and investment banks and brokers).

Total assets of the financial sector amount to 98 USD trillion, or 480 percent of GDP. It is the largest financial sector in the world. The share of the banking sector assets in the financial system is 19 percent while non-bank institutions have increasingly gained importance in recent decades; pension and investment fund sectors are larger than the banking sector. While banks are the main providers of mortgages, Government Sponsored Enterprises also have significant exposure to mortgage credit risk given that they guarantee mortgage-backed securities sold to investors. Banks are also a key player in the provision of consumer credit (in addition to finance companies). Financing for nonfinancial corporate debt securities is mainly provided by insurance and investment funds (US 2020 Financial Sector Assessment Program, IMF), as shown in the graphics below sourced from the IMF's report.

The U.S. financial sector is the largest among peers...

Size of Financial Sector Assets

(As of end-2019 or latest available)

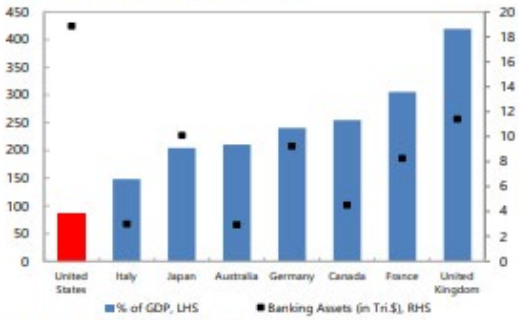


Sources: Flow of Funds, Haver Analytic.

...including for banks, though not when scaled by GDP.

Size of Banking Sector Assets

(As of end-2019 or latest available)

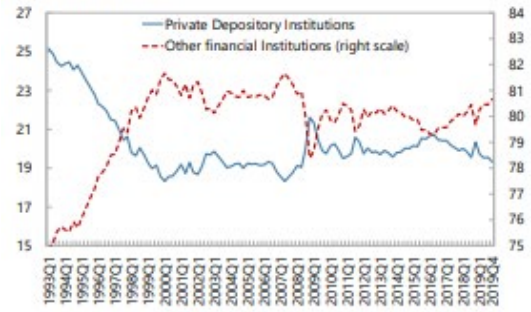


Sources: FSI database, Haver analytic.

Financial intermediation is dominated by nonbanks...

Share of Financial Sector Assets

(In percent of total)

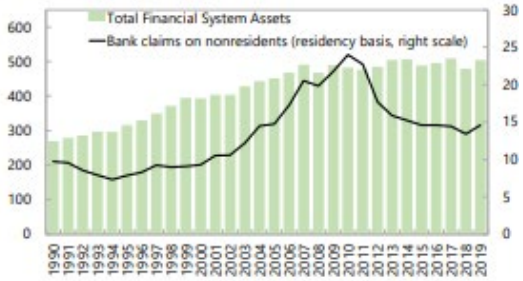


Source: FRB, Flow of Funds; Haver Analytics.

...while total financial system assets have levelled off.

Financial System Size and Internationalization

(In percent of GDP)



Sources: FRB, Flow of Funds; BIS

Financial sector assets grew sharply by end-2019, while the share of financial assets held by the nonresidents remained stable.

Financial Sector Asset Growth and the Share Held by the Rest of the World

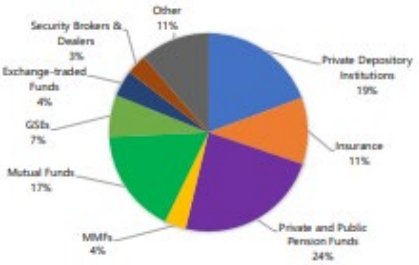
(In percent)

Sources: FRB, Flow of Funds; Haver Analytics.

Financial intermediation is highly diversified.

Financial Sector Composition[1/]

(In percent of total)



Source: FRB, Flow of Funds; Haver Analytics.
1/ Data as of 2019:Q4. MMF stands for money market funds.

Figure 11: United States: Financial Sector Structure.

Source: US 2020 Financial Sector Assessment Program, IMF.

Evidence of financialisation in the U.S.

Financialisation has become a defining feature of the United States' economy, transforming the way businesses, households, and governments interact. The origins of financialisation can be traced back to the deregulation and liberalization policies of the 1970s and 1980s, which allowed the financial sector to expand and exert increasing influence over the broader economy.

Davis and Kim (2015) provide evidence of financialisation at the industry level (increase of financial sector as percentage of GDP compared to other industries), at the firm level (indebtedness), and at the household level (indebtedness). At the industry level, the financial sector became the most profitable of US industries; its share of GDP increased from 15 percent in 1960 to 23 percent in 2001. Corporate profits of financial firms, bank profitability, and employee earnings all soared between 1980 and the 2000s. At the firm level, non-financial corporations increasingly derived profits from financial activities (such as financing for leasing and purchasing their products) and focused on generating short-term value for shareholders. Furthermore, there was an observed shift of power from traditional functions like marketing or manufacturing to the financial departments. At the household level, there was a significant increase in the share of financial assets relative to total household assets. An important factor was the shift in the pensions system from defined benefit to defined contribution schemes such as 401(k) plans. In addition, households became increasingly invested in the stock market through direct share investments or mutual funds. Household consumption was supported more by accumulated borrowing than by earnings, so that median household debt to income increased from 0.14 in 1983 to 0.61 in 2008. Already back in 2000, Maki (2002) alerted in the high levels of household debt. In 1999, household debt in the US amounted to 6.3 trillion USD, of which roughly 4.4 trillion USD accounted for mortgages debt and 1.4 trillion USD were in consumer credit (Maki, 2002). The amount of household debt (including debt securities and loans) as a percentage of GDP in the US increased from 64.37 percent in 1995 to 96.56 percent in 2009. In comparison, in the preceding decade, between 1980 and 1994, household debt as a percentage of GDP increased from 49.70 percent to 63.11

percent[8]. Household debt then decreased to 75.86 percent in 2018. Private debt at end-2018 stood at 211 percent of GDP according to the IMF[9].

The proportion of revolving credit in the United States has experienced a significant increase over the years. Starting at approximately 1 percent of personal disposable income in 1970, it has now reached around 8 percent in recent years. In terms of unsecured consumer credit, revolving credit constitutes approximately 40 percent. This growth can largely be attributed to the expansion of credit card debt, while the remaining portion consists primarily of bank overdrafts within predetermined limits (Fernandez-Corugedo et al., 2006). The figure below[10] shows the increase in profit share for the industry group comprised by finance, insurance, and real estate.

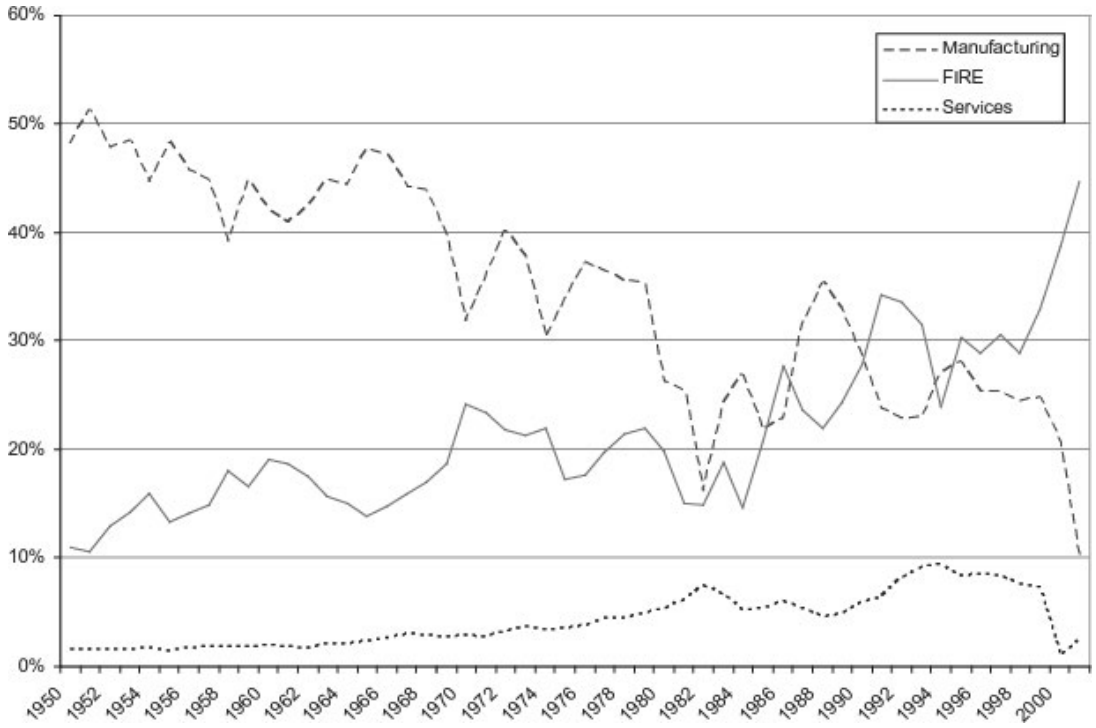


Figure 12: Relative industry shares of corporate profits in US economy, 1950 2001.
Source: Krippner (2005).

8 IMF Global Debt Database.

9 IMF Global Debt Database.

10 FIRE = industry group comprised by finance, insurance, and real estate.

The role of fiscal policy makers

The role of policymakers in the financialisation of the US can be traced back several decades and attributed to different Administrations from both Republican and Democratic parties. In the years prior to 1966, the US economy was growing at a stable pace, and the rate of unemployment was near its natural rate of 4 percent. This changed in 1966, where inflation began to increase mainly due to the large increases in production demand from the Government for the Vietnam war. At the same time, the private sector had expectations of rising inflation given the expected increase in future aggregate demand. As a result, during the first nine months of 1966 the Consumer Price Index grew by 3.7 percent and the wholesale price index by 3.5 percent. This contrasts with growth rates of 1.7 percent for the CPI and 2 percent for the wholesale price index in 1965.

The response from the Federal Reserve to curve this ramping inflation was a tightening in monetary policy, which led to a credit crunch. Liquidity in bond markets froze, and there was a sharp decrease of saving inflows into non-bank financial institutions and the real estate market. Because of this, financial institutions were unable to meet the strong demand for credit and tried to acquire funding in the market to increase their liquidity buffer. As all financial institutions were doing the same, the funding needed to extend credit was simply not available. The Fed increased rates again at the end of 1966 to continue fighting inflation. However, the credit crunch in 1966 was a key event that affected fiscal and monetary policy. The experience of the credit crunch conditioned to a large extent future monetary policy. Cautious of not causing another sharp reduction in savings inflows into loans and investments, the Fed moved away its decision-making from monetary tightening (Burger, 1969). Similarly, from this moment onward, a key priority for fiscal policy makers was to protect firms and households from the potential adverse effects of monetary tightening. The credit crunch of 1966 shows that during periods of monetary policy tightening and increasing interest rates, the incentives of bankers and politicians align as both tend to prefer lower rates, implying high credit market activity: “Banks exist for the accommodation of the public”.[11]

11 1912 Democratic Party Platform, June 25, 1912.

In this context, there were clear limitations to the use of monetary policy (independent Fed and fear of a new credit crunch), as well as budget constraints arising from the Vietnam War. This is when policy makers began to effectively liberalize financial markets to stimulate credit markets through both supply and demand side measures.

To some extent, the wave of financial reform toward increased liberalization was shaped by Wall Street lobbying (Krippner, 2005; Witko, 2015) and the pressure to ease financing for American firms facing profitability constraints due to increasing trade liberalization and competition from foreign firms amid a weak economy in the 1970s. Although lobbying and firm profitability constraints certainly played a role in the rise of financialisation, the key root cause for this was the development by policy makers in the US of federal credit schemes, credit subsidy programs, and financial market liberalization policies, as a response to binding budget constraints and an independent central bank (MacLaury, 1973; Fligstein and Goldstein, 2012).

During the Johnson Administration (1963 – 1969), the government created a network of programs to subsidize debt to enable private investors and households to access cheap credit through interest rates below market prices (Schwarz, 1992b; Fligstein and Goldstein, 2012). The Administration of Johnson was primarily worried about expanding home ownership and achieving this in a way that keeps the budget deficit stable (i.e., does not increase the public deficit) (Fligstein and Goldstein, 2012). The Johnson Administration sought high interest rates to support the international role of the dollar as reserve currency. In parallel, and in order to mitigate potential adverse effects in credit markets, the Administration also promoted financial innovation. On the demand side, consumer credit protection and thereby demand for credit were enhanced by the Fair Housing Act (1968) and the Federal Consumer Credit Protection Act (1968) (Levitin and Ratcliffe, 2013).

The Federal Consumer Credit Protection Act required increased transparency in contracts to ensure consumers were aware of the terms and the cost of consumer credits ("truth in lending"), as well as disclosure requirements for credit advertising (Boyd, 1969). The passing of the Fair Housing Act succeeded after a long journey, as Congress failed during 1966 and 1967 to gather enough support to pass the bill. It was after the

assassination of Rev. Dr. Martin Luther King Jr. on April 4 1968 that this national tragedy was used by President Johnson to speed up the approval. Rev. Dr. Martin Luther King Jr. had been closely associated with the topic of fair housing since the open-housing marches in Chicago, where African Americans marched and rallied in the white neighbourhoods demanding access to housing, quality education, broader access to labour market, fair income and employment, and other rights and welfare programs they could not access. The Fair Housing Act was a remarkable piece of legislation which ended with discrimination based on racial, gender, religious, and nationality motives in the rental and mortgage housing market. Before this Act, African Americans or women were not allowed to obtain a home mortgage and therefore could not be homeowners. The Fair Housing Act also had a significant effect increasing the production (i.e., supply) of housing (Bonastia, 2014). On the supply side the goal was to influence the allocation of credit and stimulate the economy in areas facing high interest rates (Burger, 1969), such as housing. A direct consequence of credit subsidy programs is the lowering in credit underwriting standards, as low income households that would normally not qualify for a mortgage due to their high risk are under the federal programs able to access credit, while in normal market conditions this would not be the case (Schwarz, 1992b; Kane, 1977; Calomiris et al., 1986).

Nixon's Administration began in 1969 and continued with the credit supply programs. During his first term, direct housing subsidies increased by five times, and in 1973 a total of 2 billion USD were distributed. At the same time, the number of subsidized housing projects being started went from 91,400 in 1967 to 430,000 in 1970 (Bonastia, 2014). Bruce MacLaury, who was President and chief executive of the Federal Reserve Bank of Minneapolis between 1971 and 1977, spoke back in 1973 at the Bald Peak Conference regarding the potential issues of federal credit programs. As put by MacLaury: "there is little doubt that the single most important factor that explains the growth and proliferation of Federal credit assistance is the desire to see programs funded with a minimum use of scarce budget dollars" (MacLaury, 1973). In fact, the US Congress went well beyond the "market imperfections" rationale to provide significant amounts of subsidies as debt service grants below the market interest rates, and on a continuous basis (as opposed to just temporary support). The intention of this was to directly influence the allocation of resources without spending from the federal budget, thereby leveraging it (MacLaury, 1973; Fligstein and Goldstein, 2012).

Furthermore, MacLaury (1973) points out that direct federal loans, because they were not removed from the consolidated federal budget, stopped growing, while federal credit assistance in the form of loan guarantees or loans sponsored by governmental agencies, both of which are not reflected in the government budget, began to increase. According to Lucas (2014a), the amount of these programs outside of the federal budget was 20 trillion, which is around 1.5 times the federal debt reported. This shows the importance of credit subsidy programs to leverage the public US dollar.

According to MacLaury (1973), the financing of federal programs through federally assisted credit recorded off the public budget weakened the control of the public administration over these programs. The explanation for this lies in the fact that contingent liabilities (state guarantees) are not transparently shown but rather blurred in between all the budget complexities across documents and presentations. Only the administrative costs of these programs and the related government sponsored enterprises as well as the provisions for potential defaults are visible in the administration documentation. Due to this lack of transparency and obscured information, there was not much awareness regarding the growth of these programs. Similarly, there was also little interest in the long-term public costs that could arise from the materialization of risks and contingent liabilities for the public budget and the side effects of financing loans and programs with public guarantees rather than with Treasury debt issuance.

Subsequent US Administrations continued with the wave of financial reforms. During the 1970, the US experienced high inflationary pressures which reduced credit market activity (Taylor, 1999). Due to rising inflation, the Fed started a period of monetary tightening and increased interest rates, which put significant pressure on credit markets and the traditional banking business, which at the time was dominated by savings and loans banks, generating around 60 percent of all mortgage market activity (Fligstein and Goldstein, 2012; Green and Wachter, 2010). In response to this monetary tightening and the negative consequences (reduction) on credit market activity, the US Congress began to reform the mortgage market through deregulation (Sherman, 2009). Key elements of this financial reform towards increased liberalization were the Depository Deregulation and Monetary Control Act in 1980 and the Garn-St. Germain Act in 1981 which repealed Regulation Q.

Regulation Q was an important constraint to credit growth which counter-balanced the impact of credit subsidy programs. This piece of legislation was a key part of the Banking Act in 1933, and it effectively limited the interest rate that banks could charge clients for savings accounts (5.25 percent), time deposits (between 5.75 and 7.75 percent depending on the maturity), and checking accounts (0 percent) (Sherman, 2009). With these limits, Regulation Q constrained aggressive competitive deposit pricing in the traditional banking business. It prevented banks from competing aggressively for funds (savings). However, Regulation Q did not cover other financial market agents and innovators such as money market funds, mutual funds, or pension funds, and these became key players in the saving and lending business during the 1970s (Green and Wachter, 2010).

Following the repeal of Regulation Q in 1981 and the deregulation of the traditional banking business, savings and loan banks could diversify their portfolios and engage in more aggressive lending while having plenty of government guarantees. The deregulation of the savings and loan industry contributed to the Savings and Loan Crisis of the 1980s. Weakened regulatory oversight allowed savings and loan associations to engage in riskier lending practices, leading to a significant number of failures and taxpayer-funded bailouts. Then came the Alternative Mortgage Transaction Parity Act in 1982 and the reduction in regulatory capital requirements (Litan et al., 1994; McCoy et al., 2008). Coupled with the already existing federal programs for credit assistance, this wave of deregulation led to a large increase in household debt and soaring stock markets during the 1980s, which marked the beginning of a long period of strong financialisation.

Authors like Prasad (2012) and Quinn (2017) focus on the political process around the budget to explain the boom of federal credit programs. More specifically, Prasad (2012) presents evidence that supports that “budget politics influence the selection and design of financial policies, as government officials work to evade the budget rules that constrain them”. In this sense, housing credit programs were a low-cost channel to foster growth, and have become an economic growth model that Prasad (2012) term as “mortgage Keynesianism”.

Focusing on the budget, Quinn (2017) develops a theoretical explanation for the interaction between fiscal pressures and financial expansion. Looking back at the postwar era in the second half of the twentieth century, Quinn (2017) argues that policymakers facing distributional decisions and constrained by the economic decline saw in liberalization and deregulation an alternative to the rationing of public resources. With limited resources from progressive taxation to provide sufficient support to welfare programs, the government heavily relied on credit markets in order to foster consumption (Quinn, 2017). According to the author, budgets are the "rules of the game" for public funds, they give structure to fiscal activities. When governments face limited resources, officials may "seek capital and influence through means not already precluded by existing budget rules". In this sense, challenging political disputes over what fiscal measures or activities to implement may lead to the adoption of financial reforms or policies, while at the same time accounting rules can shape how those policies are designed. To support this theoretical explanation, Quinn (2017) provides historical evidence by going back to the difficult politics of the late 1960s. The budgeting process was highly political, and the "resulting fight played out on multiple dimensions of the budgeting process: at the level of accounting, or what counts as a true sale of government assets; at the level of budget rules, notably the debt limit; and at the level of procedures, including the use of asset sales to generate revenue". Effectively, Quinn (2017) argues, the distributional struggle faced by the public administration was resolved by expanding financial markets. In a similar vein, Cohen (2004) discusses how consumerism became a sort of civil religion in the postwar period in the US because consumption promised the social progression and economic equality sought by the government but without having to resort to politically expensive ways of wealth redistribution. A key piece in the deployment of this strategy was the Housing and Urban Development Act, which freed up financial engineering hoping this would spur economic growth without the need for public spending or tax increases (Cohen, 2004).

In terms of stock market reform, there were two key changes. First, in the 1970s, the US deregulated commissions for stock trading. Second, in the 1990s, the restrictions in the Glass-Steagall Act were lifted, which allowed the linking of commercial and investment banking (Eichengreen, 2008). The repeal of the Glass-Steagall Act unleashed a fierce competition for market shares and profits between commercial and investments banks.

In order to survive, investment banks got involved in new business lines and financial innovation, such as originating and distributing complex financial products. Investment banks also had to use more leverage and increase their use of money market funds to maintain profitability. According to Eichengreen (2008), "thereby arose the first set of causes of the GFC crisis: the originate-and-distribute model of securitisation and the extensive use of leverage".

In the 1980s, Reagan's Administration implemented a number of policies that further contributed to financialisation. For instance, the Reagan administration played a role in deregulating the financial sector by gradually dismantling provisions of the Glass-Steagall Act. In 1981, the Reagan Administration submitted a proposal to Congress for a phased repeal (Wilmarth Jr, 2016). This legislation had previously separated commercial and investment banking to prevent conflicts of interest and maintain stability. Removing these barriers allowed banks to engage in a wider range of financial activities, promoting the growth of complex financial products and services. For instance, the Administration urged Congress to allow nonbank subsidiaries of bank holdings to underwrite and deal state and local revenue bonds (Wilmarth Jr, 2016).

The US economy experienced a striking prosperity in the late 1990s, which was however built on a fragile "house of cards" (Palley, 2016), as the 2008 financial crisis showed. What is more striking, is the complicity of policy makers (on both the monetary and fiscal policy side) in allowing the economy to enter a vicious cycle of financial bonanzas underpinned by structural fragility. When Clinton won the election in 1993, he suddenly changed the fiscal policy stance that he had argued for during the campaign and moved away from spending and towards reducing the deficit, as Wall Street wanted (Palley, 2016). It is interesting to see that when demands for fiscal conservativeness and discipline were established in order to keep a balance in public finances, private finances were corrupted (Palley, 2016; Streeck, 2011).

The Clinton Administration continued heavily with the financial sector deregulation. The objective of the Clinton Administration with this set of policies was to resolve social conflicts such as rapidly growing income inequality (driven by a continued process of

deunionization and cuts in social spending), and decreasing aggregate demand (driven by fiscal consolidation). These social crises were counterbalanced by "unprecedented new opportunities for citizens and firms to indebt themselves" (Streeck, 2011). These new opportunities, became to be known as "privatized Keynesianism", which effectively allowed for a replacement of public debt with private debt:

> *"Instead of the government borrowing money to fund equal access to decent housing, or the formation of marketable work skills, it was now individual citizens who, under a debt regime of extreme generosity, were allowed, and sometimes compelled, to take out loans at their own risk with which to pay for their education or their advancement to a less destitute urban neighbourhood."* (Streeck, 2011)

This policy by the Clinton Administration seeking fiscal consolidation coupled with the revival of the economy via financial deregulation benefited at the same time rich and poor sectors of society. On the one hand, the rich did not have to pay high taxes while at the same time they could invest their wealth in booming financial markets and make huge profits from their financial activities. On the other hand, poor sectors of society benefited, even if only temporarily, from expanded access to financial services such as subprime mortgages. Access to subprime mortgages became for them a substitute (or a temporary illusion) for social policy that should have been provided by the government but that was being dismantled at the same time, as well as for wage increases that never materialized due to the also liberalization or flexibilization of the labour market. For example, becoming home owners was for the African American population not only the American dream but also a "much-needed substitute for the old-age pensions that many were unable to earn in the labour markets of the day and which they had no reason to expect from a government pledged to permanent austerity" (Streeck, 2011).

Levine (2010) assesses how financial policies implemented between 1996 and 2006 contributed to the 2007-2008 meltdown. Policymakers shifted to an emergency response in 2007-2008, however during the previous decade they were negligent to the build-up of financial imbalances without taking preventive measures. During the previous decade policymakers could have taken advantage of the calm/crisis-free period to re-assess the

impact of financial policies and make necessary adjustments. But instead of doing this, they deliberately and repeatedly "designed, implemented, and maintained policies that destabilized the global financial system in the decade before the crisis" (Levine, 2010). The author studies five sets of policies: 1) SEC policies for credit rating agencies, 2) Fed policies allowing banks to reduce capital requirements through the use of credit default swaps, 3) SEC and Fed policies for over-the-counter derivatives, 4) SEC policies for the consolidated supervision of investment banks, and 5) government policies for housing finance agencies (Fannie Mae and Freddie Mac). These policies incentivized financial institutions to engage in activities focused only on short-term profits while neglecting the long-term consequences for financial fragility. Evidence suggests that regulators were aware of the consequences of the policies but they chose to not act and change those policies.

Parenteau (2005) highlights the role, or complicity, of macroeconomic policy makers in allowing the US economy to become dependent on finance and very fragile because of this. While orthodox economic thought prioritized the consolidation of the public budget, private balanced were "debauched". Parenteau (2005) concludes that "the ideology of fiscal prudence at all costs was, at best, myopic and, at worst, part of a cynical attempt to make the world safe for Wall Street".

Government-backed securities

The case of the United States presents a compelling case study in the origins of the securitization market, which took center stage in the origins of the GFC.

The Participation Sales Act (1966) established the ground for the development of asset-backed securities (Junk and Nickles, 1970), as investors could buy participation certificates covering a pool of assets whose revenues were guaranteed by the government, thus generating a risk-free asset for investors. Through these financial pools, the government could also lend to targeted groups without incurring immediate fiscal debt obligations (Green and Wachter, 2005). More concretely, the Participation Sales Act allowed a number of government agencies to place part or their entire loan portfolio in a trust, where the

trustee was Fannie Mae, which guaranteed the loans in the pool. The government agency guaranteed Fannie Mae the repayment of principal and interest. While Fannie Mae retained the title of the securities in the pool, the government agency that issued the loans remained responsible for collection of repayments, which once collected by the agency were passed on to Fannie Mae. The Participation Sales Act, in addition, also gave Fannie Mae powers to pool the guaranteed assets (i.e., loan portfolios of the government agencies) and sell to private investors participation certificates. These guarantees were an important factor that attracted private investors, as the risk was limited but the rate of return was relatively high (Junk and Nickles, 1970). Fannie Mae was split into several parts, some of which were privatized, in 1968. This gave place to Ginnie Mae (Government National Mortgage Association) as a mortgage insurer supporting the privatized Fannie Mae, opening the opportunity for the US Administration to raise additional financing and directly remove significant amounts of mortgage debt from the public balance sheet (Green and Wachter, 2005).

The Participation Sales Act (1966) attracted a lot of controversy and criticism from those concerned about the federal budget. Many critics voiced their concern that participation certificates were just a gimmick through which politicians could "manipulate the budget deficit to make it seem smaller than it actually is" (Junk and Nickles, 1970).

Junk and Nickles (1970) describe how the federal government has immersed itself in financial activities of different kinds for many years: it has engaged in lending activities such as direct loans where federal money is lent; it has also used government agencies to guarantee and insure loans extended by private banks or financial institutions. In the 1960s, the government began to convert direct loans into guaranteed loans, and this was done through the sale of participation certificates in pools of loans. Participation certificates became financial instruments issued by the Federal government. Effectively, they allowed the buyer of the certificate, the private investor, to participate in the future income generated by a pool of assets, in this case loans, which were the result of lending activity conducted by government agencies. The loans or debt instruments in the balance of government agencies were used as collateral for a loan from private investors. In this sense, the certificates are government debt obligations, but when these certificates are sold to private investors, additional funds which were previously committed for direct

loans are freed. Therefore the sale of a certificate effectively substitutes public debt by private debt, thereby reducing Federal debt and easing the debt limit constraints. This gave the government a larger control over the budget and the deficit (Junk and Nickles, 1970). Figure 13 below shows the amount of government guarantees compared to the outstanding amount of direct loans. The amount of government guarantees started to pick up in comparison to direct loans around the mid-1980s.

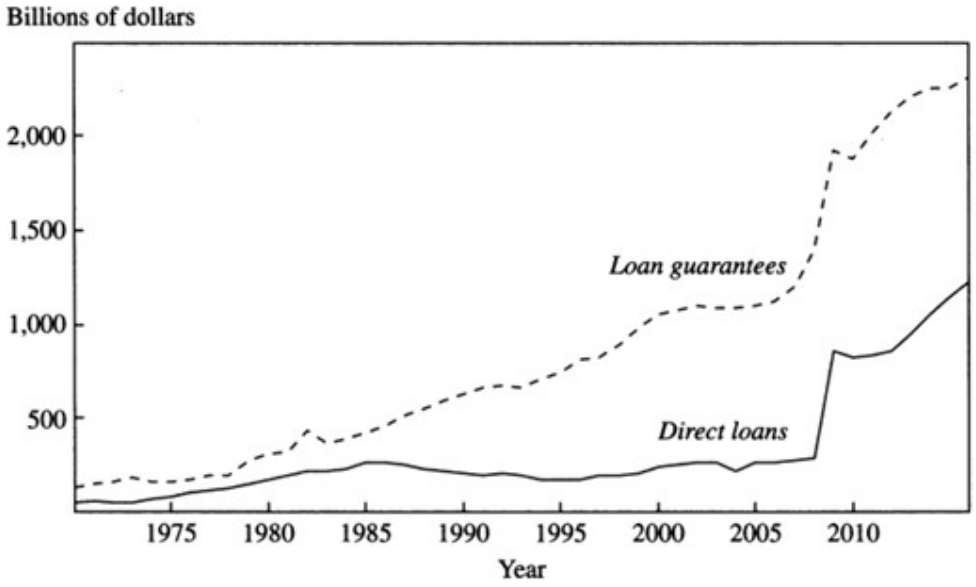


Figure 13: Government guarantees in comparison to direct loans.
Source: Lucas (2016).

In his paper on how budget politics link fiscal policies to financial markets, Quinn (2017) argues that fiscal pressures were a key driver in the rampant expansion of US credit and financial markets. Quinn (2017) focuses on the role of budget politics in the reorganization of Fannie Mae and its authorization by the US Administration to issue government guarantees MBSs (Mortgage-backed securities), marking the beginning of a boom of securitizations into a trillion-dollar market. Securitization and the credit-programs sponsored by the government offered a low-cost alternative to promote economic growth; it was low-cost because it did not create political adversaries and at the same time it was public finance neutral (it did not cost any budget resources). The events described show that "fiscal constraints are not just limiting, but also generative": when fiscal policy makers face spending constraints, they sometimes engage in very creative fashions with financial markets in the search for policy alternatives (Quinn, 2017).

In conclusion, the case of the United States illustrates the intricate and strategic use of government asset-backed securities, specifically through initiatives such as the Participation Sales Act and the transformation of Fannie Mae, to leverage public finances and stimulate economic growth. This approach allowed for the effective mobilization of private capital towards public goals, creating risk-free investment opportunities for private investors while simultaneously expanding the nation's credit markets. The evolution of these financial instruments highlights a pivotal shift in fiscal policy, where the use of credit markets and securitization became essential tools in managing fiscal constraints and promoting economic expansion. Despite criticism and concerns regarding budget transparency and long-term public costs, the strategic use of government guarantees and participation certificates has undeniably played a key role in the development of the U.S. financial system. The transition from direct loans to federally guaranteed loans and the issuance of mortgage-backed securities by government-sponsored enterprises illustrate a broader trend towards leveraging public dollars in creative ways to achieve policy goals without directly impacting the federal budget.

4.1.2 United Kingdom Private Finance Initiatives

The UK's process of financialisation was in part driven by the US liberalisation underway in the mid-1970s and the pressure this put on the UK to follow (Oren and Blyth, 2019). The case of the UK has many similarities to the case of the US. The financialisation of the UK economy took place partially due to deregulation of the financial sector started by the Thatcher administration (1979-1990), which came to power with a firm commitment to cut public spending and expand access to private housing (Green and Haskel, 2007). The deregulation measures of the financial sector and subsequent financialisation established the UK as a dominant hub for global finance (Moran, 1990; Wood, 2018). Key policy reforms instrumental to reform financial markets while keeping the public budget in check were the Housing Act in 1980, the removal of credit and exchange rate controls in 1979 and 1980, the fiscal reforms of the 1980s that changed the operation of the Treasury, and the liberalisation of the London Stock Exchange (LSE).

Characteristics of financial system

The UK financial system is large, complex and globally interconnected. Total financial assets amount to more than 10 times the country's GDP, of which half are banking assets. The insurance sector is the third largest in the world, with two insurers classified as globally systemically important. In addition, it hosts significant equity trading platforms, two large counterparty clearing houses (CCPs), as well as the largest fund management industry. The banking sector is concentrated (75 percent of total banking assets are held by the largest 7 banks) in a few players but recent years have seen an increase in competition from new players focused on specific market segments (U.K. 2022 Financial Sector Assessment Program, IMF). In figure 14 below the different types of financial institutions are mapped according to each sector scaled by the balance sheet size.

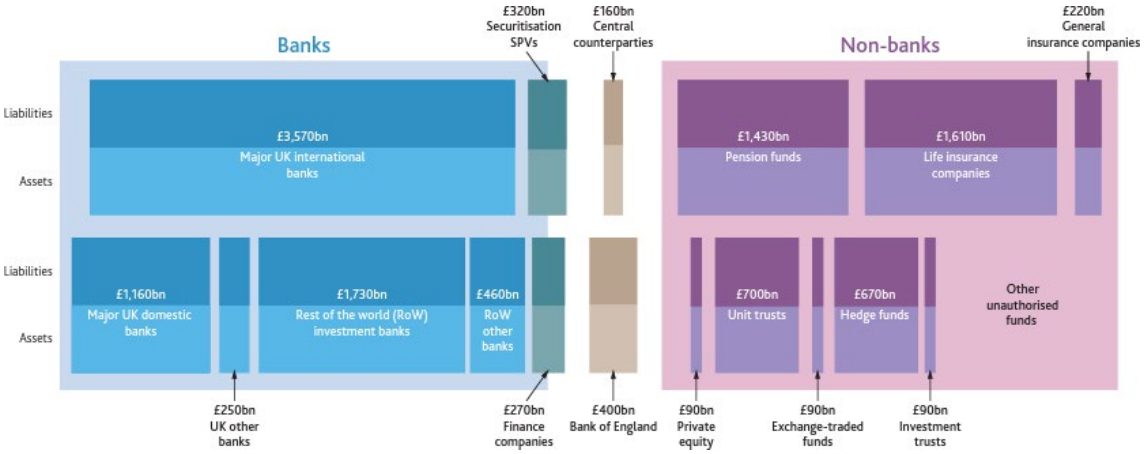


Figure 14: Map of the UK financial system.
Source: Burrows et al. (2015).

Evidence of financialisation in the UK

The UK financial sector has been relatively strong throughout history, but it grew at an especially fast pace as at the end of 1970s. Between 1979 and 1989 financial services investment increased by 320 percent, in comparison with an investment increase of 12.8 percent attained by the manufacturing industry. Prior to the 1970s, total bank assets

accounted for more or less half of the GDP. In comparison, total bank assets amounted to over 5 times the value of GDP by the mid-2000s. We see a similar pattern when looking at the stock market, whose valuation increased significantly between 1980s and the 2000s. While at the end of the 1970s the value of the equity in the stock market was around 40 percent of government income, in the year 2012 the value of the equity in the stock market amounted to three times the government income. Total UK debt also rose from 34 billion Pounds in 1997 to 1.3 trillion Pounds (or 88 percent of GDP) in 2013. When the financial crisis hit in 2007-2008, the size of the UK financial sector was the largest among the G7 countries in comparison to the GDP. The rest of economic industries however saw a decline over the same time period. For instance, the manufacturing industry was 30 percent of GDP, 16 percent of world exports, and had a trade surplus of around 5 percent in 1970. In contrast, the manufacturing industry was in 2010 only 13 percent of GDP and the trade deficit was around 2-4 percent. The number of people employed in the manufacturing industry also declined significantly from 35 percent in 1970 to 10 percent in 2010 (Davis and Walsh, 2016).

Figure 15: Profit share of financial corporations in the UK.
Source: Dolphin (2012).

Figure 15 above illustrates the rapid rise in the weight of the financial sector. The share of financial profits in the economy started to increase in the 1970s and expanded significantly in the 1980s, when central banks increased interest rates to fight inflation.

The share of financial profits in the economy remained at a high stable level in the following decades (except for a short burst period during the dot.com crash) and it even increased further after the financial crisis as other economy sectors lost more profits than financial companies. The financial sector's profit share is larger than the share of the size of the financial sector in the UK's economic output (Dolphin, 2012).

The amount of household debt (including debt securities and loans) as a percentage of GDP in the UK increased from 57.32 percent in 1997 to 95.73 in 2009, while between 1992 and 1996 the indicator had been decreasing from 59.03 percent to 56.61 percent. Household debt had just experienced a pronounced increase between 1980 and 1992, where it increased from 29.86 percent of GDP to 59.03 percent. After 2009, household debt decreased over the years to reach 87.19 percent of GDP in 2018[12].

The role of fiscal policy makers

Influenced by the policy decisions on the other side of the Atlantic, during the 1980s, following the election of the Conservative government in 1979, policymakers' focus in the UK shifted away from the Mitterrand state interventionism and fiscal Keynesianism towards an increased focus on business and supply-side investment. In terms of demand-side measures in financial markets, the Conservative government passed reforms to strengthen home ownership in the UK. First, it introduced a set of measures to change public housing, allowing council tenants to sell council houses for a discounted price and use the revenues of the transaction to pay off public debt (instead of reinvesting the revenue in the construction of new houses). This change in public housing limited housing supply for low income household and thereby reduced alternatives to mortgage-based

12 IMF Global Debt Database.

home ownership. Effectively, it forced many households to buy a house instead of renting public housing (Gentle et al., 1994). Second, the Conservative government promoted home ownership by changing the fiscal status of homeowners, which was a policy directly intended to encourage households to borrow and take on a mortgage. More specifically, households received a tax relief when they took a mortgage. In 1983 the government increased the value (monetary threshold) for a mortgage to be eligible for the tax relief on interest payments (mortgage-interest tax relief) from 25,000 to 30,000 Pounds (Gentle et al., 1994). In addition to this, the Housing Act of 1980 included the Right to Buy Scheme. With this, the Thatcher government effectively deregulated the market for mortgage debt by expanding the access to home ownership (Wood, 2018).

Arguing that fiscal contraction would lead to economic growth, in the 1981 budget, the government scrapped Keynesian counter-cyclical policies and slashed the public deficit amid a deep economic recession (Needham and Hotson, 2014). Credit supply conditions for consumers were liberalized since the late 1970s in several areas in addition to mortgages, such as unsecured consumer credit (e.g., credit cards). More concretely, credit controls on down-payments and repayment periods for consumer borrowing to purchase durable goods were eased (Fernandez-Corugedo et al., 2006).

In the article “The Role of the State in the Financialisation of the UK Economy”, Davis and Walsh (2016) discuss how several UK governments since the 1970s disempowered the industry and handed its control to the financial sector. The largest changes took place under Thatcher´s administration but subsequent governments of Major, Blair and Brown administrations continued with the reforms. A case in point discussed are the financial reforms that changed how the Treasury and the Department of Trade and Industry operate internally and externally.

Following the IMF bailout in 1976, the Treasury received considerably more power and control over other departments via the budget. After the entry of the Thatcher Government in 1979, the Treasury gained even more weight as it was seen as a key institutional tool to achieve the intended monetarist economic policy. In 1981, the Treasury gained responsibility over pay and promotion for civil servants, as well as permanent

secretary appointments. During the 1980s and 1990s the influence of the Treasury was further consolidated with additional organizational structures, accounting tools and procedures, to mandate over public spending. Through this process of institutional transformation, "a new unity of state economic thinking emerged" (Davis and Walsh, 2016). It was a combination of financial market and free market thinking that prepared the grounds and the rationale for a financial big bang, privatization, and liberalization of finance and trade. These reforms advantaged international finance against manufacturing and the real economy (Davis and Walsh, 2016).

More specifically, regarding the concrete fiscal and regulatory measures put in place to advantage finance over industry, the Treasury implemented a series of reforms to liberalize markets in a way that the financial sector would be benefited. For instance, in 1979 and 1980 exchange and credit controls were lifted, which started a credit boom. Due to this, large institutional investors based in the UK took advantage of the reduction in exchange rate controls and increasingly invested their funds abroad and outside of the UK industry. There were also cuts in stamp duties on purchases of shares and bonds, which decreased from 2 percent to 0.5 percent. In 1982 controls on dividend payments were also lifted. Corporate tax was cut across the board, and this was funded by removing tax deductible expenses for machinery and plans, which mainly affected the manufacturing industry. The value-added tax charged for good and services increased steadily, but there was no VAT applied to financial and insurance services. This tax regime posed the industry at a disadvantage vis-vis the financial sector, as the industry used real goods and services to a much larger extent. The fiscal measures implemented, and the public discourse, was met internally with harsh budget cuts at the Department of Trade and Industry enforced by the Treasury. The Treasury reshaped the institutional resources of the Department of Trade and Industry, there were budget cuts, changes in staff, and new institutional priorities, which sought to use fiscal measures (such as tax) to advantage finance over the industry (Davis and Walsh, 2016).

The Treasury also implemented reforms to deregulate markets, which tended to benefit the financial sector relative to the industry. In 1979 and 1980 controls on credit flows and the exchange rate were abolished, which generated a credit boom. This capital account liberalisation prompted large institutional investors based in the UK to invest their

funds abroad instead of in the domestic industry. In addition, stamp duties on purchase of bonds and equity were gradually reduced from 2 percent to 0.5 percent. Controls on dividend payments were also removed in 1982. Regarding corporate taxation, while it was generally reduced for all businesses, it was funded through a decrease in capital investment allowances for machinery and production plants, which primarily affected negatively manufacturing. Regarding taxation, value-added tax was gradually increased for non-financial goods and services but not for financial and insurance services, which became tax exempt (Davis and Walsh, 2016).

During the 1980s, fiscal reforms were implemented to increase the value-added tax while reducing income-tax, and transfer payments became indexed to prices instead of wages. These reforms were aimed at achieving a balanced budget. Thatcher's government cut income tax and at the same time to balance out the tax reduction, it increased consumer tax from 8 to 15 percent. In the following years, the income tax continued to decrease, especially for the higher brackets, and with this additional money consumption increased. This was further encouraged by a reduction of restrictions for hire purchase offers, which allowed stores to offer credit, creating a large increase in the use of credit cards. During the 1980s, consumer borrowing increased threefold. In parallel, it was made easier to obtain mortgages by reducing restrictions on the Loan to Value (LTV) ratios[13]. Rules for foreign banks to establish in the UK were also eased. This expansion of credit was not controlled by the Bank of England, however the link between the credit boom in the UK during the 1980s and the financial crisis in 2008 has been a topic of discussion[14].

Together with fiscal consolidation, subsidies for the industry were cut and state-owned enterprises privatized (Crafts, 2007). In what relates to industrial relations, reforms implemented undermined the bargaining power of trade unions. When the Labour government came to power in 1997, these reforms were in general not reversed (Crafts, 2007). An example of the close link between fiscal consolidation and the downsize of the

13 LTV ratios represent the amount of a mortgage compared to the value of the property. An 80 percent LTV, for example, would mean a mortgage equal to 80 percent of the property's value.

14 "Margaret Thatcher: How her changes affected your finances", BBC News, 8 April 2013.

industry in the UK is the privatization of British Telecommunications, which during the 1970s accumulated a backlog of investment due to a tight external financing that limited how much it could borrow from the government. At the same time, the government had selfimposed macroeconomic constraints such as the Public Sector Borrowing Requirement (Green and Haskel, 2007), which is the budget deficit limit (i.e., a fiscal rule), to meet the medium-term financial strategy and achieve a reduction in money supply and inflation. Amid this scenario where governmental macroeconomic policy was constrained, British Telecommunications was privatized to finance the investment backlog without incurring public deficit (Green and Haskel, 2007).

Industrial policy became a secondary priority, while deregulation, especially in financial markets, was strengthened. The Big Bang of 1986 is a case in point, which facilitated and increased share trading in the London Stock Exchange through the introduction of telephone and screen-based trading. On the financial side, the capital market liberalisation led to increased divestment and restructuring of large companies, with a marked increased in leveraged buyouts financed with private debt. The UK under Thatcher's government removed capital controls and reformed the exchange rate regime to a floating system in 1979.

The liberalisation of the LSE did not happen suddenly in 1986, it started almost one decade before, in the mid-1970s. Its origins can be traced back to how the Callaghan Government (1976-1979) responded to the economic crisis that hit the world economy at the end of the 1970s. More concretely, there was an increase in both inflation and unemployment (stagflation) at the same time. The stagflation eroded corporate profits and taxes and led to unrest in labour markets. As discussed in the previous case study focused on the US, the policy response to this economic crisis was to deregulate banking and capital markets. According to Oren and Blyth (2019), the UK had no choice but to follow the US actions. Hence the UK turned to financialisation to resolve the low economic growth problem in the mid-1970s. The rise of finance became the "economic plan A". Therefore, Oren and Blyth (2019) place the Big Bang of 1986 more towards the middle of a deep and policy-driven process of financialisation, rather than at the beginning.

Later, during the first half of 1980s, constraints on monetary and fiscal policy aimed at maintaining a stable economic environment failed to deliver the expected results and achieve the economic targets. At the same time, there was a "no-alternative" discourse of financial liberalisation, where this was seen as the only way to spur economic growth. This embedded even more finance in the economic growth engine in the UK. Even though the Conservative government had officially stayed committed to monetary and fiscal discipline, following the policy failure of fiscal and monetary tools, in 1983 the government relaxed monetary targets and encouraged consumer credit in order to recover the economy. The government thus effectively turned to the consumer credit and mortgage markets as growth engines. Cheap mortgages for lower income households and secondary capital markets for higher-income sectors to invest allowed the government to substitute for public spending while generating the desired consumption and investment to spur the economy (Oren and Blyth, 2019).

Dutta (2018) puts at the center of the cause of financial deregulation and financialisation the government's interest in managing sovereign debt. The research points at the underlying reasons why the government would have interests in deregulating financial markets, and the explanation sustained by the author is that "domestic concerns over sovereign debt management were central to the state's pursuit of regulatory change". The financial reforms that lead to the Big Bang developed to a large extent the size and liquidity of the market for the UK's sovereign debt. This gave the government increased space to conduct monetary policy and raise funding under better terms.

The process of financialisation continued to be driven by policy in the following years. The increase in private debt added new pressures that both threatened and reshaped the economic objectives of the government, which in 1985 removed all monetary controls. This was, according to Oren and Blyth (2019), a desperate move to achieve short-term economic growth in view of upcoming elections. The economic recession was being tackled via credit expansion rather than growth in the real economy. This gave place to a GDP growth rate of 2.8 percent between 1986 and 1987 and a 60 percent increase in the loans provided by the financial sector, thereby lowering interest rates and triggering a new consumption boom. The stock market crashed that followed lowered further interest rates and further increased credit consumption. The low interest rates triggered a search

for yield among financial players and aggressive competition for profits. Many new players entered the mortgages market where interest rate margins were higher. This generated a credit boom where households, increasingly indebted, saw their wealth (the value of their home) inflated by the credit bubble. In addition, there was an integration of the capital and mortgage markets via the expansion of securitizations, which was expected to secure social welfare (Oren and Blyth, 2019).

Naturally, following the credit boom, the bust came. In 1990 the UK entered a recession. However, this did not change the policy driven process of financialisation, which continued to advance until the financial crash of 2008. When the Labour Government came to power in 1997, it committed to prevent further boom-bust cycles and promote a balanced economic growth across sectors and regions. It also committed to sustainable and stable macroeconomic targets in monetary and fiscal policy. Notable examples are granting the Bank of England independence in 1997 and establishing fiscal rules, both aimed at preventing the same policy failures of the previous decade. Notwithstanding this, the manufacturing industry kept declining, as well as industry investment, and the country's trade deficit did not recover. Against this background of continued macroeconomic constraints, the financial sector was once again seen as the main engine for economic growth (Oren and Blyth, 2019).

The newly elected Labour government in 1997 continued the already ongoing "light touch" regulation (Daripa et al., 2013) to soften or completely exempt the regulatory oversight of non-financial institutions such as hedge funds and their financial innovations. The aim of these "light touch" policies was to sustain the competitive advantage of the City, to develop a pro-market reputation for the new Labour government, and to keep the strong growth of the financial industry and its large employment capacity (Hodson and Mabbett, 2009). The continued focus on liberalism eventually led to the independence of Bank of England (granted in 1997 during the Labour government) and other policies to "get behind fiscal rules rather than fiscal activism" (Corry, 2010).

The New Labour government also created a banking supervision authority for the entire financial sector (previously supervised by multiple sector-specific authorities), the

Financial Services Authority (FSA). The consolidation of several supervisory authorities in the FSA had the aim of generating efficiency savings, reduce task duplication, and gain economies of scale and scope in the oversight of the financial system. However, at the same time, the FSA was also designed with a small budget, which made it from the start less intrusive and relatively small (Daripa et al., 2013). The difference is striking when comparing the FSA budget with the regulatory budget for banking supervision in the US: while the latter spent 247,000 dollars per billion dollars of banking assets, in the UK the equivalent number was only 18,000 dollars (Daripa et al., 2013).

Since 1997, the New Labour government had tried to redesign the welfare state through the dynamics of home ownership, which became a crucial part of the welfare policy. Regarding household debt, mortgage debt became a part of a welfare system based on asset appreciations used to stimulate the economy through house price increases (what is known as House-Price Keynesianism), which effectively made homeowners investors (Watson, 2010; Wood, 2018). Home ownership dynamics emerged as a crucial aspect of the Labour Government's efforts since 1997 to reshape the concept of the welfare citizen, serving as a significant channel for credit flows that support economic growth within a framework of privatized Keynesianism (Watson, 2010; Finlayson, 2008; Crouch, 2009).

Between 1997 and 2005, the new financial system regulatory framework proved successful, rendering stable growth and prices, which became known as the "great moderation". During these years, the City of London solidified its already existing reputation as a global financial center for financial innovation, and the contribution of financial services to the UK´s economic output increased significantly. There were, however, already signs of a rapid increase in asset prices, especially in the real estate sector, partly due to an eased access to mortgage lending (Daripa et al., 2013).

According to Shaw (2012), the Blair government's policy of "light-touch financial regulation" was both based on and reflected the government's commitment to a "financial growth model inherited from the Conservatives in which the key driver of UK economic expansion was a dynamic, fast-expanding and lightly regulated financial sector" (Shaw, 2012). In addition, the government was calculating to benefit from large revenues from

the City's earnings and make use of these to rebuild the UK's welfare state. The author calls this a "Faustian Pact" between the Blair's government and the City (Shaw, 2012). These policy measures were successful in fostering economic growth during the 2000s without generating fiscal deficits or inflationary pressures. The political relevance of the financial sector and house price inflation grew with the breach of fiscal rules during Gordon Brown's government, due to increasing structural issues that prevented the accomplishment of campaign commitments (Oren and Blyth, 2019). As early as 2004, New Labour resorted to a 140 percent increase in household debt as a response to stagnant wages (Oren and Blyth, 2019). Notwithstanding, crises resulting from the financialisation of the private sector have been followed in Britain and Ireland by discussions around the extent of state austerity to be pursued, instead of focusing on potential structural reforms to housing and financial markets or considering Keynesian policies to counter declines in private sector demands (Schmidt and Thatcher, 2014).

The Private Finance Initiative

The use of Private Finance Initiatives (PFIs) in the UK, initiated in the early 1990s, represents a significant shift in public finance and infrastructure development strategy. These initiatives, rooted in the desire to improve public finance efficiency and adhere to budgetary control without increasing public expenditure, embody a nuanced approach to funding public services and infrastructure through private investment.

The mantra of public finance efficiency and budgetary control were addressed to a large extent via privatizations, such as that of British Telecom in 1984. Although there was ongoing pressure for fiscal prudence and for government expenditure to be reduced, privatization was not always politically desirable. Therefore, to control public expenditure, two fiscal rules were introduced. The Golden rule stated that the government could only borrow to invest (e.g., in infrastructure), but not to fund expenditure. The Sustainable Investment Rule stated that the public sector net debt ought to be stable and prudent over the business cycle (Broadbent and Laughlin, 2005).

By the beginning of the 1990s, "ideas for more change in relation to the control of revenue expenditure had been exhausted" (Broadbent and Laughlin, 2005) and many of the larger and relatively easier privatization options had already been implemented. Therefore, the "reduction of the cost to the state of providing public services needed to be found from elsewhere" (Broadbent and Laughlin, 2005). This was found in the control of the government capital expenditure and financing decisions. PFIs introduced the idea to use private financing in the provision of public services. The key question regarding PFIs is at what point they stop being a public procurement service and become a financial arrangement to fund public sector capital (Broadbent and Laughlin, 1999).

The case of the UK is interesting to study because of the extended use of PFIs since the beginning of the 1990s. PFIs are investment vehicles for public goods financed through the private sector. This form of public-private partnerships has been used in parallel with deregulation and liberalization in the UK. PFIs have been very useful to keep costs off the public budget and blur the contour of the public sector, essentially backloading the costs of new infrastructure such as construction of healthcare buildings (Hunter and Murray, 2019). The use of PFIs is not limited to the UK but this way of financing public goods with private debt began in the UK and is therefore most prevalent in this country (Torres and Pina, 2001). In total around 700 projects of public infrastructure have been developed through PFIs in the UK since the 1990s. The projects normally last around 25 or 30 years, and they amount to 60 billion Pounds worth of assets, while costs are estimated to be around 170 billion Pounds. However, as seen in Figure 16, the use of PFI has been declining since the 2008 financial crisis.

When the use of PFI was initiated, it was amid a recessionary environment and the exit of the pound from the European Exchange Rate Mechanism. At the same time, the framework for monetary policy was being reformulated by the then Chancellor of the Exchequer, Norman Lamont, to exert control over fiscal policy and limit increases in public sector spending, with a strong focus on increasing economic growth. The PFI has its origins in the firm belief by Treasury officials and Conservative Chancellors that the macroeconomic environment in the UK at the time required a tight grip over public spending to limit increases in inflation. Close control over public finances was required to meet the Maastricht criteria to become a member of the EMU (Broadbent and Laughlin, 1999). Hence like we will see later in the case of Spain, the process of European integration

(imposing constraints of monetary and fiscal policy) was a driver for the increased use of credit-based private consumption and investment.

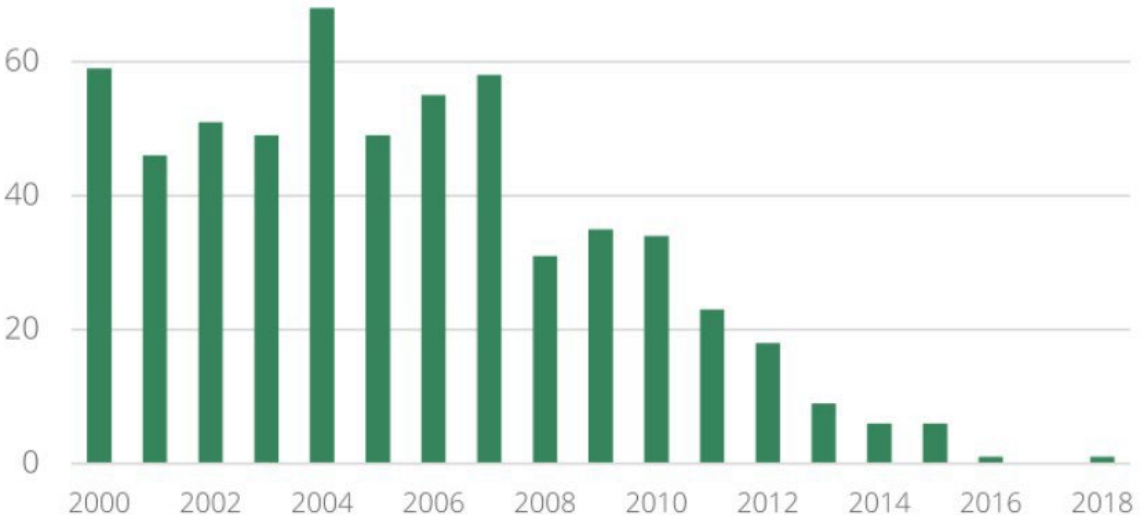


Figure 16: New PFI projects by year.
Source: Commons Library, UK Parliament.

Independently of the ideological stance, several UK governments from different political parties have made use of PFIs and repeatedly sought the participation of private capital to bypass budgetary constraints while providing for infrastructure, public services, and wealth redistribution. The Labour administration began to make extended use of financing schemes available through the Private Finance Initiative (PFI), whose scope and size increased significantly after 1997. Initially launched in 1992, the PFI was "part of a wider program of privatisation and financialisation" (Barlow et al., 2010).

Barlow et al. (2010) discuss the increasing reliance on PFIs and PPPs as mechanisms to fund healthcare infrastructure, reflecting on the implications of these financing models for the future of public healthcare services. Their paper calls for a careful evaluation of the long-term consequences of relying on private finance for healthcare infrastructure. It suggests that while private financing can provide immediate relief to public budgets, it is crucial to consider the broader implications for public healthcare systems, equity, and access to services. The authors advocate for a balanced approach that considers both the benefits and challenges of private financing, with a more active role for the EU in ensuring that the healthcare needs of its citizens are met, even in challenging economic times.

The main advantage of using PFIs instead of directly funding public projects was to move capital investments outside the government's balance sheet, thus retaining flexibility over government spending without political oversight (Shaoul, 2005). In addition, PFI brings a clear advantage in comparison to more traditional procurement when it comes to risk allocation, as it passes on part of the risk to the private sector, while in traditional procurement, the risk remains practically entirely with the government. For instance, a PFI contract may include a clause stating that payment to the private sector will only take place when the contract is fulfilled (e.g., construction of bridge is finalized). In addition, the PFI has the advantage of removing items qualifying as public-sector investment from the Public Sector Borrowing Requirement (PSBR), that is, the quantitative constraint on public debt. Therefore, using a PFI and qualifying it as public investment does not consume the capacity towards the PSBR limit, thereby increasing the space for public spending (Green and Haskel, 2007).

PFIs also allow for a delay in the recognition of liabilities in the public budget. By 2008, the IFS estimated liabilities from future payments for PFI contracts to be 130 billion pounds (9 percent of GDP). The use of PFI raises concerns about the implications of using private finance in the provision of public services (Shaoul, 2005). Furthermore, PFIs became very attractive for investors as the government often guaranteed the underlying loans to finance the projects, especially for the riskier projects. Therefore, the government assumed a contingent liability that would only materialize in the future and materially impact the budget in the long-term (Brandao and Saraiva, 2008). Once again, we see the key role that government guarantees have in externalizing the issue of debt and provision of public good to the private sector.

Even though the PFI transfers risk away from the government, Green and Haskel (2007) highlights that this does not necessarily translate in lower interest rates on public debt. This should be the case if capital markets see the use of PFI as a way to effectively reduce the probability of default of the public administration. While the PFI implies that taxpayer resources shall be used to compensate the private sector in case risk materializes, other projects within the public budget seem to receive insurance in capital markets at no cost for the taxpayer (Green and Haskel, 2007).

In sum, the reliance on PFIs has raised important questions about the long-term financial sustainability and accountability of public service provision. The shift towards private financing has blurred the lines between public and private responsibilities, with significant implications for future liabilities and the overall contour of the public sector. Despite the initial appeal of PFIs in facilitating infrastructure development and service provision, the decline in their use post the 2008 financial crisis, alongside growing concerns regarding the eventual financial burden on the state, underscores the complexity and challenges of relying on private finance to achieve public objectives. The UK's experience with PFIs thus offers valuable insights into the trade-offs involved in public-private partnerships, highlighting the need for careful consideration of the long-term fiscal and societal impacts of such financing arrangements.

4.1.3 Spain Real estate, housing, and banking policy

This country case study shows reforms used by several Spanish governments to stimulate credit growth in the presence of fiscal constraints. Key policy reforms instrumental to reform financial markets while keeping the public budget in check were the Fiscal Reform in 1978, which introduced tax credits for house ownership, the Mortgage Market Regulation in 1981 which increased to 80 percent the Loan-to-Value ratio, the Boyer Decree in 1985 which reduced social housing and the benefits of owning real estate to rent, the Land Act of 1998 which liberalized real estate development (del Río Casasola, 2015), and the REIT (SOCIMI) Regulation of 2009 with the objective of promoting the real estate market by providing a tax-efficient vehicle for real estate investment (Yrigoy, 2016). For a more recent account of financialisation in the Spanish real estate sector following the GFC please see Gil García and Martínez López (2023).

Characteristics of financial system

The Spanish economy has undergone profound changes since the Democratic transition and its opening to the global economy, driven by the process of economic integration and liberalization in the EU. The Spanish financial sector, as the European, is

mainly dominated by the banking system, which is characterized by Universal banking business models with a strong retail orientation and international expansion (to a large extent in Latin America) for the two largest banks (Banco Santander and BBVA). Based on calculations from the IMF, at the end of 2016 the total assets of financial institutions amounted to 360 percent of GDP, of which total banking assets accounted for two thirds. The remaining of the financial sector is composed of insurance and pension funds, investment funds and financial vehicle corporations, most of which belong to bank conglomerates. The shadow banking system is relatively small (around 25 percent of GDP) compared to other large EA economies. Domestic financial intermediation is thus primarily conducted by banks, while equity and bond intermediation in capital markets is less significant than in the US or the UK. The Spanish government is the largest domestic issuer of debt securities.

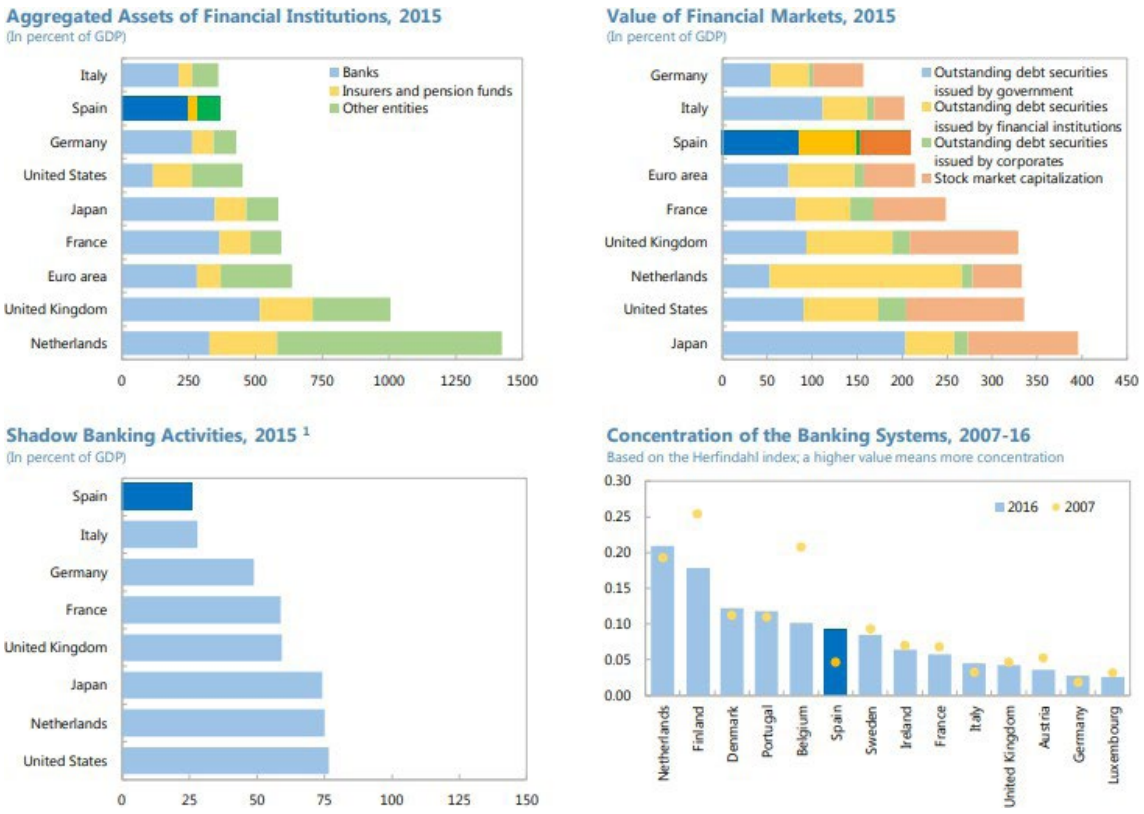


Figure 17: Spain's financial system in comparison to other countries.
Source: Spain 2017 Financial Sector Assessment Program, IMF.

Evidence of financialisation in Spain and the EU

Europe presents similar dynamics to the US or the UK regarding the process of financialisation. The income growth of the financial sector has outpaced income growth in other sectors in the real economy. In 1970, the share of the financial sector in the aggregated European economic output was 8.5 percent, which increased to 15.1 percent in 2007. An increase can also be seen when looking at domestic bank assets, which accounted for 51 percent of GDP in 1970 and 130 percent of GDP in 2007. The process of financialisation can also be seen in the level of private indebtedness. For non-financial corporations, private debt increased from 65 percent of GDP in 1970 to 142 percent of GDP in 2007. Since the GFC, the numbers have remained broadly stable (Jayadev et al., 2018). The graphs below illustrate the dynamics of financialisation trends in Europe. The graphs display the nominal GDP-weighted average for 32 European countries, adjusted for missing data points. EU KLEMS is an industry level, growth and productivity research project. KLEMS stands for EU level analysis of capital (K), labour (L), energy (E), materials (M) and service (S) inputs.

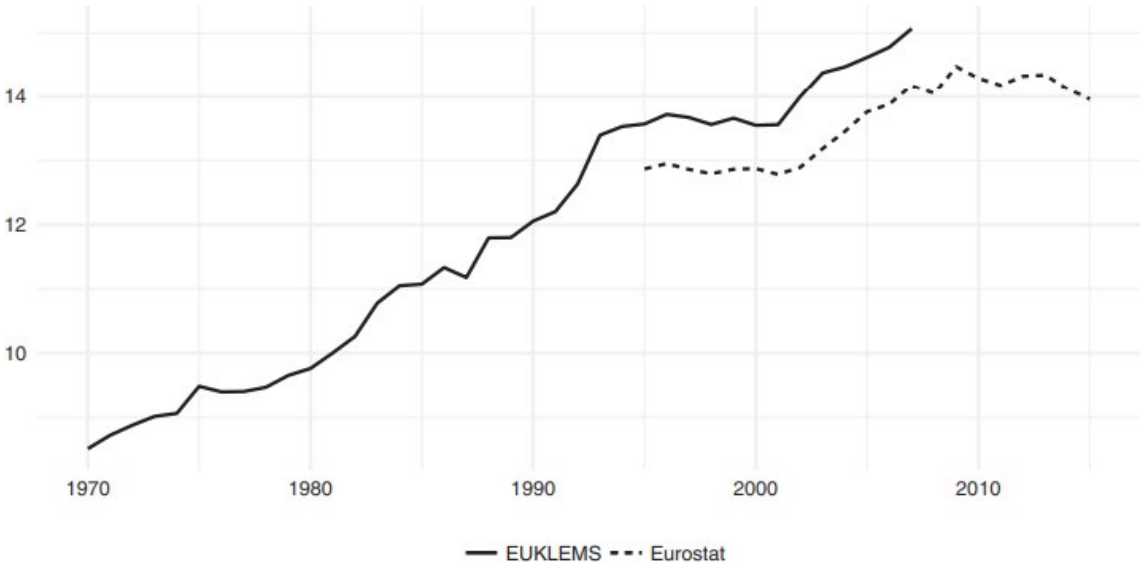


Figure 18: FIRE sector value added.
Source: Jayadev et al. (2018).

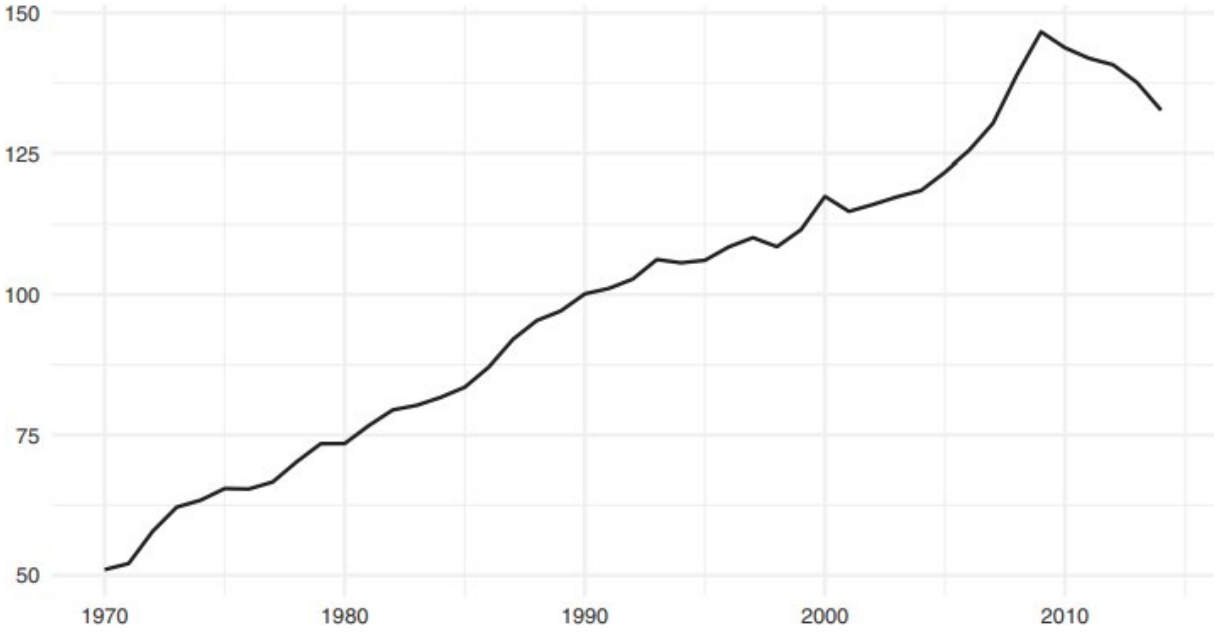


Figure 19: Domestic bank assets, percent of GDP.
Source: Jayadev et al. (2018).

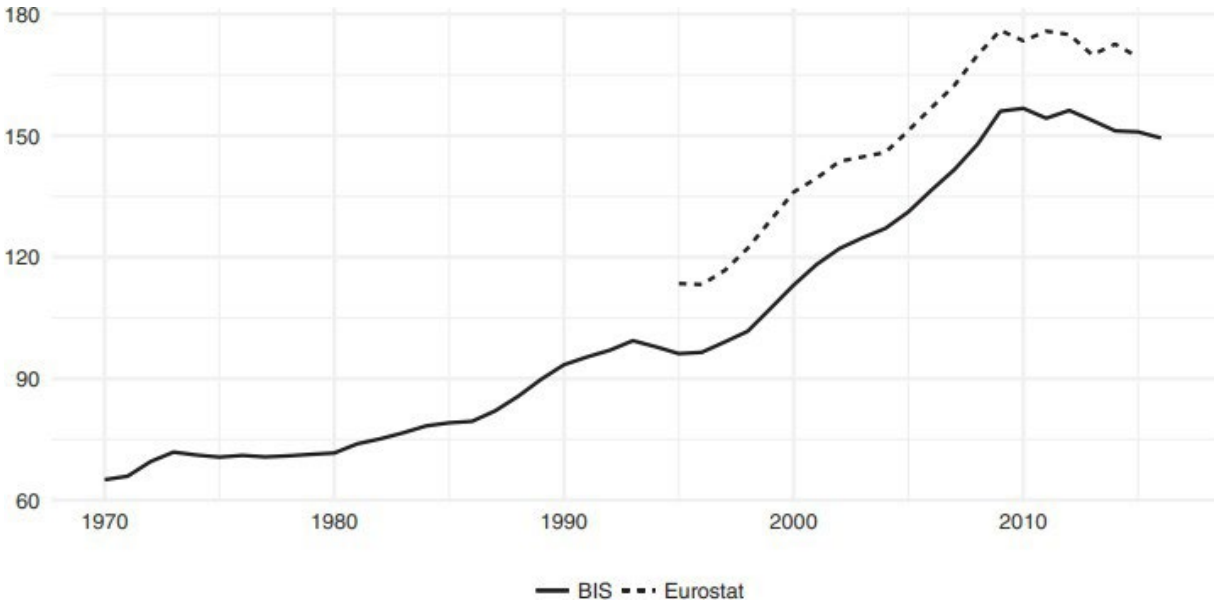


Figure 20: Nonfinancial corporation debt, percent of GDP.
Source: Jayadev et al. (2018).

The process of financialisation in Europe, including deregulation and liberalization, was facilitated by the European integration process (Jayadev et al., 2018). Drastic changes took place during the second half of the 1970s and the decade of 1980s, when the capital accounts were liberalized. Following the capital account and exchange rate liberal reforms by the UK in 1979, the Nordic countries also liberalized during the 1980s. The rest of European countries followed gradually in removing capital and exchange rate controls. Finally in 1990 all credit controls were removed as part of one of the first stages of the EMU development (Jayadev et al., 2018).

The Second Banking Directive (1989) introduced the single banking license and allowed banks in one Member State to open branches and provide services in other Member States. This gave place to regulatory and supervisory leniency as domestic banks expanded their activities in foreign markets and risks increasingly concentrated in foreign markets rather than in the domestic banking system. This set a race to the bottom in terms of banking regulation and supervision which was perceived as supporting the single market. Hence deregulation, liberalisation, and integration went hand in hand in the EU and supported a rapid growth in the financial system and in cross-border banking. When the Euro was introduced in 1999 it eliminated exchange rate risk and further led to an increase in cross-border banking. This in turn fostered credit boom-bust cycles in the peripheral countries like Spain (Jayadev et al., 2018).

The Spanish model is highly dependent on external funding. Massó and Pérez-Yruela (2017) measure financial development in Spain by adding up the capitalisation of bond, capital and bank credit markets to the non-financial sector. This measure is much higher in Spain (441 percent of GDP) when compared to the European average (319 percent of GDP), based on 2010 data. More specifically the authors look at financial liabilities and the structure of financial assets. By looking at the structure of household assets as percentage of GDP, the authors show a steady growth in the share of insurance and pensions (from around 14 percent in 1995 to almost 30 percent in 2013). This shows the transition to a new model of financing social welfare through private credit, which effectively transforms the way consumers behave (Massó and Pérez-Yruela, 2017). According to IMF data, the amount of household debt (including debt securities and loans) as a percentage of GDP in Spain increased from 31.30 percent in 1995 to 84.23 percent in 2009. In comparison, in

the preceding decade, between 1980 and 1994, household debt as a percentage of GDP increased from 24.49 percent to 31.28 percent. Household debt then decreased to 58.85 percent in 2018[15]. Yrigoy (2016) provides an interesting case study on the financialisation of hotel corporations in Spain where it is documented that already in the 1980s, hotel corporations like NH became subsidiaries of national investment funds.

The role of fiscal policy makers

In Spain, the process of financialisation has been attributed to social and regulatory factors through which finance has become a key source of economic activity and income, thereby driving a process of capitalist accumulation characterised by several factors, one of which is "a new conception of state financing through markets and, consequently, a new policy and increased pressure to streamline public spending" (Massó and Pérez-Yruela, 2017). The Spanish economy is to a large extent based on the construction and real estate development sectors, both of which are sectors that consume high amounts of credit. This has supported the process of financialisation (Yrigoy, 2016). Even though several factors contributed to the real estate bubble, such as the decline in interest rates, a surge in private debt, and current account deficit, it was the political will to bypass public budget constraints and to achieve the fiscal consolidation required to pass the EMU test which multiplied the aggressive lending to private households and firms (Santos, 2017).

The Spanish economy has historically lacked a strong diversified industry with international competitive advantage, as it has been predominantly based on construction and tourism, both of which are sectors that consume high amounts of debt (Palomera, 2014). The modernization program put in place in the late 1950s was primarily based on attracting mass tourism from the northern European countries and promoting real estate development and home ownership. This made the Spanish economy vulnerable and unequipped to compete in a global economy with international competition. For instance, during the recession that hit the global economy in 1973, the Spanish economy suffered a greater blow than other economies (López and Rodríguez, 2011). Vast subsidy

15 [5]IMF Global Debt Database.

programs for real estate developers were put in place by the Spanish state, which caused housing prices to fall significantly below the market price. Under the Law of Limited-income Housing (1954), the state directly subsidized 60 percent of the total value of new housing projects, which allowed for a considerable reduction in housing prices. During this time, private banks were not involved in the provision of mortgages to the working class (this only started to happen in the second half of the 1980s). Instead it was a public agency, the Spanish Mortgage Bank, that was tasked with providing direct mortgages to the working class. In other words, the state created the Spanish Mortgage Bank to provide and guarantee loans to households with low income and high risk of default, and to which private financial capital did not lend (Palomera, 2014). While such policies are beneficial to reduce financial exclusion, they can also perpetuate poverty and inequality by making low income households debt dependent, especially when they are paired with a reduction in spending on public goods.

After the democratic transition at the end of the 1970s, the Spanish socialist party (PSOE) won the elections in 1982 with a comfortable majority of seats in Congress, which was perceived as the beginning of an open and pro-European economic policy. However the direct state subsidies for the construction of housing for private ownership continued to be in place until the end of the 1980s, although during this decade the scale of this activity was smaller compared to the previous two decades. At the end of the 80s, the Spanish economy took a turn towards neoliberalism and fiscal austerity, in line with the rest of the EU, and direct state intervention in the housing market in the form of subsidies was gradually replaced by the provision and development of housing by the free market (Rimanelli, 1999). When analyzing the causes of this shift towards economic neoliberalism, McVeigh (2005) weights several forces including among others a widespread dissatisfaction with a “Franquismo model” which was predominantly nationalistic and inward looking, fiscal pressures, and ideological changes due to the fall of the Bretton Woods system. Furthermore, participation in the EMU was a critical driver of this “profound economic liberalization” (McVeigh, 2005).

In this new context, where state intervention was stigmatized, the approach of the Spanish government shifted away from subsidies and the provision of direct loan financing for construction and mortgages, and moved towards measures based on the provision

of tax relief for credit to stimulate supply and demand in the housing market (Palomera, 2014; Byrne, 2020). The state reformed financial regulations to remove prior constraints on finance capital and Spain became a "laboratory of asset-price Keynesianism" (Palomera, 2014). Spain's property asset-price bubble was from the beginning naturally building upon the already extended scale of home-ownership model traditionally existing in Spain. As the majority of households were homeowners, they saw the value of their house increase significantly, which increased household wealth and consumption as long as the credit and housing boom lasted (López and Rodríguez, 2011).

Reforms to incentive credit demand targeted to a large extent taxation. Mortgage interest rate deductions were extended to second homes between 1985 and 1989. In addition, income tax deductions for renting, in place between 1992 and 1998, were eliminated in 1999, which increased the demand for home ownership. Furthermore, the "Planes de Vivienda" provided direct subsidies to families who wanted to own a house (Santos, 2017). Tax deductions attached to the purchase of property accounted for 20 to 50 percent of the total price that would be paid for housing by households in 2003. The result of this tax scheme, strongly biased towards home ownership, can be seen in the fact that 87 percent of households in Spain in 2007 owned a home, which contrasts with 7.6 percent of households living on a rented home. In the decade going from 1998 to 2008, housing prices experienced a sharp increase of almost 200 percent. To put it into comparison, during the same decade, prices in the US increased by 100 percent. Another key reform that pushed credit demand was the Boyer Decree (1985), which introduced generous universal tax subsidies for home ownership while removing rent controls.

Norris and Byrne (2015) point out that during the years of the housing boom, the government did not pass any regulation to control the growth of credit, such as setting minimum deposit requirements or maximum loan-to-value ratios for banks to comply with. Both politicians and financial markets benefited from the process of "asset-price Keynesianism" at the expense of increasing inequality and the private provision of housing. In other words, this is an example of how the Spanish government deliberately delegated the promotion of a public good (i.e., social housing) to private markets. The consequence, directly affecting social welfare, is the very low rate of public social housing in Spain compared to other countries. In this regard, and resulting from the high levels of home ownership

and real estate finance promoted by the government, Spain has extremely few public/social housing: state-subsidized housing accounts only for 1.5 percent of the market, while in England it is 20 percent and in France it is 17 percent (Allen et al., 2008; Palomera, 2014).

The extent of home ownership in Spain was not due to affordable housing prices (the average house price in 1997 was more or less four times the average annual gross salary, and in 2011 the average house price was more or less nine times the average annual gross salary), but rather to the extensive availability of credit, in part fostered by the process of integration in the EA and low interest rates. Residential loans increased by 204 percent between 2000 and 2006, also supported by the EA integration and the increase in inter-bank lending and securitization (Palomera, 2014). The entry in the EMU was a key factor in the housing bubble experienced by Spain, as interest rates fell on average by 4 percentage points and maturities for household mortgages were on average also extended (from 10 to 28 years between 1990 and 2007) given the increased market stability following the integration with the Euro (de Lis and Herrero, 2008). By 2009 Spain had the highest ratio of long-term household mortgage debt to disposable income in the world, widening the gap between credit availability and affordability and making this relationship unsustainable (Byrne, 2020).

After PSOE's economic reforms in the 1980s, the PP administration that followed in 1996 sought to further liberalize the economy. The areas where reform was being conducted remained broadly the same, with a focus on macroeconomic stability and in particular budgetary control to consolidate public deficits. In addition, structural reform to reduce market rigidity, including in relation to labour, were pursued. The reform packages included sale of state companies and assets to multinational companies in key areas such as motor manufacturing, electronics, cement, and financial services (Harrison and Corkill, 2016). During the years 1997–2007, deficit spending was deliberately transferred from the State to households, which became, during the final years of the boom, net finance demanders. Household nominal wealth in fact grew more than three times faster than house prices and housing supply and the credit expansion (López and Rodríguez, 2011). Government intervention was a key factor in "lubricating" the Spanish housing market to sustain the increase in housing supply. The Land Act of 1998, also known as the "build anywhere" law, decreased significantly the time required to obtain a construction permit as well as made available large quantities of land which were previously not buildable. Other

policies which also contributed to the sharp increase in housing supply and household indebtedness were aimed at disincentivizing renting, providing tax relief for home buying, and limiting public-housing (López and Rodríguez, 2011).

The enormous amounts of debt taken by the private sector boosted aggregate demand and prices, even though wages were stagnating, thereby increasing income inequalities. The idea of Spain being a clear example of "asset-price Keynesianism" (Brenner, 2006) is also shared by other authors, who argue that the Spanish housing boom-bust cycle was caused by a series of macroeconomic policies targeted at using growth in asset prices (i.e., housing) to support aggregate demand and economic growth (Norris and Byrne, 2015). In this sense, the success, or "miracle" of the Spanish economy, can be attributed to the linkage between a high reevaluation of asset prices and private internal consumption. This linkage generated an important engine of economic growth, the so called "wealth effects", which effectively mean that the majority of Spanish households saw their wealth increase in terms of financial and property assets during the boom years of the housing bubble. These "wealth effects" sustained a cycle where aggregate demand and financial profits increase without any corresponding increase in wages or public spending (López and Rodríguez, 2011).

Banking reforms

In the decade of 1960s and early 1970s, the Spanish economy experienced a strong economic growth, but difficulties began to mount by mid-1970s due to a double-digit inflation driven by the increase in global oil prices between 1973 and 1974. The Spanish government attempted to reform the financial system and set the ground for its liberalization, however the reforms were not met by accompanying adequate regulation and supervision of the financial system. In 1977 a banking crisis triggered the creation by the Spanish government of the Deposit Guarantee Fund as a provider of deposit insurance, as well as the creation of the Banking Corporation, in 1978, to restructure problematic assets. These reforms were intended to address liquidity issues, but in fact they were ineffective in providing a solution for underlying solvency problems in the financial system. The government then considerably increased the legal authority of the Deposit Guarantee Fund and granted it legal powers to purchase assets, provide capital injections, and provide guarantees in order for the Fund to have additional tools to deal with failing banks (Hoyos, 2019).

The wave of liberalization during the 1980s and 1990s, as Spain prepared its balances to enter the EMU, fundamentally changed the business model of savings banks in the two decades following the deregulation of financial markets that started in the mid-1970s, as the country transitioned to a democracy. In 1986 strong deregulation efforts began with the aim to increase the competitiveness of the Spanish banking sector (Anandarajan et al., 2005). The business of the savings banks changed towards a universal model of banking, where the entities serviced a diverse range of portfolios and markets along the value chain. Barriers to expanding branches were reduced gradually until they were completely removed in 1988, which gave place to an extensive branch network all over the Spanish territory. In addition, mandatory direct lending was gradually reduced and finally abolished in 1992 (IMF, 2012). State-owned savings banks in Spain, the Cajas, were initially set up by the government to decentralize and democratize credit, thereby expanding financial access for the working class. However, aided by financial deregulation, these government-backed financial institutions grew uncontrollably, and started competing with large commercial banks, e.g., Santander Bank (Fernandez-Villaverde et al., 2013). This highly competitive financial environment forced private banks to take more aggressive stands in the market and engage in riskier behavior. Being backed by local authorities, the Cajas continuously served short-term local populist investments, extending credit indiscriminately to high-risk households and real estate developers. Like Fannie Mae and Freddie Mac in the U.S. (Schwarz, 1992a; Acharya, 2011), the Cajas were used as a substitute for the direct provision of public goods and were largely to blame for the Spanish housing boom in the early 2000s and the bust that followed (Fernandez-Villaverde et al., 2013).

With these financial reforms, the Cajas, which had traditionally focused on a specific region, expanded geographically in terms of branches and employees across the country. They also expanded their activities and became direct competitors for large commercial banking groups such as Santander Bank or BBVA, progressively gaining market share from around 20 percent in the early 1980s to 40 percent in 2010. This expansion was accompanied by aggressive lending policies to construction companies, real estate developers, and household mortgages. The liability side of the balance sheet became increasingly dependent on wholesale funding, while the Cajas had traditionally funded themselves through customer deposits (IMF, 2012). In 1981, the government passed the Mortgage Market Act, which allowed commercial banks to enter the mortgage market and

expanded the maturity and the loan-to-value limits. Moreover, the Mortgage Market Act also allowed banks to package mortgages into securities and sell them (Palomera, 2014). The securitizations market in Spain continued to solidify with the Law of Securitization Vehicles in 1992 and in the second half of the 1990s and 2000s, the securitization market in Spain experienced a boom and became a key driver of weakening credit underwriting standards and excessive bank lending (Carbó-Valverde et al., 2011).

The effects of the broader economic liberalization package, the loose monetary conditions, the favourable immigration and demographics, the taxation changes, and the inflow of capital from other European countries at the time must not be discounted in the rapid expansion of the Cajas, as all these factors allowed them to "grow and feed, and be fed by, the real estate bubble" (Santos, 2015). This rapid expansion in business model was, however, not paired with adequate governance and risk management. This became evident when the crisis hit in 2008. Like Portugal and Greece, Spain had a very large current account deficit. However the driver of the deficits in Spain was private debt rather than public debt, and a significant portion of it had been granted by the Cajas indiscriminately. The law that regulated the governance of the Cajas approved in 1985 provisioned for representation of local politics in the governing bodies of the Cajas. Local and regional governments further changed the legal basis in order to gain more control over the savings banks, which were effectively perceived as a very attractive option to finance real estate projects generating the short-term economic benefits that would help incumbent politicians in re-elections (Santos, 2015). García-Cestona and Surroca (2008) find that the Cajas that were more politically connected were less focused on profit maximization and more focused on regional development goals.

During the bonanza years the Cajas were systematically subject to political capture to finance local projects (namely construction and real estate development) with limited oversight and controls, which led to financing many projects that would turn out to be insolvent. According to the zoning rules set in the legislation during the transition period, private developers or landowners could present a plan to the local authorities to build a real estate area and in exchange the town public administration would receive a payment. In this way, land developers became a significant revenue source for the local budget, as the public administration could use the proceedings to finance public spending. This

engagement of private developers and public local authorities led to widespread corruption (Fernandez-Villaverde et al., 2013).

To conclude, the trajectory of real estate, housing, and banking policies in Spain within the EMU integration project underscores the pivotal role of political agency, financialisation, and fiscal constraints in shaping economic outcomes. Initially characterized by extensive state intervention and direct subsidies, the housing market transitioned towards a market-oriented approach driven by tax incentives for home ownership. This shift, coupled with Spain's integration into the EMU, facilitated a housing boom fueled by easy credit and financial deregulation. However, the expansion of credit, particularly by state-backed savings banks (Cajas), was not accompanied by adequate governance or risk management requirements. Political influence, driven by local and regional interests, played a significant role in directing lending towards unsustainable projects, exacerbating income inequalities and contributing to the eventual financial crisis of 2008. This crisis revealed the inherent tensions between political objectives, financial imperatives, and fiscal constraints, underscoring the need for robust regulatory frameworks and prudent fiscal management.

4.1.4 Examples from other countries

It is challenging to do a quantitative comparative analysis of fiscal rules and financialisation across countries given the lack of harmonized data. There is no integrated dataset that compiles metrics of financialisation along several dimensions and follows the evolution of these. Outstanding research and cross-country comparisons have mostly a qualitative underpinning. There are numerous country cases that display similar patterns. To the best of my knowledge a comparative or comprehensive account of these schemes covering several countries is not available.

The three selected countries for the case studies have in common a "private demand boom" before the GFC. This is in contrast with other sets of countries which had "exportled mercantilist" economies (Germany and Sweden) and France which had a "domestic demand-led" economy (Hein et al., 2017). For a cross-country comparison on the financialisation of housing please see Aalbers (2017).

Table 1: Country case studies: other

Country	Case study
Eastern Europe	In most transition economies in Eastern Europe, credit subsidies serve the purpose to meet existing demand to attain "Western" style housing and to buy popular support from middle-class households (Struyk, 2000). Hungary is a point in case. Since the early 1990s, the Hungarian government implemented several generous credit subsidy schemes that effectively reduced the interest burden for borrowers from 18 percent to 6 percent (Dobricza, 2004; Rózsavo¨lgyi and Kovács, 2005).
Chile	In Chile, steps towards the financialisation of education included the creation in 2005 of the Government Guaranteed Loan program (Crédito con Aval del Estado). The state warranted student debt and provided assurance to banks, which could lend without taking on real risks. Access to healthcare was also guaranteed via private credit and insurance. Consumer credit played a double function in Chile´s Privatized Keynesianist system: it helped modernize housing and education while preventing the structural issue of income inequality from becoming a source of political instability. Consumer credit in Chile became "de-facto one of the main driving force of Chilean modernization, allowing big shares of the population to participate in the party of consumption without solving the problem of structural inequality" (González, 2015).
Sweden	Nominal interest rates were fully tax deductible until 1991 introducing a strong debt bias into the personal Swedish tax code. Agell et al. (1996) estimate that an individual could reduce her tax burden to -7 percent when deducting interest payments.
Other	Other countries operate credit subsidy schemes that aim at enhancing borrowing for durable goods such as cars (e.g., Argentina), provide tax incentives for debt financing of college education (e.g., the US), or target politically important economic sectors such as agriculture (e.g., Thailand/India).

4.2 Comparative analysis

This section classifies and compares key information gathered for each country case study along the following dimensions: (i) evidence of fiscal constraints, (ii) evidence of financialisation, (iii) evidence of political agency, (iv) key financial reforms credit demand, and (v) key financial reforms credit supply. The allocation and comparison of the information gathered into these categories provides a basis for the structuring and development of the conceptual model presented in the Results chapter.

Table 2: Comparative analysis Evidence of fiscal constraints

Country	Case study
United States	During the 1960s, there were limitations to the use of monetary policy (independent Fed and fear of a new credit crunch), as well as budget constraints arising from the Vietnam War. This is when policy makers began to effectively liberalize financial markets to stimulate credit markets through both supply and demand side measures: "there is little doubt that the single most important factor that explains the growth and proliferation of Federal credit assistance is the desire to see programs funded with a minimum use of scarce budget dollars" (MacLaury, 1973; Fligstein and Goldstein, 2012). Monetary tightening and public budget constraints were strategically counterbalanced with policy interventions in credit markets and financial deregulation (Fligstein and Goldstein, 2012). With limited resources from progressive taxation to provide sufficient support to welfare programs, the government heavily relied on credit markets in order to foster consumption (Quinn, 2017).
United Kingdom	During the 1980s, fiscal reforms were implemented to increase the value-added tax while reducing income-tax, and transfer (welfare) payments became indexed to prices instead of wages. These reforms were aimed at achieving a balanced budget. Together with fiscal consolidation, subsidies for the industry were cut and state-owned enterprises privatized (Crafts, 2007). An example of the close link between fiscal consolidation and the downsize of the industry in the UK is the privatization of British Telecommunications. At the same time, the government had self-imposed macroeconomic constraints such as the Public Sector Borrowing Requirement (Green and Haskel, 2007), which is the budget deficit limit (i.e., a fiscal rule), to meet the medium-term financial strategy and achieve a reduction in money supply and inflation. Amid this scenario where governmental macroeconomic policy was constrained, PFIs introduced the use of private financing in the provision of public services.
Spain	At the end of the 1980s, direct state intervention in the housing market in the form of subsidies was gradually replaced by the provision and development of housing by the "free market" (Rimanelli, 1999). When analyzing the causes of this shift towards economic neoliberalism, McVeigh (2005) weights several forces including fiscal pressures. It was the political will to bypass public budget constraints and to achieve the fiscal consolidation required to pass the EMU test which multiplied the aggressive lending to private households and firms (Santos, 2017). During the years 1997–2007, deficit spending was deliberately transferred from the state to households, which became, during the final years of the boom, net finance demanders (López and Rodríguez, 2011).

Table 3: Comparative analysis Evidence of financialisation

Country	Case study
United States	At the firm level, non-financial corporations increasingly derived profits from financial activities (such as financing for leasing and purchasing their products) and focused on generating short-term value for shareholders. Furthermore, there was an observed shift of power from traditional functions like marketing or manufacturing to the financial departments. At the household level, there was a significant increase in the share of financial assets relative to total household assets. In addition, households became increasingly invested in the stock market through direct share investments or mutual funds. Household consumption was supported more by accumulated borrowing than by earnings, so that median household debt to income increased from 0.14 in 1983 to 0.61 in 2008. In 1999, household debt in the US amounted to 6.3 trillion USD, of which roughly 4.4 trillion USD accounted for mortgages debt and 1.4 trillion USD were in consumer credit (Maki, 2002; Davis and Kim, 2015).
United Kingdom	Between 1979 and 1989 financial services investment increased by 320 percent, in comparison with an investment increase of 12.8 percent attained by the manufacturing industry. Prior to the 1970s, total bank assets accounted for more or less half of the GDP. In comparison, total bank assets amounted to over 5 times the value of GDP by the mid-2000s (Davis and Walsh, 2016). The amount of household debt (including debt securities and loans) as a percentage of GDP in the UK increased from 57.32 percent in 1997 to 95.73 in 2009, while between 1992 and 1996 the indicator had been decreasing from 59.03 percent to 56.61 percent. Household debt had just experienced a pronounced increase between 1980 and 1992, where it increased from 29.86 percent of GDP to 59.03 percent (IMF Global Debt Database). It was a combination of financial market and free market thinking that prepared the grounds and the rationale for a financial big bang, privatization, and liberalization of finance and trade. These reforms advantaged international finance against manufacturing and the real economy (Davis and Walsh, 2016).
Spain	In 1970, the share of the financial sector in the aggregated European economic output was 8.5 percent, which increased to 15.1 percent in 2007. An increase can also be seen when looking at domestic bank assets, which accounted for 51 percent of GDP in 1970 and 130 percent of GDP in 2007. The process of financialisation can also be seen in the level of private indebtedness. For non-financial corporations, private debt increased from 65 percent of GDP in 1970 to 142 percent of GDP in 2007. Since the GFC, the numbers have remained broadly stable (Jayadev et al., 2018). In Spain the majority of households were homeowners and saw the value of their house increase significantly, which increased household wealth and consumption as long as the credit and housing boom lasted (López and Rodríguez, 2011). Household nominal wealth in fact grew more than three times faster than house prices and housing supply and the credit expansion (López and Rodríguez, 2011). By 2009 Spain had the highest ratio of long-term household mortgage debt to disposable income in the world, widening the gap between credit availability and affordability and making this relationship unsustainable (Byrne, 2020).

Table 4: Comparative analysis Evidence of political agency

Country	Case study
United States	The rise of financialisation has been attributed to the development by policy makers in the US of federal credit schemes, credit subsidy programs, and financial market liberalization policies, as a response to binding budget constraints and an independent central bank (MacLaury, 1973; Fligstein and Goldstein, 2012). The government created a network of programs to subsidize debt to enable private investors and households to access cheap credit through interest rates below market prices (Schwarz, 1992b; Fligstein and Goldstein, 2012). The Johnson Administration was primarily worried about expanding home ownership and achieving this in a way that keeps the budget deficit stable (Fligstein and Goldstein, 2012). The distributional struggle was resolved by expanding financial markets (Quinn, 2017). Cohen (2004) discusses how consumerism became a sort of civil religion in the postwar period in the US because consumption promised the social progression and economic equality sought by the government but without having to resort to politically expensive ways of wealth redistribution. Parenteau (2005) highlights the role, or complicity, of macroeconomic policy makers in allowing the US economy to become dependent on finance and very fragile because of this. While orthodox economic thought prioritized the consolidation of the public budget, private balanced were "debauched".
United Kingdom	Davis and Walsh (2016) discuss how several UK governments since the 1970s disempowered the industry and handed its control to the financial sector. A case in point discussed are the financial reforms that changed how the Treasury and the Department of Trade and Industry operate internally and externally. Dutta (2018) puts at the center of the cause of financial deregulation and financialisation the government's interest in managing sovereign debt. There was a constant search for a reduction of the cost to the state of providing public services, therefore the financing "needed to be found from elsewhere" (Broadbent and Laughlin, 2005). During the first half of 1980s, constraints on monetary and fiscal policy aimed at maintaining a stable economic environment failed to deliver the expected results and achieve economic targets. In 1983 the government relaxed monetary targets and encouraged consumer credit in order to recover the economy from a crisis. The government thus effectively turned to the consumer credit and mortgage markets as growth engines. Cheap mortgages for lower income households and secondary capital markets for higher-income sectors to invest allowed the government to substitute for public spending while generating the desired consumption and investment to spur the economy (Oren and Blyth, 2019).

Country	Case study
Spain	Even though several factors contributed to the real estate bubble, such as the decline in interest rates, a surge in private debt, and current account deficit, according to some authors it was the political will to bypass public budget constraints and to achieve the fiscal consolidation required to pass the EMU test which multiplied the aggressive lending to private households and firms (Santos, 2017). Other authors agree that participation in the EMU was a critical driver of this "profound economic liberalization" (McVeigh, 2005). The state reformed financial regulations to remove prior constraints on finance capital and Spain became a "laboratory of asset-price Keynesianism" (Palomera, 2014). The law that regulated the governance of the Cajas approved in 1985 provisioned for representation of local politics in the governing bodies of the Cajas. Local and regional governments further changed the legal basis in order to gain more control over the savings banks, which were effectively perceived as a very attractive option to finance real estate projects generating the short-term economic benefits that would help incumbent politicians in re-elections (Santos, 2015). García-Cestona and Surroca (2008) find that the Cajas that were more politically connected were less focused on profit maximization and more focused on regional development goals.

Table 5: Comparative analysis Key financial reforms: credit demand

Country	Case study
United States	During the Johnson Administration (1963 – 1969), the government created a network of programs to subsidize debt to enable private investors and households to access cheap credit through interest rates below market prices (Schwarz, 1992b; Fligstein and Goldstein, 2012). In addition, US consumer credit protection and thereby demand for credit were enhanced by the Fair Housing Act (1968) and the Federal Consumer Credit Protection Act (1968) (Levitin and Ratcliffe, 2013), as low income households previously excluded due to their high risk profile could access credit markets. The goal was to influence the allocation of credit and stimulate the economy in areas facing high interest rates (Burger, 1969), such as housing. Later on the Alternative Mortgage Transaction Parity Act in 1982 led to a large increase in household debt (Litan et al., 1994; McCoy et al., 2008).
United Kingdom	In 1983 the UK government increased the value (monetary threshold) for a mortgage to be eligible for the tax relief on interest payments (mortgage-interest tax relief) from 25,000 to 30,000 Pounds (Gentle et al., 1994). In addition to this, the Housing Act of 1980 included the Right to Buy Scheme. With this, the Thatcher government effectively deregulated the market for mortgage debt by expanding the access to home ownership (Wood, 2018). After the New Labour came to power in the 1990s, mortgage debt was part of a welfare system based on asset appreciations used to stimulate the economy through house price increases (what is known as House-Price Keynesianism), which effectively made homeowners investors (Watson, 2010; Wood, 2018).
Spain	Key policy reforms to increase demand for credit were the Fiscal Reform in 1978, which introduced tax credits for house ownership, the Mortgage Market Regulation in 1981 which increased to 80 percent the Loan-to-Value ratio, the Boyer Decree in 1985 which reduced social housing and the benefits of renting a home, and the Land Act of 1998 which liberalized real estate development (del Río Casasola, 2015). The Boyer Decree introduced tax subsidies for mortgages and promoted home ownership, while the provision of social housing by the government became limited. In addition, mortgage interest rate deductions were extended to second homes between 1985 and 1989. Furthermore, income tax deductions for renting, in place between 1992 and 1998, were eliminated in 1999, which increased the demand for home ownership. In addition, there were the “Planes de Vivienda” which provided direct subsidies to families who wanted to own a house (Santos, 2017).

Table 6: Comparative analysis Key financial reforms: credit supply

Country	Case study
United States	The Participation Sales Act (1966) set the grounds for the development of asset-backed securities (Junk and Nickles, 1970), as investors could buy participation certificates covering a pool of assets whose revenues were guaranteed by the government, thereby generating a risk-free asset for investors. Through these financial pools, the government could also lend to targeted groups without incurring immediate fiscal debt obligations (Green and Wachter, 2005), increasing the availability of resources in the US mortgage industry. Furthermore, the gradual repeal of Regulation Q and the Glass-Steagall Act decreased capital and risk management requirements for financial institutions, lowered credit underwriting standards, and increased competition between commercial and investment banks, financial innovation, and leverage in the system. Regulation Q was an important constraint to credit growth which counter-balanced the impact of credit subsidy programs.
United Kingdom	Credit supply conditions for consumers were liberalized since the late 1970s in several areas in addition to mortgages, such as unsecured consumer credit (e.g., credit cards). More concretely, credit controls on down-payments and repayment periods for consumer borrowing to purchase durable goods were eased (Fernandez-Corugedo et al., 2006). During the 1980s, the capital market liberalisation led to increased divestment and restructuring of large companies, with a marked increased in leveraged buyouts financed with private debt. Another characteristic interesting to study in the case of the UK is the extended use of PFIs since the beginning of the 1990s. PFIs are investment vehicles for public goods financed through the private sector. This form of public-private partnerships has been used in parallel with deregulation and liberalization in the UK. PFIs have been very useful to keep costs off the public budget and blur the contour of the public sector, essentially backloading the costs of new infrastructure (such as construction of healthcare buildings) (Hunter and Murray, 2019).
Spain	As Spain prepared to enter the EU and conduct the required fiscal consolidation, it implemented financial reforms and provided extensive deposit guarantees to the newly liberalized financial system. Decree 1582/1988 granted the Cajas (savings banks) territorial freedom to geographically expand their branch network. They became direct competitors of large commercial banks (leading to more and riskier lending). State-owned savings banks in Spain, the Cajas, were initially set up by the government to decentralize and democratize credit, thereby expanding financial access for the working class. However, aided by financial deregulation, these government-backed financial institutions grew uncontrollably, and started competing with large commercial banks (Fernandez-Villaverde et al., 2013). This highly competitive financial environment forced private banks to take more aggressive stands in the market and engage in riskier behavior. Being backed by local authorities, the Cajas continuously served short-term local populist investments, extending credit indiscriminately to highrisk households and real estate developers. Like Fannie Mae and Freddie Mac in the U.S. (Schwarz, 1992a; Acharya, 2011), the Cajas were used as a substitute for the direct provision of public goods and were largely to blame for the Spanish housing boom in the early 2000s and the bust that followed (Fernandez-Villaverde et al., 2013).

4.3 Quantitative empirical analysis

To complement the qualitative methodology building on country case studies, this thesis develops as well an empirical analysis to test, first, whether fiscal rules have a positive and significant effect on private debt. Secondly, the empirical analysis tests for the effect of fiscal rules on political agency, by using as proxy a financial reform (i.e., liberalization) index. Credit enhancing reforms lead to higher household and firm indebtedness, but so far there are no empirical studies that look into the impact of fiscal constraints on private debt and financial reforms. This thesis aims at filling this gap.

4.3.1 Empirical model

To empirically test the hypothesis, and in accordance with literature on fiscal rules (Debrun and Kumar, 2007; Benito et al., 2015; Debrun et al., 2008; Altunbaş and Thornton, 2017) and credit booms (Caballero, 2012), this thesis develops a panel model with year and country fixed effects. The inclusion of fixed effects is relevant in this context to account for global changes in lending conditions, such as contagion effects (e.g., the 2008 financial crisis), and for unobservable country characteristics that may generate omitted variable bias. This has been established following the results of Hausman tests for the regressions.

$$C_{ti} = \alpha + \beta_1 F_{t-1,i} + \beta_2 X_{t-1,i} + \delta_t + \lambda_t + \mu$$

As seen above, the formal model includes on the left-hand side the private credit variable, formalized as C in country *i* at time *t*. The independent variable on the righthand side, fiscal rules, is formalized as F in country *i* at time *t*. The model formalizes all control variables as X in country *i* at time *t*. All the regressors are lagged one year for two reasons. On the one hand, this mitigates bias in the coefficients due to reverse causality, i.e., endogeneity (Steinberg et al., 2015). On the other hand, I expect a delay in the materialization of the effect of the regressors on credit growth. The model also formalizes country fixed effects as δ_t and year fixed effects as λ_t.

4.3.2 Data description

In this section, the main variables of interest are described. For a detailed and comprehensive description of all variables employed in the empirical analyses, please see the Annex. As specified in the regression tables, the logarithmic form of variables is employed in several cases.

The empirical model is based on data between the years 1980 and 2013 from the IMF's International Financial Statistics (IFS), the IMF's Fiscal Rules dataset compiled by Schaechter et al. (2012), the World Bank's World Development Indicators (WDI), the OECD, the Systemic Banking Crises Database (Valencia and Laeven, 2012), Standard & Poor's, the Annual IMF Report on Exchange Arrangements and Exchange Restrictions, and the KAOPEN index developed by Chinn and Ito (2008). The rest of the section describes the main variables employed in the empirical analysis.

Dependent variables

The empirical analysis includes two dependent variables of interest employed to study the relationship between fiscal rules, credit, and financial deregulation.

Credit to GDP and Real credit (first stage analysis)

In the first stage models, the dependent variable of interest is private credit. The variables are built using the IMF's International Financial Statistics dataset. To add robustness in the empirical analyses, we run models using both private credit to GDP and Real private credit. These variables measure credit extended by the banking sector to the private sector.

To expand the analysis to include the shadow banking sector (i.e., non-deposit taking institutions), the variables aggregate credit to GDP and aggregate real private credit are also used. These measure credit extended by both banks and by non-banks to the private sector. It is relevant to use both measures of credit (one only accounting for bank credit and one accounting for bank plus non-bank credit) because lending dynamics in the bank and non-bank sectors differ, as the non-bank sector is less regulated and includes stateowned banks, such as development banks (Kern and Amri, 2016).

Financial Reform Index (second stage analysis)

In order to test the effect of fiscal rules on financial deregulation, the financial reform index by Abiad et al. (2010) is modified (factors which are not related to deregulation are taken out of the indicator) to create a Financial Liberalisation Index, which is used as a proxy for political agency. The financial reform index by Abiad et al. (2010) index is built on a cross-country database of financial reforms spanning for 91 countries between 1975 to 2005, and covers seven areas of financial reforms: (i) credit controls and excessively high reserve requirement, (ii) interest rate controls, (iii) entry barriers, (iv) state ownership of banks in the financial sector, (v) financial account restrictions, (vi) prudential regulations and supervision of the banking sector, and (vii) securities market policy. Each area has underlying questions, which are scored (0,1,2) based on the answers. Then the raw scores of the underlying questions are added and coded as follows: Fully Liberalized = [4 or 5 depending on the number of underlying answers], Largely Liberalized = [3], Partially Repressed = [1,2], Fully Repressed= [0]. A raw score is first assigned to each dimension, on different scales. Next, each raw score is normalized between 0 and 3.

Independent variables

The empirical analysis employs two independent variables that represent different ways of measuring fiscal rules.

Fiscal Rule Strength Index

This thesis defines the independent variable of interest, fiscal constraints, as longlasting *de jure* constraints in fiscal policy formulation and arrangements. Following the methodology by Schaechter et al. (2012b), the variable is focused on *de jure* constraints rather than on the *de facto* degree of adherence to fiscal rules to reflect a fiscal rule strength index. This is a continuous variable that provides information on the strength of fiscal rules in country *i* at time *t* (higher values of the index imply a stronger fiscal rule). The IMF Fiscal Rule dataset (Schaechter et al., 2012b) contains information on types of rules (Expenditure, Revenue, Budget Balance, and/or Debt) and on several characteristics (i.e., institutional dimensions) of rules. Following their methodology, I aggregate the following dimensions

of fiscal rules in country *i* at time *t* to generate the index: i) independent body sets budget assumptions and monitors implementation; ii) fiscal responsibility law in place; iii) multi-year expenditure ceilings; iv) enforcement procedure; v) type of coverage; and vi) legal basis. These six institutional dimensions are dummies where 1 means a stronger institutional arrangement. The following chart illustrates how the fiscal rule strength index by Schaechter et al. (2012b) is constructed.

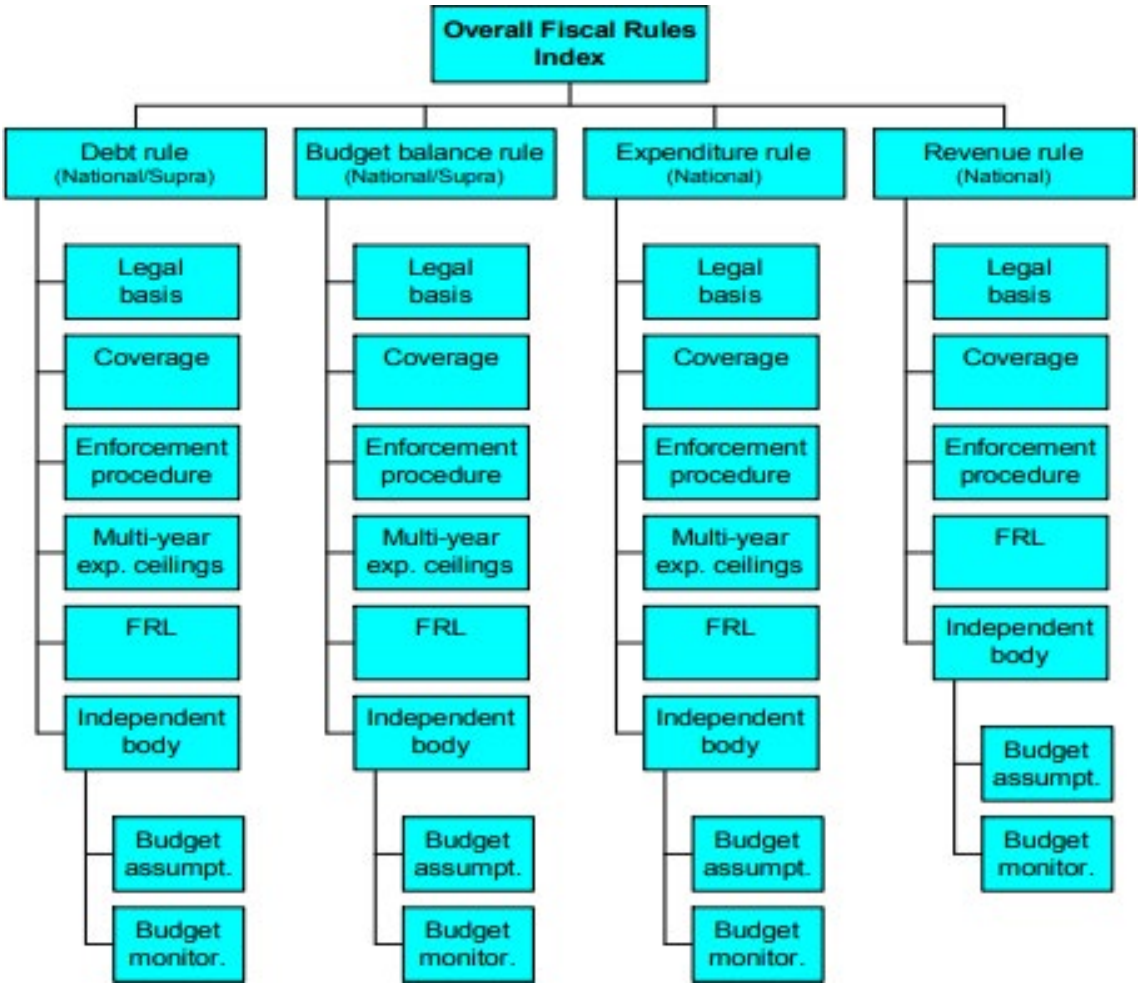


Figure 21: IMF Fiscal Rule Strength Index.
Source: Schaechter et al. (2012b).

Number of fiscal rules

In addition to the fiscal rule strength index, the number of fiscal rules is also used as independent variable to conduct robustness checks. This variable is constructed by adding the number of fiscal rules in place for a given country and year. Figure 22 illustrates the increasing number of fiscal rules over time:

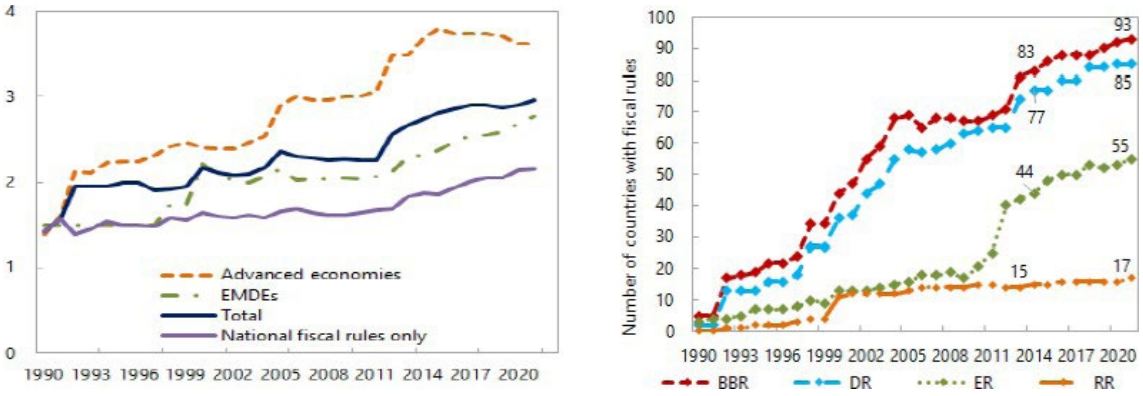


Figure 22: Number of fiscal rules per country and number of countries with fiscal rules.
Source: Davoodi et al. (2022).

Control variables

To control for credit expansions associated with cyclical macroeconomic upswings, and in line with previous literature on political business cycles (Bodea and Hicks, 2015; Caballero, 2012), the GDP growth rate is included in the first stage models[16]. Furthermore, Abiad and Mody (2005) find that negative GDP growth affects the likelihood of financial reforms, hence this variable is also included as control in the second stage models. Other control variables included in the first stage models are: log of real interest rate (Bodea and Hicks, 2015), the log of the investment component share in GDP (Mendoza and Terrones, 2008), and the capital account openness index (Chinn and Ito, 2008, 2006). The reason for applying a sparse model is that it is expected that fiscal rules impact financial market

16 Furthermore, literature has shown that banks tend to relax lending standards during economic cycle upswings, thereby generating pro-cyclical effects (Dell'Ariccia and Marquez, 2006).

outcomes through various interrelated channels. Including too many variables that account for economic fundamentals, such as inflation, could thus give rise to "post-treatment bias", rendering the effect of fiscal rules on credit growth statistically insignificant (King, 2010). As robustness check the same regressions are run with GDP per capita as control variable (Bodea and Hicks, 2015) instead of the GDP growth rate. These are presented in the Annex. Also for robustness purposes, additional regressions are developed taking household debt as dependent variable. In these regressions, the investment component share in GDP is removed as control and the log of government credit to GDP is added. This is in line with our theoretical prediction that lower government expenditure leads to an increased indebtedness by households in order to maintain a certain desired consumption or wealth level.

For the second stage model, and following the methodology proposed in Steinberg et al. (2015), few controls are included. As in the first stage regressions, the choice of a simple model is made to not include post-treatment control variables that may bias the output (Angrist and Pischke, 2009; Montgomery et al., 2018). The GDP growth rate and the log of population size control for country differences in baseline economic and size developments (Aklin et al., 2021). To test the robustness of the results, alternative models including control variables on systemic banking crisis and trade as a percentage of GDP are developed, as loss of trust in the banking system may impact financial reform initiatives (Girma and Shortland, 2008) and the level of trade can be a driving factor for financial reforms (Bodea and Hicks, 2015).

5. RESULTS

5 RESULTS

This chapter presents first the conceptual model developed through the review of existing literature across multiple academic disciplines (economics, political economy, finance, behavioral finance, sociology) and the analysis of country case studies. Then the chapter presents the results of the empirical analysis, consisting of regressions that attempt to provide a quantification of the relationship between fiscal rules and private debt.

5.1 Qualitative synthesis of conceptual model

This section proposes and develops a conceptual model to study how and through which channels fiscal policy constraints can impact credit market outcomes and thereby facilitate (or even kick-start) the process of financialisation. The conceptual model is the first result of this thesis, elaborated through the literature review of multiple academic disciplines (economics, political economy, finance, behavioral finance, sociology) as well as the construction of country case studies from a wide range of bibliographical sources.

In particular, the conceptual model focuses on two transmission channels. The political agency channel is based on the principal-agent and moral hazard theory (Dutta and Radner, 1994; Dow, 2012; Schuknecht, 2004), following the definition of political economy as the pursuit of "policies that maximize the ruling party's benefit given the economic and political constraints" (Laffont et al., 2000). On the other hand, the market signalling channel is anchored in the information that fiscal policy decisions provide to market participants and their reactions (expectations, optimism) to the implementation

of a fiscal rule (Akerlof, 1978; Melosi, 2017; Debrun and Kumar, 2007). Taking these two transmission channels together, the conceptual model helps to understand why, in recent decades, developed economies have experienced a rapid increase in private leverage (household and corporate debt) and the overall importance of the financial sector in comparison with other sectors of the economy.

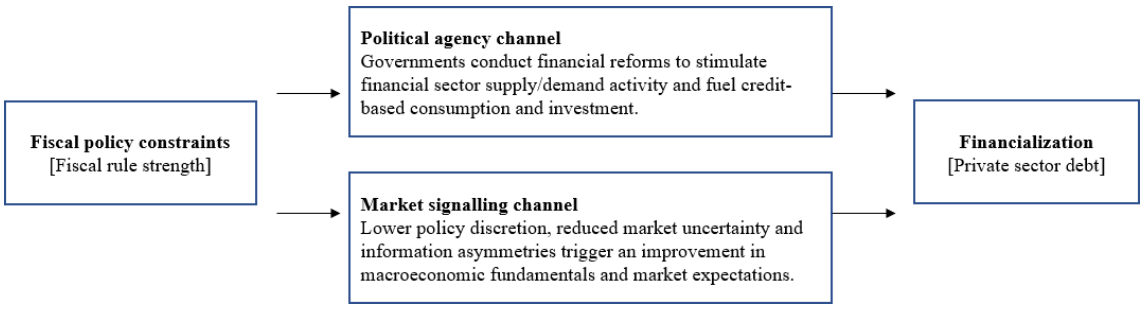


Figure 23: Conceptual model: transmission channels.

This thesis argues that both transmission channels drive the relationship between fiscal rules and private debt but attaches a greater weight to politicians' short term incentives and actions when they face policy constraints (e.g., in the budget, or in the use of monetary policy). Because of the way they impact financial markets, governments can be a key source of systemic risk. Governments do not only implement financial and banking regulations and affect credit allocation, but they also participate in the design of the institutional framework and the incentives under which markets operate. In fact, the impact of governments on the allocation and riskiness of debt may not be a systemically relevant as the incentives for private sector that are set through government's regulations and taxes. Furthermore, the systemic instabilities that policies generate tend to be less frequent and build-up over time, which makes them more difficult to identify (Lucas, 2014a).

Focusing this thesis on political agency is inherently more aligned with public policy and welfare because it delves into how political actors, institutions, and processes shape decision-making, resource allocation, and the implementation of policies that directly impact societal well-being. In contrast, focusing on market signalling primarily emphasizes

the information exchange between market participants and its effects on economic outcomes, which, while important, tends to be more narrowly centered on market efficiency and behavior rather than the broader societal impacts and distributive justice concerns that are central to public policy and welfare.

5.1.1 Fiscal rules and political agency

As established in the literature review and country case studies, governments tend to be short-sighted and excessively oriented towards current economic activity (Edwards and Tabellini, 1991; Rogoff and Sibert, 1988; Acharya, 2011). If, in addition, politicians' short-term incentives to spur economic growth and wealth do not disappear once fiscal rules are put in place, then this implies that policymakers might seek ways around these constraints, in order to match popular demands for growth and employment creation, but without trespassing those constraints. In other words, even though fiscal rules limit policymakers' free access to fiscal policy instruments, these institutional constraints are unlikely to alter the pressure on governments to achieve redistributive and economic growth targets: special interest groups and their demands do not change once fiscal constraints are put in place (Rajan, 2010). For this reason, it is highly unlikely that fiscal rules alter policymakers' incentives for implementing short-run stimulating policies. Put differently, this thesis argues that governments will try to seek ways around fiscal constraints. I refer to this deliberate action by governments as the "political agency" channel, following the political economy definition as "policies which maximize the (political ruling) party's payoff given the economic and political constraints" (Laffont et al., 2000).

The conceptual model on political agency builds on the stylized economic options by Aklin and Kern (2021) to develop a political agency options map. This thesis adjusts the options provided by Aklin and Kern (2021) to reflect more specifically the concept of political agency, rather than the concept of government policy tools. The difference is an enhanced focus on political economy rather than economic policy, and the inclusion of creative accounting in the model.

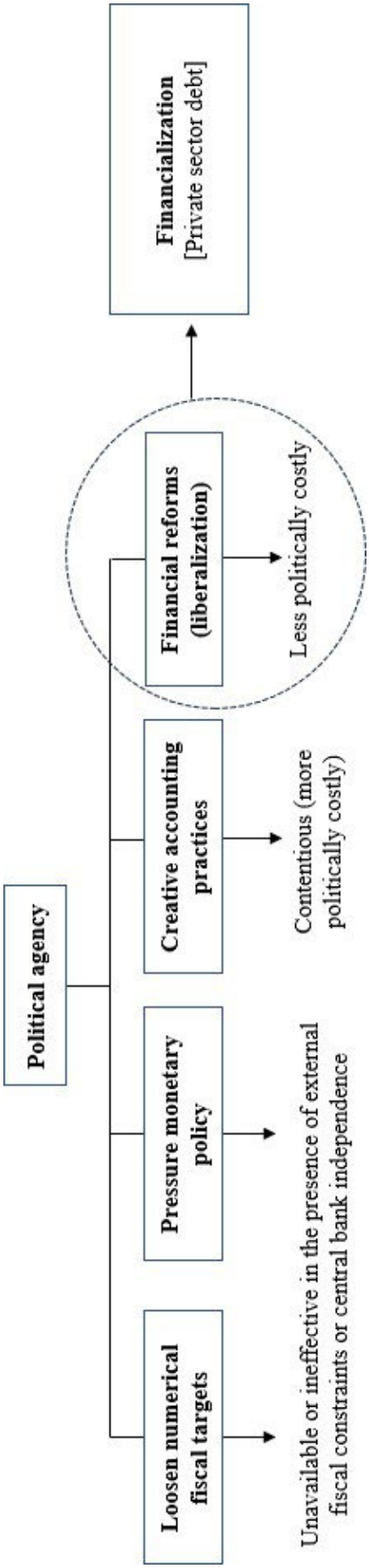


Figure 24: Political agency options

First, policymakers can loosen numerical fiscal targets. For instance, the United States Congress has raised the aggregate limit on federal debt fourteen times between 2001 and 2015 (Austin, 2015). In 2011 Congress passed the Budget Control Act raising the debt ceiling by 2.4 trillion USD, increasing it from 14.294 trillion USD to 16.694 trillion USD (Fagan, 2013). Research in the European Union by De Santis et al. (2015) also show that during the financial crisis fiscal authorities in Ireland and Spain relaxed the fiscal deficitto-GDP threshold for the fiscal adjustment (De Santis et al., 2015). Grembi et al. (2016) provide evidence of this in Italy, where the central government established fiscal rules at the municipal level in 1999. The rules were relaxed in the following years for smaller municipalities. In the EU, an example is the high-spending plan by the Italian coalition government between the League and the Five Star Movement at the end of 2018. Deficit numbers announced by the Italian government implied a large increase in the deficit, adding on top to an already existing public debt stock of 131.2 percent of GDP at the end of 2017. This deficit was already 70 percentage points higher than the Stability and Growth Pact threshold of 60 percent of GDP. This option, however, is limited or not available in the case of externally imposed fiscal constraints. This is the case in economic or monetary unions where supranational fiscal rules are imposed to coordinate economic policies of member states. In the EU, US, and Switzerland fiscal rules are imposed to all states or cantons in addition to the rules already existing at the state or canton level.

Second, governments can exert substantial pressure on monetary authorities or directly use monetary policy. For instance, during the first half of the 2000s countries such as Italy, France and Spain attacked the ECB's focus on high interest rates and inflation and blamed it for low growth. Thus the ECB "served the purpose of the scapegoat for timid politicians incapable to deliver structural reforms" (Alesina and Stella, 2010b). In the US, Drazen (2001) discusses anecdotal evidence of political pressures to the Fed during election years (Drazen, 2001) and other studies also suggest that monetary policy decisions in the U.S. can be often influenced by the executive branch (Woolley, 1985; Havrilesky, 1995; Caporale and Grier, 1998).

In small open economies, however, this should not be possible. Since financially open economies are less free to use monetary policy expansion (if exchange rates are fixed and/or the economy is relatively small) for domestic purposes, we can expect fiscal authority pressures or dominance over monetary policy to be less salient, as owners

of mobile capital can impose macroeconomic discipline by threatening to leave when there is excessively expansionary/inflationary macroeconomic policies (Oatley, 1999). Furthermore, this option is also limited or simply not available if the central bank is independent in its decision-making. This can be the case in monetary unions or in countries that have designed the institutional set-up of their central bank free of political influences, as is the case for Bank of England and the central banks of developed economies.

Third, policy makers might resort to creative accounting practices (Eyraud et al., 2018) and manipulate spending and revenue numbers to balance their accounts. Creative accounting is used by governments to move off budget certain expenses or debt, or move them to items on the balance which are not covered by fiscal rules. As rules apply only to specific items in government budgets, thus governments can mask true budget figures by conveniently and opportunistically shifting expenditures to less visible positions or even off budget. Essentially, creative accounting is "window-dressing" the public accounts (Milesi-Ferretti, 2004), using in-transparent accounting practices that hide the true public balance. As argued by Milesi-Ferretti (2004), the establishment of fiscal rules can encourage governments to use creative accounting.

The body of literature on creative accounting largely agrees that government deficits provide limited information on the underlying level of public debt. More binding fiscal rules, and to a lesser extent debt limits (Koen and van den Noord, 2005), make imaginative stratagems more attractive and thus increase the likelihood that a government will turn to creative accounting. In addition, strict fiscal constraints encourage governments to move away from debt instruments covered by numerical rules towards debt instrument not covered by the rules, thereby leaving government debt unchanged in the balance sheet (Strauch, 1998; Eichengreen, 1990; Von Hagen, 1991). According to the OECD, for the majority of countries fiscal rules do not account for the liabilities arising from publicprivate partnerships (PPPs). The accounting does not reflect either any related short-term expenses. Therefore if fiscal rules are binding, in this context they create bias towards an increased use of PPPs (Funke et al., 2013). Evidence from Spain points to the use of public-private partnerships, or PPPs, to defer payment and control deficits and debt without cutting investments in infrastructure and public services. More specifically, Benito et al. (2015) find that some PPPs are incorrectly labelled as "private",

for the payment is ultimately made by the government. This is accomplished by delaying the budgetary recognition of these transactions, together with an incorrect disclosure of the corresponding debt (Benito et al., 2008).

Canova and Pappa (2005) look at macroeconomic variables in a sample of 48 U.S. states and find that sates with different fiscal constraints (tight or loose) have very similar macroeconomic variables. Excessive debt and the mechanism linking budget deficit and excessive debt are independent of whether tight or loose fiscal constraints are in place. The authors conclude that fiscal constraints are not effective for several reasons. First, rules only apply to certain items in the budget, and thus governments tend to substitute across accounts to avoid the constraints. Second, debt restrictions do not apply to non-guaranteed debt, and thus governments can swap non-guaranteed for guaranteed debt. Third, there is a lack of formal enforcement mechanism. Finally, governments use creative accounting to shift expenditure items off-budget and to local governments, which are less restricted by fiscal constraints (Canova and Pappa, 2005). Kiewiet and Szakaly (1996) also find evidence that restrictive fiscal rules increase the transfer of debt from state government to local governments.

Resorting to budget gimmicks becomes especially attractive during negative business cycle shocks and political pressure from the electoral cycle (von Hagen and Wolff, 2006; Alt et al., 2012). Koen and van den Noord (2005) find that gimmicks are more likely in a fragmented budget process, defined as one where the ministers hand in their spending plans and the Treasury has to make ends meet (Koen and van den Noord, 2005). Moriyama and Milesi-Ferretti (2004) find that countries with weak fiscal positions systematically use more optimistic output projections and document the use of fiscal measures that improve budget figures without having a structural impact on government financial statements (i.e., reductions of government debt happening in tandem with reductions in government assets). The authors find a positive correlation between changes in government liabilities and changes in government assets for the period 1992−1997 and a much weaker correlation for the period 1997−2002, when fiscal rules were less strict. Additionally, asset reduction was larger in countries with higher initial debt levels (Moriyama and Milesi-Ferretti, 2004). MacLaury (1973) criticises the creation by the government of securities which are very similar to direct government debt but still have a nuance, characteristic, design aspect that makes them exempt from being displayed in the public budget:

> *"While there is nothing inherently wrong in trying to devise characteristics for securities that will make them more marketable, the rub comes when the ultimate objective is to create securities that are indistinguishable from direct government debt, and yet still preserve some rationale for not counting the issues as a means of financing budget deficits or against the federal debt ceiling."* MacLaury (1973)

Creative accounting practices are, in essence, "a clear case of trying to have one's cake and eat it too" (MacLaury, 1973). These practices can significantly increase sovereign borrowing costs when practices become known. If a country lacks transparency, financial markets perceive the filtered news on creative accounting as the tip of the iceberg, and thus the punishment risk premium is more severe (Bernoth and Wolff, 2008). In Greece repeated revisions of fiscal statistics increased the 2009 deficit figure five-fold, from initially less than 3 percent of GDP to a final figure of 15 percent of GDP, causing severe market reactions (Reuters, October 27, 2010). In sum, this third option can be very costly both politically and economically for a government seeking reelection. Finally, an approach that is far less controversial, is to reform financial markets and virtually outsource the problem of indebtedness to private banks, households, and firms. Evidence for this approach can be found in outstanding literature mainly from political economy and sociology disciplines (Quinn, 2017; Streeck, 2011). This way governments can engineer credit-based consumption and investment and thereby increase the net worth of individuals and firms to foster a period of economic boom, without increasing public spending such as in the provision of education, health and social protection such as housing. Governments often use instruments to achieve budgetary relief through financial deregulation and privatization, such as changes in mortgage and housing policies to foster home ownership, liberalizing the unsecured consumer credit market, deregulation of capital markets, provision of debt guarantees, or lowering barriers to foreign investment in the domestic economy (mostly in emerging economies). The following paragraph from Streeck (2011), extracted from *The Crises of Democratic Capitalism* provides a concise explanation of the phenomenon:

> *"In the 1990s and early 2000s /.../ financial liberalization compensated for an era of fiscal consolidation and public austerity. Individual debt replaced public debt, and individual demand, constructed for high fees by a rapidly growing money-making industry, took the place of state-governed collective*

> *demand in supporting employment and profits in construction and other sectors."* Streeck (2011)

In this sense, governments are not only acting as financial market regulators; they also direct policies to generate credit for consumers, such as homeowners, and companies, such as real estate developers. Governments have pioneered and become advanced users of financial innovations and tools such as mortgage-backed securities. Governments have intervened in financial markets and have created social programs to promote their policies and political objectives, and they have also sponsored governments-owned enterprises to stimulate determined policies and objectives (Fligstein and Goldstein, 2012).

Fiscal institutions and financial institutions shape each other. Political discussions on budgets can have very important consequences for domestic financial markets. Political budget fights can impact policy decisions over, for instance, how much public borrowing is allowed or which types of financing or spending are to be recorded on or off the budget. As mentioned by Quinn (2017), "the resolution of such contests — and public officials' efforts to avoid them in the first place — matter not only for state expenditures but also for the institutional development of financial markets".

In sum, elected politicians have options to bypass fiscal rules, such as adjusting fiscal targets, or adjusting monetary policy, or using creative accounting techniques. However, all these options are either limited or not available (in the case of supranational rules as in the EU, or in the case there is an independent central bank) or are more costly politically and economically when compared to the option of financial reform. The following section develops in depth the financial reform option. This part of the conceptual model will focus on both demand and supply side aspects, supported by the evidence collected and analysed in the case studies.

Financial reform

In this section of the conceptual model the thesis develops the idea that fiscal and budgetary constraints can lead to financial reforms (i.e., financial liberalization) and intervention in

financial markets by politicians seeking to bypass those constraints. A distinct feature of these budgetary innovations is that instead of directly providing and funding public goods such as housing or education, governments can provide access to cheap credit and transfer the debt burden onto the private sector. This feature is politically appealing, as rising indebtedness is concentrated in the household sector and thus wiped off aggregate fiscal balances. These schemes have primarily been developed to achieve redistributive goals (Schwarz, 1992a). This qualifies as moral hazard because in the short-term this option can lead to economic and welfare growth but in the long-term it can harm financial stability and social welfare. This option allows politicians to decrease public spending on public goods without decreasing in the short term social welfare. However in the long-term, households and firms become highly indebted and dependent on debt and the financial cycle to access welfare services such as education or housing. As seen in the analysis of case studies, financial market reforms can impact both supply and demand of credit.

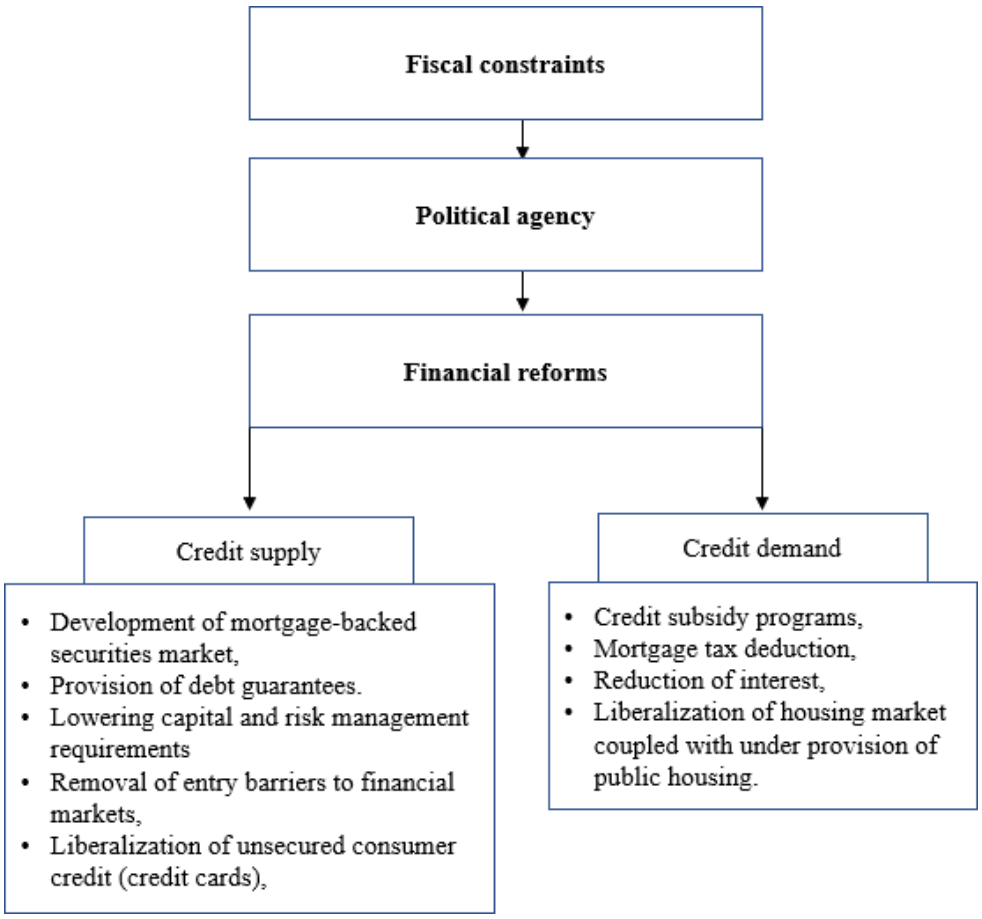


Figure 25: Financial reforms impacting supply and demand.

On the supply side, deregulation of financial markets can reduce entry barriers, thereby increasing the number of players competing for profits (as was the case in the deregulation of the Cajas in Spain). This often leads to increased risk taking and aggressive lending to households and firms, financial innovation, and reduction of the quality of credit underwriting standards. Supply side measures can also target capital and risk management requirements. By lowering the required amount of capital that financial institutions need to hold, or by reducing the risk reporting and disclosure requirements, policy makers can foster risk taking and lending (this was the case in the US in the repeal of Regulation Q and the Glass-Steagall Act). Another important financial reform impacting supply has been the implicit and explicit government guarantees provided to the financial industry (in the UK in the case of PFIs, the government often provides a guarantee for the project). The term "too big to fail" became worldwide famous in the GFC. It refers to financial firms that are so large and important to the economy that their failure would cause significant problems for the entire financial system and the real economy. Because of this risk, governments often step in to help these large institutions if they get into trouble, providing financial support to prevent their collapse. This support is what's known as an implicit government guarantee: the government will bail out these big entities to avoid economic chaos. Essentially, it's an unspoken promise that the government will act to protect these crucial players in times of crisis. The provision of government guarantees has been key in the process of financialisation. Later in this section the thesis delves deeper into government guarantees.

Abiad et al. (2010) provide an important piece of information for this thesis, as they developed a cross-country database of financial reforms spanning for 91 countries between 1975 to 2005. In their paper they differentiate between seven areas of financial reforms: credit controls and excessively high reserve requirement, interest rate controls, entry barriers, sate ownership of banks in the financial sector, financial account restrictions, prudential regulations and supervision of the banking sector, and securities market policy. For more information on how the index is constructed please see the description of the Dependent Variable in the Empirical model section. This financial reform index focuses mainly on supply side measures. A similar index for demand side measures has not been identified in existing literature.

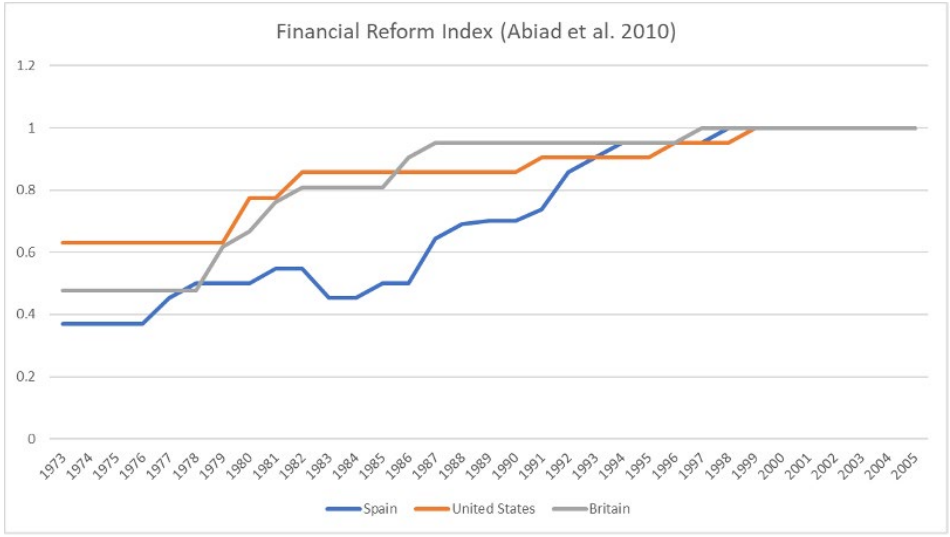


Figure 26: Financial Reform Index.
Source: Abiad et al. (2010) and own calculation.

Based on the financial reform index (Abiad et al., 2010), in 1977 in Spain there was a move to financial liberalization whereby controls on credit and interest rates were relaxed. In the following year, a further step was taken by lowering barriers to entry to the financial industry. However, it was not until 1987 that the main indicators used in the index display scores reflecting large liberalizations. The US and the UK display a very similar pattern, as seen in the charts below.

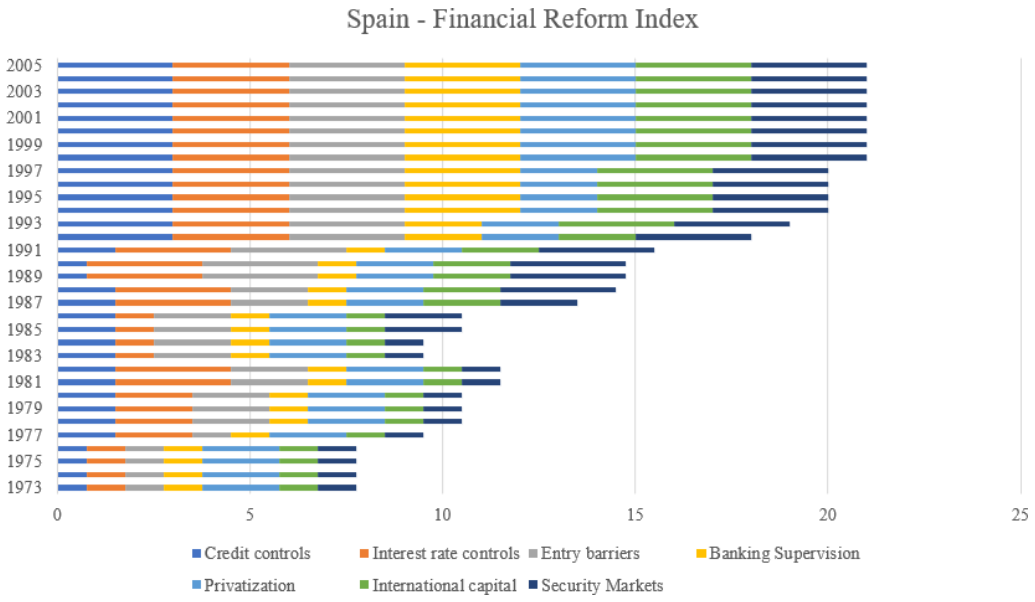


Figure 27: Financial Reforms in Spain.
Source: Abiad et al. (2010) and own calculation.

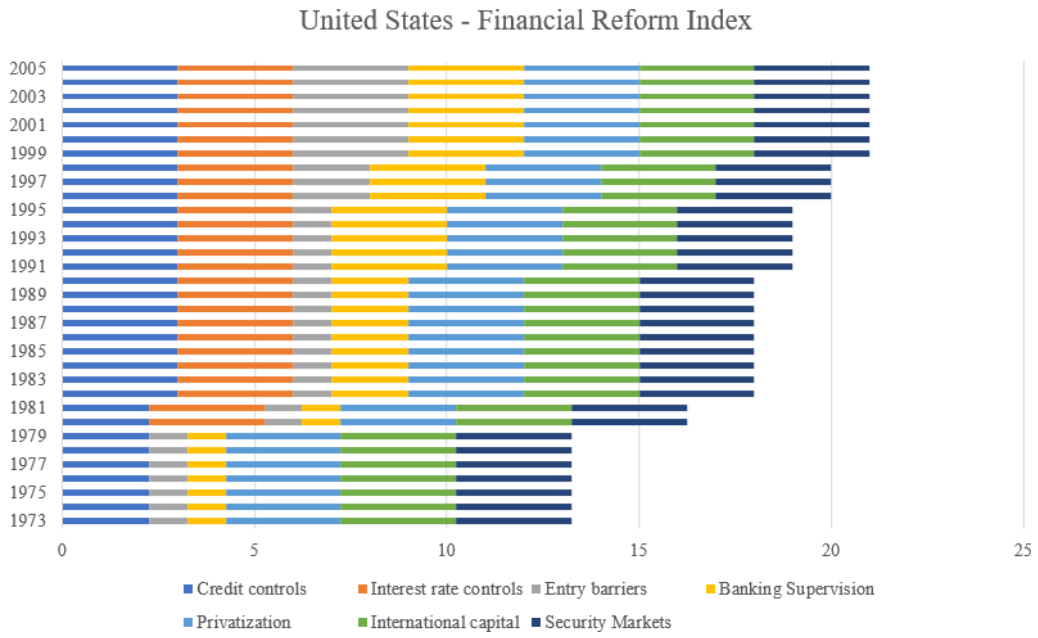


Figure 28: Financial Reforms in US.

Source: Abiad et al. (2010) and own calculation.

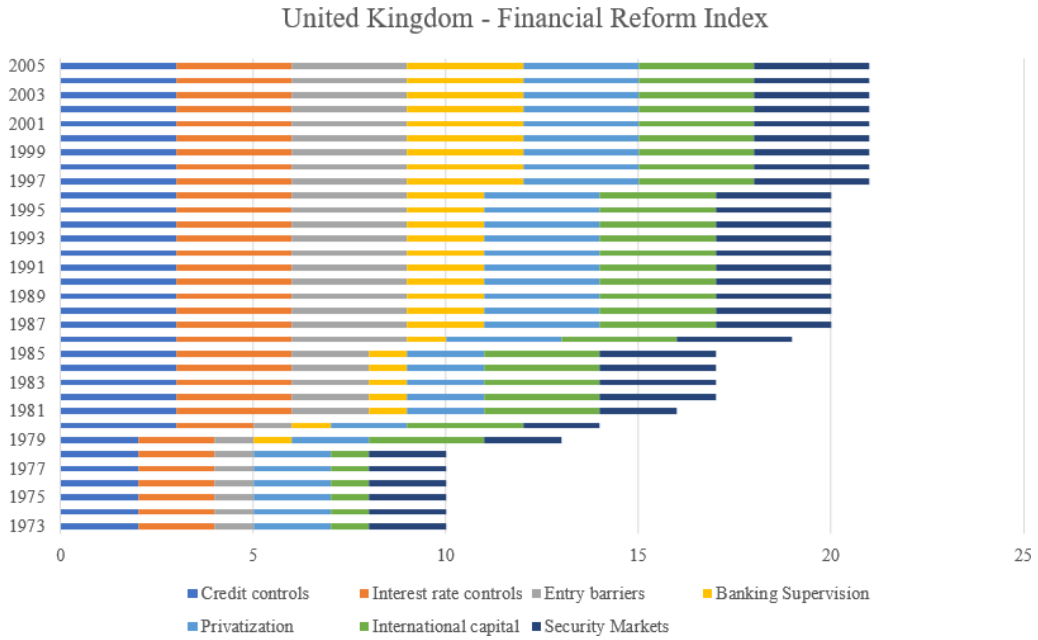


Figure 29: Financial Reforms in UK.

Source: Abiad et al. (2010) and own calculation.

Besides supply side interventions, policymakers have been active in implementing regulations and policies to ensure that sufficient demand can absorb rising credit supply. Governments often use a whole host of fiscal incentives to spur credit demand. Particularly, measures to widen access to credit or to reduce the cost of borrowing have been widely applied (Lucas, 2014b; Ansell, 2014; Cerutti et al., 2015). For instance, credit subsidies such as credit programs for low income households and mortgage tax deductions to spur credit demand have been implemented to substitute for direct fiscal spending (Acharya, 2011), as seen in the US case study. Even though these incentive schemes are effective in fostering credit demand and provide budgetary relief for governments, they can also imply more risk taking in the private sector and over-indebtedness. Demand side measures are not always directly targeting financial markets, but are rather intended to manipulate incentives for households and firms to demand credit, for instance by changing the tax code. Although such reform would normally qualify as fiscal reform, it impacts how credit markets function.

Another important demand-side reform is found in housing policy (as seen in the UK and Spain case studies). Home ownership can be seen as a substitute of the welfare state (i.e., of publicly provided social insurance). High rates of home ownership can be seen as private insurance when there is low social spending, and act thus as substitute. The empirical evidence suggests that social spending is negatively correlated to home ownership, which may help explain the positive correlation between inequality of income and home ownership rates. In essence, home ownership effectively substitutes for social insurance (Conley and Gifford, 2006). According to the ECB´s report on Housing Finance in the EA, households borrow secured debt (backed by their available housing) and use the proceeds to finance consumption spending or the repayment of other outstanding unsecured debt in their balance (ECB, 2009).

In the traditional Keynesian policy, the government runs deficits to subsidize demand by spending more than it gets via taxes, tapping credit markets and financing public deficits with debt. This is fundamentally different from “asset-price Keynesianism”, where demand is supported by the increasing indebtedness of households and firms (i.e., increasing private deficits), which are encouraged (e.g., by the increasing wealth effects that they accrue without effort through the appreciation of the value of their assets or stocks) or forced (e.g., if certain goods are not provided for publicly, such as education

or healthcare), to spend more than they earn by taking on leverage. In the 1990s, as the Clinton administration focused on reducing the deficit and having a balanced budget, the subsidies provided by the public administration to support demand and stabilize the US and global economy also decreased substantially. This issue was further amplified because Europe was also focused on reducing deficits in Member States, even though the continent was going through a phase of economic stagnation and recession in the first half of the 1990s. As public spending decreased, it was necessary to increase corporate investment and consumer purchasing power to keep the economic expansion going. For this, Alan Greenspan (President of the Fed from 1987 to 2006) had a solution, by using equity markets and the wealth effect they create to stimulate the demand that was no longer supported by public subsidies. In other words, it was time for "asset-price Keynesianism": the process of borrowing and spending was going to be conducted by private firms and households, rather than the government, and this process would be supported by the loose monetary policy leading to a sharp increase in valuations of certain asset classes and equity markets. The monetary policy of Alan Greenspan was known as the great moderation because it was characterized by persisting low interest rates (Brenner, 2006).

The notion of "asset-price Keynesianism", which was developed by Brenner (2006) and has been covered in the case studies, refers to a process of wealth and profit accumulation primarily based on the build-up of asset price bubbles. This model of economic growth was present in many advanced economies in the 1990s and onwards. Brenner (2006) argues that in countries with strong property booms, the growth in asset prices, and especially in the real estate sector, was a key factor driving large increases in credit and therefore consumer demand. As seen in the case studies, "asset-price Keynesianism" was used by different governments to bypass the budgetary constraints imposed by fiscal rules. During the late 1990s and early 2000s peripheral European governments neglected the building up of credit and asset price bubbles (housing bubbles) in their domestic economies. They not only delayed much needed structural and institutional reforms, but also provided extensive deposit guarantees that magnified speculation, thus exacerbating the ex-post negative consequences of the financial crisis (Fernandez-Villaverde et al., 2013).

Beyond stimulating credit demand and supply, existing literature points at the use of financial deregulation to take a country out of a recession (such as after the "dot-com" bubble burst), thereby privatizing the fiscal burden and avoiding the political challenge of

providing sound, robust, and costly regulatory arrangements (Kern et al., 2009). The Fed's rapid response to the burst of the "dot-com" bubble in 2001 prevented a deeper recession. This triggered a credit boom in the US, further exacerbated by the loose regulation over capital and credit standards (Eichengreen, 2008).

A side-effect of this approach to circumvent fiscal constraints through financial reforms that liberalize supply and demand in the financial sector has been the rise of financialisation and the accumulation of private debt by household and firms. The graphs below provide statistical evidence to help illustrate and support this thesis. As we can see, there has been an increase since the mid-1980s in private debt, while public debt fell or remained stable during the same period and until the financial crisis of 2007-2008, where public debt began to increase again. According to Krippner (2010), the shift to finance provided another way for politicians to delay the challenging political choices brought on by diminishing prosperity. In this way, the financialisation of society has served as the functional equivalent of inflation, enabling US society to avoid the resource shortages that initially started to lower living standards in the late 1960s. It was thought that "free-flowing credit would ease latent social conflicts by displacing debts and obligations far into the future". Under this policy regime, large credit supply would mitigate the political issues on the distribution of limited resources among different social groups with competing priorities, effectively depoliticizing the issue.

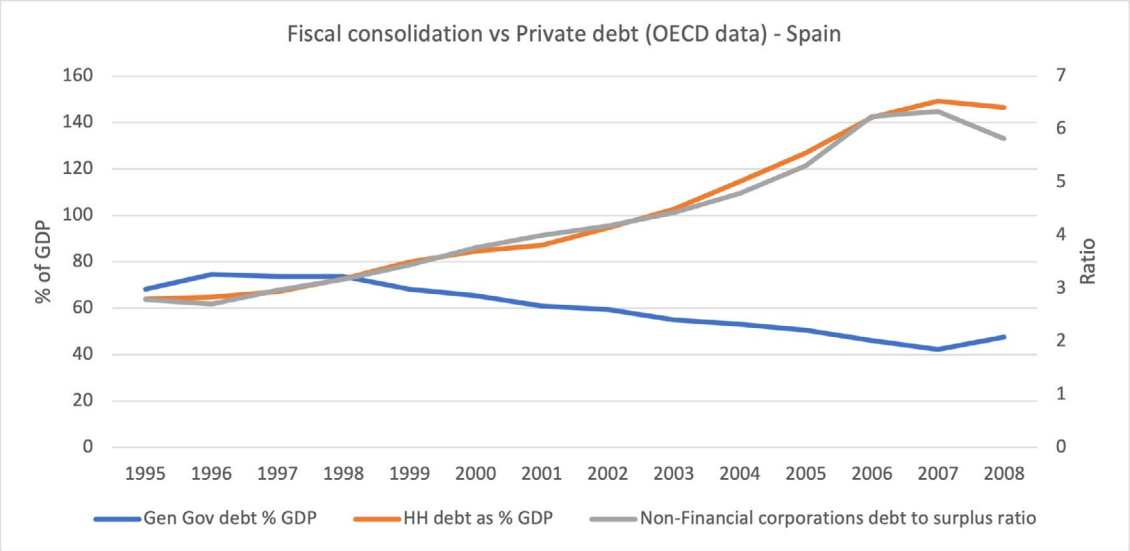


Figure 30: Fiscal consolidation vs private debt (HH and NFC).
Source: OECD.

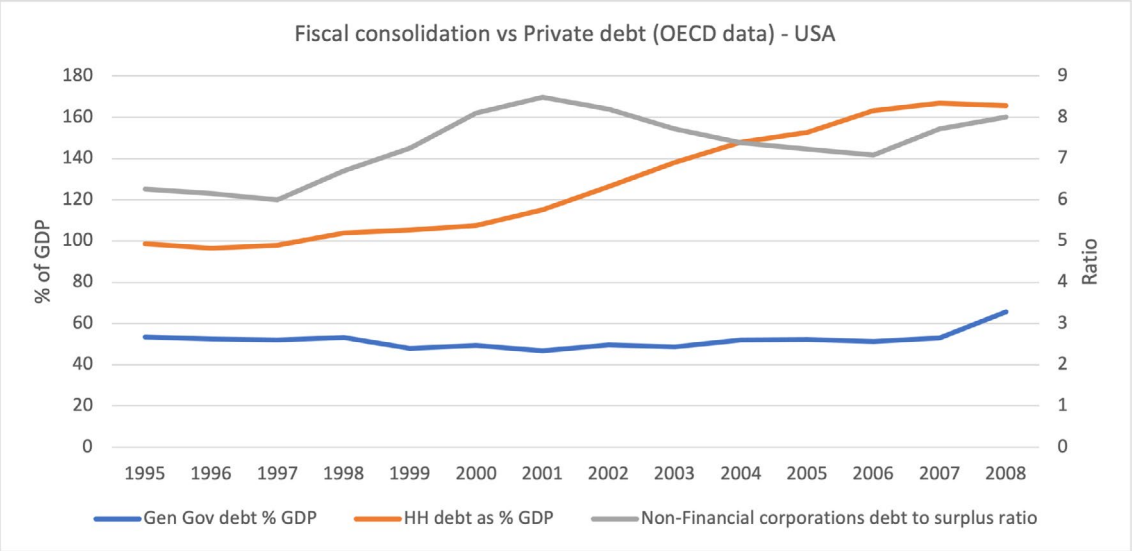


Figure 31: Fiscal consolidation vs private debt (HH and NFC).
Source: OECD.

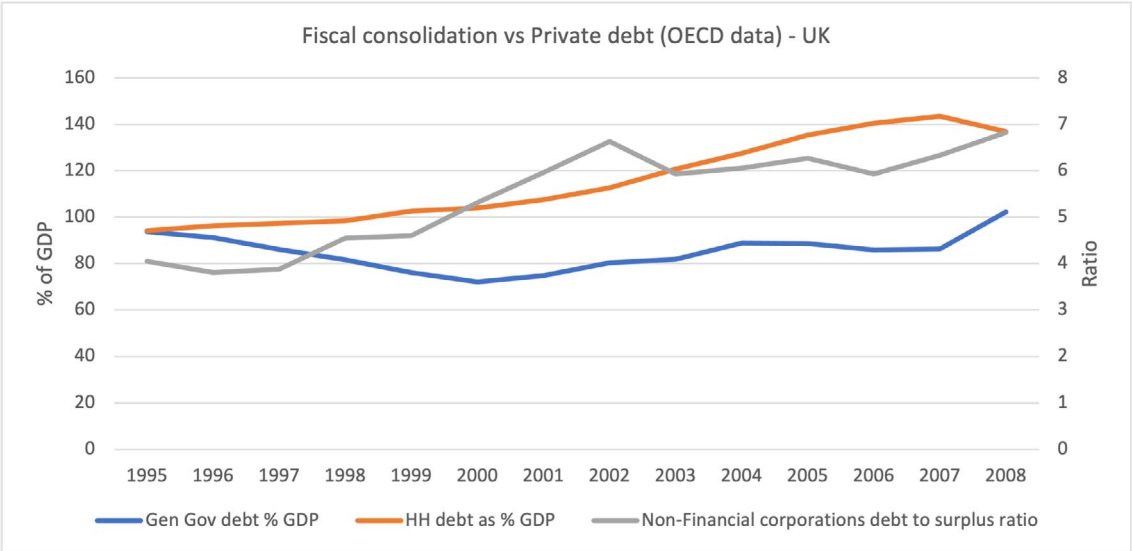


Figure 32: Fiscal consolidation vs private debt (HH and NFC).
Source: OECD.

Scharpf (2002) emphasizes that countries are increasingly constrained in their economic policy choices and policy instruments due to the great interconnectedness of the international environment with open products and capital markets. Governments are facing new obstacles to achieve growth and employment goals and to have sustainable

fiscal policies and welfare states. Against this background, governments face increasing challenges to achieve the postwar aspirations of welfare states, such as full employment, social security, and equality, due to the many constraints on national policies imposed by financial integration and the expansion of capital and product markets globally.

The political agency channel may be more present in the context of highly economically integrated regions and monetary unions such as the EMU, which took completely away from Member States the control over monetary policy and exchange rate policy (Scharpf, 2002). In addition, European competition law limited the use of subsidies and the Maastricht criteria to join the Monetary Union limited the use of public deficits as a policy tool (Scharpf, 2002). As these institutional setups effectively limit government decision-making power towards monetary policy, governments will tend to substitute monetary policy by fiscal and credit side measures. For instance, Spain, Ireland, Greece, and Portugal were required to decrease their fiscal deficits in order to become members of the EA. To do so, these countries implemented a whole battery of financial reforms and at the same time provided extensive deposit guarantees to their newly liberalized financial systems (Fernandez-Villaverde et al., 2013). For these countries, the need for fiscal consolidation to meet the restrictive Maastricht criteria on public debt and public borrowing implied cutting expenditures, and if raising taxes was not possible, countries had to rely on proceeds from privatization to reduce borrowing (Scharpf, 2002). Consequently, in an environment where governments operate under tight fiscal constraints and amid open product and capital markets, achieving national employment goals and the viability of welfare states is an increasing challenge.

Government guarantees and deposit insurance

Public schemes for deposit insurance and state guarantees to the financial sector are both wide known and used methods to foster financial development, strengthening trust in banks and the broader financial system. They are often used in times of crisis to restore consumer confidence in the financial system and avoid crisis triggering effects such as bank runs or large waves defaults. The COVID-19 crisis was not an exception. Government guarantees for credit extended by banks to households and firms were key

in order to sustain the economy during the lockdowns. They were essential in keeping credit being extended to the economy, as otherwise banks may have cut credit lines given the macroeconomic uncertainty at the time. State guarantees are especially important for the financing of SMEs (García-Vaquero Álvaro, 2013; Tabuenca et al., 2006; Choe, 2007); given the inherent risk in SMEs, these not always obtain access to credit without a debt guarantee. In the case of the EMU, government guarantees have been employed to a large extent to develop the economic viability of the SME sector. In addition, schemes for deposit insurance and state guarantees are crucial to achieve risk sharing and foster economic and financial integration in monetary unions.

While acknowledging the benefits of deposit insurance and state guarantees, as they are key for the well-functioning of the financial system and the completion of the Banking Union, this section discusses how these schemes can also be used by fiscally constrained politicians to achieve credit-based consumption and investment, as well as the potential downside risks of deposit insurance and government guarantees. Figure 33 shows the adoption of deposit insurance across countries grouped by income level:

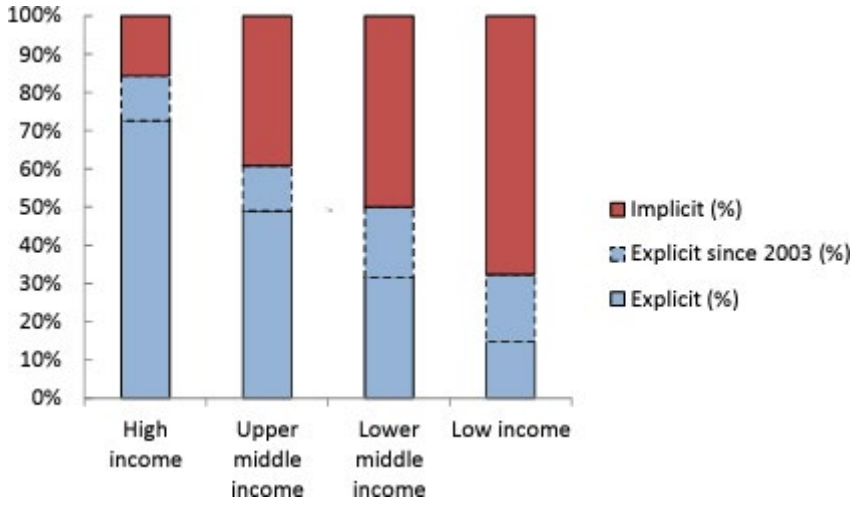


Figure 33: Adoption of explicit deposit insurance by country income level.
Source: DemirgucKunt et al. (2014).

The magnitude of government guarantees varies a lot across countries. Debt backed by the federal government in the US amounted to more than 20 trillion USD in 2013. According to Lucas (2014a), debt backed by the federal government was primarily composed of direct loans and guarantees for low-income households and for higher education (2.3 trillion USD), guarantees for mortgages insured by Fannie Mae and Freddie Mac (5.8 trillion USD), deposit insurance schemes (6.2 trillion USD), guarantees for private pensions funds (2.8 trillion USD), and implicit guarantees to the Federal Home Loan Banks and the Farm Credit. In Europe, bonds guaranteed by governments amounted to 7 percent of GDP for Denmark and Spain (Lucas, 2014a).

A key feature of state guarantees is the powerful impact on risk-taking. Using this tool, governments can effectively and directly influence risk taking in the financial sector to achieve the objective of expanding economic activity in the short-term. Governments in developed countries such the US (Faennie Mae), Germany (Landesbanken), or Spain (Cajas) have provided substantial amounts of government guarantees to spur economic growth and increase the scale (depth, width) of financial systems. In addition, the larger the financial system becomes, the more implicit the government guarantee becomes (e.g., as more entities become systemic and "too big to fail"). Therefore, large state guarantees to the financial sector have been a key piece in the growth of financial markets (Acharya, 2011).

In the case of Germany, large amounts of state guarantees encouraged and allowed the Landesbanken to leverage excessively and invest in toxic and subprime securities coming from the US[17]. In the US, when government guarantees were established, this generated a large expansion in financial engineering and in the use of complex modeling approaches, that is, in the use of CDO instruments to reestructure asset pools of risky mortgage contracts into top rated AAA securities (Fligstein and Goldstein, 2012). The entry into the EMU provides a case in point. Spain, Ireland, Greece, and Portugal needed to decrease their deficits in order to become a member of the common currency. To do so, governments not only delayed much needed structural and institutional reforms, but also

17 The Sick Banking System of Europe: The Financial Crisis Provides a Chance to Fix Germany's State Banks, ECONOMIST, May 7, 2009.

provided extensive deposit guarantees that magnified speculation, thus exacerbating the ex-post negative consequences of the financial crisis (Fernandez-Villaverde et al., 2013).

In his research on state guarantees, Acharya (2011) considers different motives for governments to provide guarantees to the financial sector. On the one hand, the provision of guarantees can be driven by a time-inconsistency problem, meaning that governments need to provide guarantees anyway ex-post when the financial sector enters a crisis. On the other hand, when governments are myopic and driven by short-sighted decisions, the provision of guarantees takes place ex-ante rather than ex-post, as this way the government can achieve an increase in the entry of players in the financial sector and thereby accelerate economic activity. For instance, seeking popularity increases in the short-term, governments can enhance competition in the financial system, extend government guarantees, reduce risk controls by weakening prudential requirements on capital, leverage and risk management, provide subsidies to debt via tax deductions, and encourage direct lending to specific economic or social sectors or industries to meet their populist objectives, such as the creation of "periods of intense economic activity fueled by credit booms" (Acharya, 2011). In this sense, governments can have a large influence and control over the extent and quality of financial intermediation and the management of risks.

With state guarantees in place, banks and financial institutions are practically insured against losses and thus more likely to lend to risky borrowers. These guarantee schemes are politically appealing as only a fraction of their effective value needs to be accounted for in public budgets. For example, in the US the amount of federally guaranteed and insured loans grew from $100 billion in 1969 to $20 trillion in 2015, which in itself is one and a half times the current outstanding debt of the US Federal Government (Lucas, 2014b). Besides these country cases, in Latin America and elsewhere loan guarantee schemes in various forms have become a common instrument to spur financial market development (Melo, 2001; Carstens et al., 2004; Bova et al., 2016). Even though these instruments can be regarded as highly effective in enhancing credit growth, accumulating contingent liabilities comes at the expense of aggravating fiscal distress during times of financial turmoil, effectively limiting policymakers' ability to implement counter-cyclical policies (Bova et al., 2016). However, in the short-run, rapidly rising fiscal commitments and potential future deficits are going unrecognized.

The reason why state guarantees are so attractive is because they are not shown in the public budget, but rather they are accounted for off-budget as contingent liabilities. For instance, for an important part of OECD countries, costs related to government guarantees are not included in the public budget in the national accounts. In several countries (Canada, UK, Slovakia, Australia and Turkey), only the administrative fees related to contingent liabilities are reported. For direct loans, also only the administrative fees is recorded for Canada, UK, Spain, Germany, Austria, Slovakia, Portugal and Turkey. No other credit related expenditures are on the budget. Furthermore, adjustments to the standard budgeting procedures were made during financial crises (Lucas, 2014a).

Early works such as Laeven (1983, 2004); Demirgu¨c-Kunt et al. (2003) point at the potential downside risks of deposit insurance, mentioning for instance the reduction in incentives for depositors to monitor the risk profile and activities of the banks where they place their money. If the institutional set-up is not mature enough, establishing a deposit insurance scheme can actually magnify the depth of future crises. For instance, Hovakimian et al. (2003) measure bank risk taking by the size of the safety net provided to the bank. Overall, deposit insurance tends to reduce monitoring of risk and at the same time produce moral hazard and enhance risk taking.

Demirgu¨c-Kunt et al. (2003) argues that two conditions are necessary for an explicit deposit insurance scheme to be effective and not produce distorted incentives in the financial system: the scheme has to be well designed and there must be institutional arrangements to control potential losses. In the presence of weak risk controls, explicit deposit insurance can only foster financial development in the short term, as in the long term it undermines bank discipline in risk management and depositor monitoring of bank risks. In the long run, the lack of depositor monitoring and bank discipline reduce bank solvency, consume economic capital, lead to financial fragility, and prevent financial development.

The authors suggest four principles to design effective deposit insurance schemes: setting enforceable coverage limits, compulsory membership in the scheme, public-private joint oversight of the scheme, and arrangements that limit taxpayer

losses (Demirgu¨c-Kunt et al., 2003). The use and coverage of deposit insurance and government guarantees increased after the GFC, and have remained above pre-crisis levels giving place to concerns regarding moral hazard (DemirgucKunt et al., 2014). Following the COVID-19 crisis, large amounts of guarantees were also provided to safeguard economic and financial stability.

Deposit guarantee schemes create a safety net, which leads investors to ask for lower risk-premiums, thereby putting downward pressure on interest rates. For instance, HeppkeFalk and Wolff (2007) find evidence of investor moral hazard in government bonds in Germany. The authors use the interest-payments-to-revenue ratio as an indicator of whether a state, or Land, is in financial distress. They find that the interest-payments-to-revenue ratio has a counter-intuitive negative effect on the risk premium. The authors conclude that this negative sign is due to investor moral hazard. When a Land is in distress, a bail-out by the central government in terms of additional financial aid becomes more likely. Therefore, financial market agents link a higher ratio with a smaller default risk. Contingent liability realizations are a major source of fiscal distress, and the costliest realizations are related to the financial sector (Bova et al., 2016). Furthermore, realizations are correlated among each other and tend to occur in periods of economic downturns, which accentuates fiscal incapacity to conduct stabilizing counter-cyclical policy (Bova et al., 2016).

An important downside effect of state guarantees, besides increasing the excessive leverage of the non-financial sector or the SME sector, is “corporate zombification”. The term zombie has been used to describe the presence of unprofitable but still operating firms. This became a widespread used term especially during the COVID-19 pandemic, where zombie firms likely accessed generous government loan guarantees and moratoria, given the broad eligibility criteria[18]. Government guarantees create incentives for banks to evergreen loans and shift risks, which leads to the creation of zombie firms (Havemeister and Horn, 2023).

18 Corporate zombification: post-pandemic risks in the EA. ECB Financial Stability Review, May 2021.

Banking supervision

Outstanding literature has pointed at political interference in the regulation and supervision of the financial sector as a key contributing factor to the magnitude and depth of financial crises (Das and Quintyn, 2002; Caprio and Klingebiel, 1996). To lessen the possibility of political intervention in the regulatory and supervisory process, it is essential to establish independence mechanisms that protect these processes from political influence. Despite its relevance for financial stability, in practice there is scant consideration to the topic of regulatory and supervisory independence in the financial sector. This contrasts with the amount of academic literature on the topic of monetary and central bank independence (Hibbs, 1977; Blinder, 1998; Alesina and Stella, 2010a). But experience has shown that loose regulatory and supervisory set-ups have greatly aided the worsening of a number of recent systemic banking crises (Acharya and Richardson, 2009; Levine, 2010). Quintyn and Taylor (2003) argue that regulatory and supervisory independence is as important as central bank independence for financial stability. The research delves into the set-up required for independence, outlining four main dimensions: regulatory, supervisory, institutional, and budgetary.

- **Regulatory independence**: regulatory agencies need to have sufficient autonomy when setting prudential regulations. Banking supervisors that participate in the regulatory process are better positioned to react rapidly and flexibly to changing market conditions, and in addition may feel more motivated to implement the regulatory rules and enforce them.

- **Supervisory independence**: the supervision of the financial sector is much more important than the supervision of other economic sectors because financial intermediation has a public good aspect. Furthermore, as explained by Quintyn and Taylor (2003), "to preserve its effectiveness, the supervisory function is typically highly invisible and it is exactly this invisibility that makes it vulnerable to political and industry interference". For instance, government interference is common in many countries (for a selection of case studies please see Quintyn and Taylor (2003)). Government interference can lead to unfair competition, the prolongation of the existence of "zombie banks" and "zombie corporates", higher taxpayer costs, and financial instability in very extreme cases.

- **Institutional independence**: this entails the establishment and safeguarding of clear processes to appoint and dismiss senior supervisory officials. It includes also the governance arrangements of the supervisory agency, the reporting lines and decision-making bodies, potential conflicts of interest of board members and accountability, transparency in decisions taken, and the distribution of roles and responsibilities within the organization.

- **Budgetary independence**: the supervisory agency should have control over the staffing, training, and remuneration needs. This is better accomplished in countries where the supervisory agency is in the central bank, given the budgetary independence of these institutions. In addition, countries increasingly make use of a bank levy to finance banking regulation and supervision, as is the case in the Single Supervisory Mechanism (SSM), because this can help isolate the supervisory agency from the government's budgetary control.

In the EU, the SSM was created following the GFC and the Euro sovereign debt crisis. It was a key policy response to the crisis, consisting of a harmonized regulatory and supervisory framework for the banking sector in the EA, with a common set of rules, guidelines, methodologies, and processes. The regulation and the supervision of the largest banks in the EA was moved from the national level to the European level, and centralized in the ECB, while regulation and supervision of smaller banks remained at the national level. A new regulatory agency, the EBA, was also created at the EU level. The national supervisory authorities together with the ECB comprise the SSM. The SSM is part of the Banking Union, aimed at sharing risk across EU countries and reducing the sovereign-bank nexus.

These financial reforms at the EU level can prevent the myopic financial reforms at the national level analysed in the case studies and synthesised in the conceptual model.

According to Abiad et al. (2010), the independence of a banking supervisory agency is ensured when the agency is able to quickly address banks' issues. Political interference results in lack of independence, which frequently results in delays. Resolving

banking issues is frequently delayed, for instance, when the banking supervisory agency must seek approval from multiple agencies, such as the Minister of Finance, in order to revoke or suspend bank licenses or liquidate banks' assets, or when the Minister of Finance has ultimate jurisdiction over the banking supervisory agency. In addition to being free from political influence, the banking supervisory agency must be granted sufficient authority to swiftly address banks' issues. The coding of this variable in the dataset by Abiad et al. (2010) is done based on the following questions: *"Does a country adopt risk-based capital adequacy ratios based on the Basel I capital accord? Is the banking supervisory agency independent from the executive's influence and does it have sufficient legal power? Are certain financial institutions exempt from supervisory oversight? How effective are on-site and off-site examinations of banks?"*.

To conclude this section of the conceptual model on political agency and fiscal rules, through the analysis performed it has become clear that undesirable policy responses are triggered due to the desire of politicians to manipulate the economy. Such undesirable policy responses can target fiscal or monetary targets or budget accounts, but the option of financial reform is more appealing due to lower political and economic costs. Financial reform can target the supply of credit by increasing competition and innovation, providing government guarantees and deposit insurance, or loosening regulation of supervision of the financial system. On the demand side, tax deductions for mortgages or other types of debt have been largely used. Such policy responses to the establishment of fiscal rules are undesirable because they undermine other necessary reforms, such as the much needed social security reforms in aging societies (Razin and Sadka, 2003), by constraining governments to smooth fiscal costs over time (Hagen, 2005). To provide a comprehensive conceptual model for the possible linkages between fiscal constraints and financialisation, the following section discusses another channel through which fiscal rules may be a driver of private credit growth and thereby financialisation: market signalling.

5.1.2 Fiscal rules and market signalling

In this section, the thesis synthesizes potential market signalling effects of fiscal rules. Market signalling effects build on market expectations, behaviors and reactions when a government implements a fiscally conservative framework. Given the challenges in modelling market behavior, psychology, and second-round effects (Akin and Akin, 2024) arising from the signalling effect of fiscal rules, I do not attempt to model these and include them in the empirical analysis, as this would imply a significant change in scope of the current work. In other words, the focus of this thesis is not to develop a behavioral model of the credit cycle (Bordalo et al., 2018). In addition to behavioral finance mechanisms (Kahneman and Tversky, 2013) at play in market dynamics, feedback effects also influence the relationship between fiscal rules and macroeconomic fundamentals, such as inflation (Dornbusch et al., 1990).

Minsky (1977) provides key insights, as he argues that investor optimism brings an expansion of credit and investment, which amplify the initial effects of market dynamics, and can lead to a crisis when the optimism is gone. For instance, in the case of the UK, Sargent (1991) argues that the economic boom at the end of the 1980s was not only due to the wave of financial liberalization performed in earlier years, but also to over-optimism about the economy's performance.

As fiscal constraints can signal to the market a credible fiscal policy (Thornton, 2010), they can lead to an overall improvement in macrofinancial fundamentals and thus increase prosperity, triggering episodes of market confidence and "exuberance" (Alan Greenspan), which can have detrimental effects on financial stability. In *The Political Economy of Financial Exuberance*, Krippner (2010) argues that the "tendency of economic agents to become overconfident during a period of prosperity creates a sense of euphoria among investors". A reduction in interest rates, sovereign credit spreads and credit ratings, and business cycle volatility (inflation and output volatility) in the presence of fiscal rules could signal markets that it is a good time for taking debt, thereby generating a boom in credit-based consumption and investment.

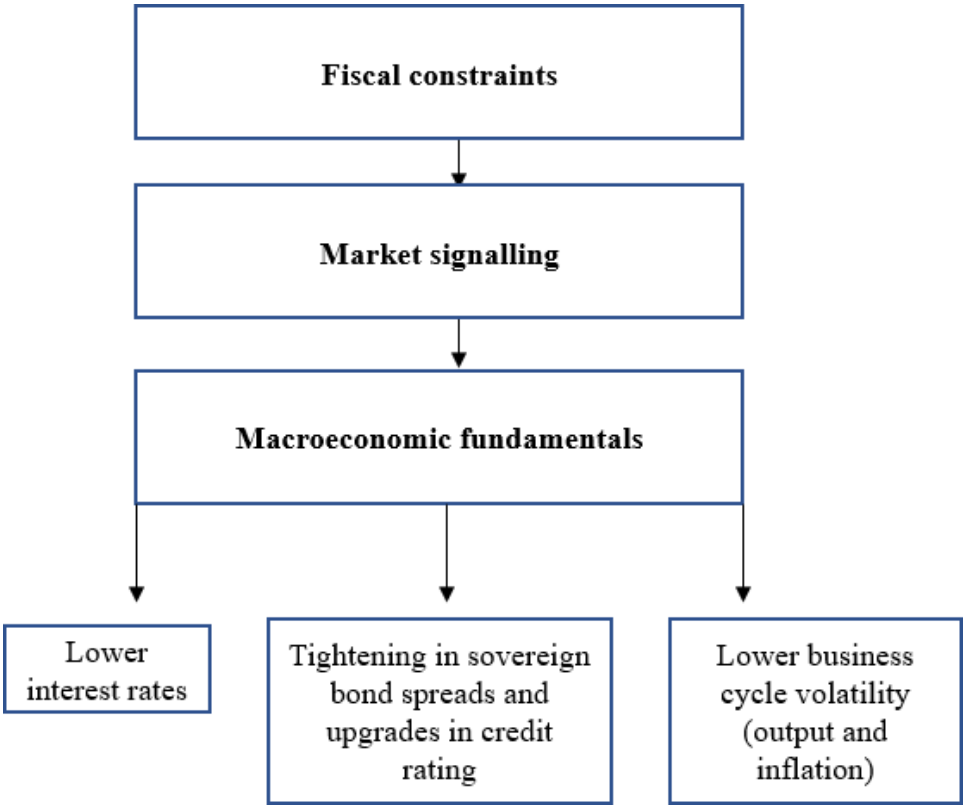


Figure 34: Macroeconomic fundamentals linked to fiscal constraints

In their paper "The macroeconomic effects of fiscal rules in the US", Fatas and Mihov (2006) find evidence that fiscal rules, by reducing discretionary fiscal policy, also reduce macroeconomic volatility. They use data from 48 US states to show that strict limits on budgets lead to less volatility and discretion in the use of fiscal policy tools. In addition, they also show that constraints on fiscal policy lower fiscal responsiveness to macroeconomic shocks. The authors conclude that fiscal rules promote a more stable macroeconomic environment and thus lead to more stable credit demand.

Bullish sentiments in financial markets can produce second-round effects and lead to an appreciation of asset prices (stocks, real estate) and thus the value of collateral and balance sheets (Bernanke et al., 1999; Ansell, 2012; Broz, 2013). This generalized appreciation of corporate and household net worth relaxes lending standards and increases the propensity of financial intermediaries to lend (Stiglitz and Greenwald, 2003). Furthermore, during this period of exuberance, there is normally a deterioration of credit standards, which allows speculative positions to leverage and put more pressure on asset

prices. As economic agents believe that asset prices will continue to increase, this becomes a self-fulfilling prophecy which further increases market prices.

When credit expands, there are several reinforcing mechanisms by which households and firms, on the one hand, benefit from easier access to loans, and in addition, on the other hand, obtain cheaper refinancing of their already existing loans. In addition, as asset prices increase when credit expands (i.e., during credit booms), there is an appreciation of the underlying collateral such as real estate, thereby increasing the net worth of household and firm balance sheets (Bernanke et al., 1999; Ansell, 2012; Broz, 2013). Furthermore, households that have a considerable amount of their wealth invested in financial assets (such as retirement accounts) and firms that have considerable revenues from interest income and credit-based sales (such as car leasing), are especially benefited from appreciation in asset prices (Langley, 2008).

At the same time, when fiscal rules are in place, international investors' trust increases and this results in improved financing conditions, which can trigger capital inflows and magnify surges in credit demand, potentially leading to overindebtedness and macrofinancial imbalances. Positive market expectations put downward pressure on credit ratings and risk premiums, and international investors may perceive a country with a fiscal rule as rich in safe assets, which could generate potentially destabilizing capital inflows.

Afonso and Sousa (2012) and Ardagna (2004) find in their research that increases in stock market prices are linked to fiscal consolidation through a reduction in public expenditure, which signals sound fiscal behaviour. The authors explain this effect as the market interpreting that an expansion of public spending signals a deterioration of public finances. More specifically, it is in the sample countries that have a higher deficit starting point where the effect is stronger, meaning fiscal consolidation has a stronger effect on stock market prices for these countries.

In addition to the fiscal framework, the broader design of checks and balances and democratic institutions also plays a role. In this regard, Boubakri et al. (2011) show that political competition decreases sovereign bond spreads. Scholars have shown that a

system of checks and balances can trigger positive expectations in the market and magnify financial swings (Boubakri et al., 2011). For example, Knott (2010) argues that the checks and balances system in the US (namely between political parties, interest groups, and corporate boards) reinforced the excessive optimism in financial markets that led to the financial meltdown in 2008. Studies have also shown that central government debt tends to be higher in countries in which sub-national governments are subject to debt rules, implying central government borrowing on behalf of sub-national governments, and increased central government financial vulnerability (von Hagen and Eichengreen, 1996).

The following section develops a discussion on macroeconomic fundamentals that may be impacted by fiscal rules and thereby may produce signals to the market regarding uncertainty and risk. As these second-round effects are primarily behavioural, they are discussed in the conceptual model but not included in the empirical analysis.

To conclude, fiscal rules, by design, serve as constraints on government budgetary policies, aiming to ensure long-term fiscal sustainability and discipline. These rules can profoundly impact macroeconomic fundamentals through various channels. Firstly, by setting limits on deficits, debt, and government spending, fiscal rules can foster a more stable and predictable fiscal environment. This stability is conducive to reducing uncertainty in the economy, which in turn can boost investor confidence and encourage investment. Secondly, fiscal rules can contribute to lowering inflation expectations by signalling a commitment to prudent fiscal management, which is critical for maintaining the purchasing power of the currency and ensuring sustainable economic growth. Additionally, through the enforcement of fiscal discipline, these rules help prevent excessive government borrowing, which can crowd in private investment by decreasing interest rates.

Interest rates

In macroeconomic modeling, governments, to fund public spending, demand credit from banks and capital markets (e.g., through direct loans or bond issuance). The increased demand for credit by the government puts upward pressure on interest rates (i.e., the

price of debt). However, in the presence of fiscal rules, governments are numerically tied to spending and public debt limits, which is intended to cap their demand for credit. Lower aggregate demand for credit generates downward pressure on interest rates, leading to a classic "crowding-in" effect, where households and firms are incentivized to borrow more. This effect would be even more pronounced when traditional public goods are not provided for and individuals need to borrow to attain these. For instance, college education in the US is a case in point.

First, in a classical macroeconomic model of money supply and demand, all else being equal (i.e., ceteris paribus), interest rates increase (decrease) when the demand for money increases (decreases)[19]. When there is an increase in government spending and borrowing, there is a crowding out effect on interest sensitive spending driven by an increase in the demand for money and the impact of larger national debt on long-term interest rates (Feldstein, 2009). Fiscal rules that constrain policymakers' ability to implement excessive spending policies lead in theory to lower credit demand by the government and, therefore, to lower interest rates. As interest rates are the price of credit, lower aggregate interest rates increase the aggregate demand for credit, as it will be cheaper for households and firms to repay the debt.

Budget deficits can lead to higher interest rates through two channels (Afonso and Sousa, 2012; Gale and Orszag, 2003): first, assuming there is no Ricardian equivalence or capital flows to compensate for, budget deficits decrease the aggregate level of savings if there is not an equal increase in private savings, which in turn leads to a decrease in the supply of capital. Second, budget deficits increase the stock of outstanding government bonds compared to other financial assets. This leads to a portfolio effect where a higher rate of interest would be required to incentivize investors to hold the additional amount of government bonds. Notwithstanding this, the picture in the academic literature is mixed. While some studies find a small increase in interest rates following an increase in debt, other studies find large effects, while some authors do not find an effect of fiscal deficits on higher interest rates (Engen and Hubbard, 2004).

19 David Romer, Advanced Macroeconomics, fourth edition (New York: McGraw-Hill, 2012).

Cottarelli et al. (2003) focus on the impact of fiscal consolidation on bank credit to the private sector, arguing that consolidation reforms to comply with fiscal rules have substantially contributed to a reduction in real interest rates and "crowded-in" private investment, leading to a rapid rise in lending rates. Using the specific example of Central and Eastern European and Balkan (CEB) countries and their fiscal adjustment to meet the EU framework, Cottarelli et al. (2003) show that fiscal consolidation has facilitated and increased bank lending to the private sector. Capital flows also play a key role and are strengthened due to the lower risk premium when countries join the EU given the significant interest rate differentials.

Other authors that shed light in this regard are Halac and Yared (2018), who show that "lowering flexibility affects countries not only directly by limiting their borrowing and spending, but also indirectly by reducing interest rates". They provide important insights by comparing coordinated (set together by a group of countries such as in the EU) and uncoordinated fiscal rules (when a country independently decides to adopt a fiscal rule). Interestingly, they show that when governments have a strong bias towards more spending in the present, a coordinated fiscal rule turns out to be more flexible than an uncoordinated fiscal rule, thereby leading to relatively higher interest rates in a scenario where a coordinated rule is applied (Halac and Yared, 2018).

In a Minskyian tradition (Minsky, 1975), lower interest risk exposure forms the basis for bank overconfidence and thus has the potential to trigger episodes of excessive credit growth (Korinek and Simsek, 2014). Diamond and Rajan (2006) develop a theoretical model to show how lower interest rates can reduce the threat of deposit withdrawals and subsequent bank runs, thereby increasing bank risk taking and lending. Other authors have also corroborated that lower interest risk exposure increases underinsurance (i.e., less adequate loan underwriting criteria) and credit growth (Korinek and Simsek, 2014). Low short-term interest rates also improve the net worth of banks, allowing them to relax their credit standards (Stiglitz and Greenwald, 2003). When interest rates decrease, equity prices tend to increase (Tobin, 1969). When stock prices rise, the market price of firms is high relative to the replacement cost of capital, and so firms can issue debt and buy new investment goods with relatively small amounts of equity (Tobin, 1969).

The market effects of fiscal rules can generate downward pressure on interest rates and potentially magnify the "safety trap" (Caballero and Farhi, 2014). This acute form of "liquidity trap" (i.e., a situation of extremely low interest rates that generates excess liquidity in the market) may lead to a realized lower interest rate risk exposure, thereby increasing market confidence and credit growth (Korinek and Simsek, 2014). This might drive risk-loving investors to look for high-risk high-yield investments and engage in financial innovation, which could generate asset bubbles and credit booms in sectors that are less visible than the real economy.

In addition to this macroeconomic theory consideration, it is noteworthy that longterm real interest rates have been on a declining trend since the early 1980s. Therefore, the increased level of private leverage in the system could be also explained by this general decline in interest rates, which has been partially attributed to changes in productivity and demographics (Brand et al., 2018). Long-term real interest rates have declined since the mid-1980s in developed countries (US and EA). Below, the top charts show a decrease in money market rates and government bond yields, coupled with a rise in equity risk premia. The bottom charts show declines in total factor productivity (TFP) and GDP growth.

Long-term interest rates have sharply declined since 1980 levels, where they stood at 11.4 percent in the U.S. and 8.5 percent in Germany. Short-term interest rates have followed a very similar pattern: three-month Treasury securities yielded around 11 percent in the U.S. and 6 percent in Germany in 1980; in 2016 the short-term rates were on average about 0.3 percent in the U.S. and minus 0.5 percent in Germany. According to Vítor Constaˆncio, former Vice-President of the ECB, there are several factors behind the decline in interest rates, ranging along real economic developments and global factors, including the financial crisis, the expected inflation over the life of an asset, the compensation required by investors for holding a long-term asset, and the expected path of short-term real interest rates[20].

20 The challenge of low real interest rates for monetary policy. Lecture by Vítor Constâncio, VicePresident of the ECB, Macroeconomics Symposium at Utrecht School of Economics, 15 June 2016

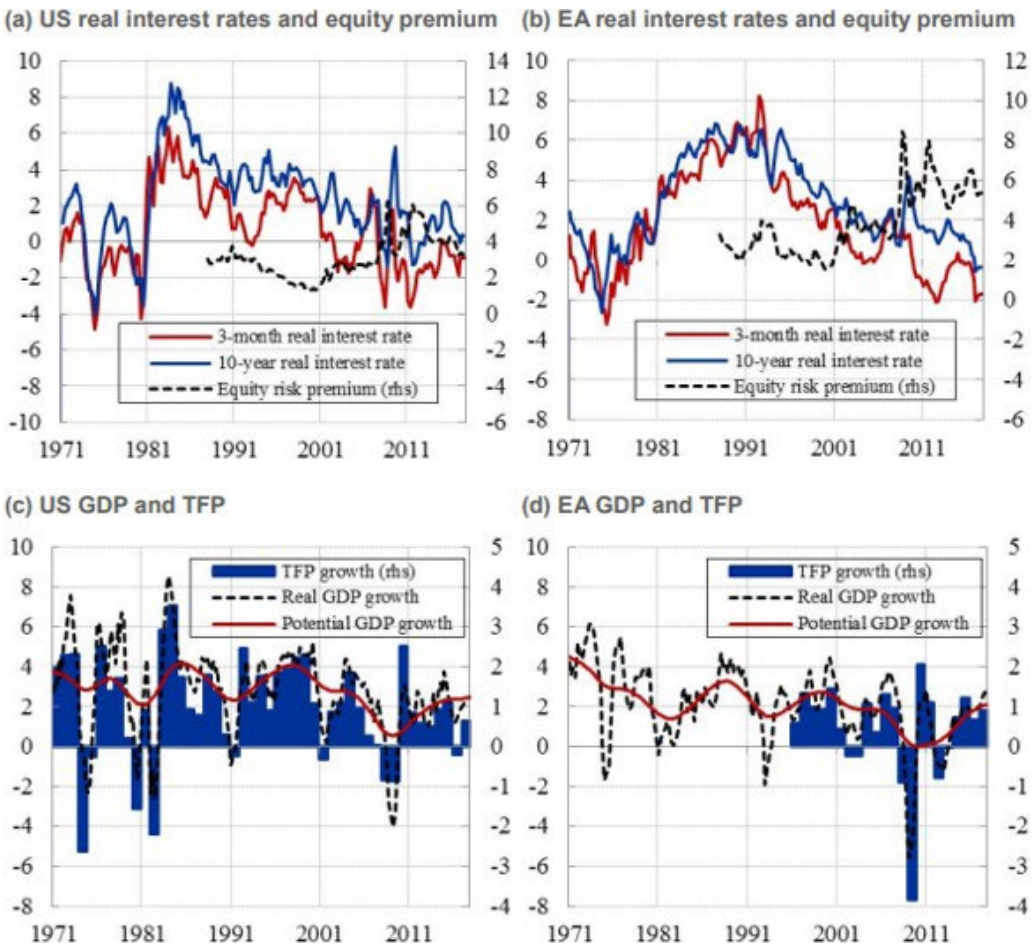


Figure 35: Interest rates, equity premium, TFP and GDP growth.
Source: Brand et al. (2018).

Sovereign bond spreads and credit rating

Sovereign credit spreads account for difficulties in the repayment or rolling over of debt issued by governments: delays in interest payments, restructuring or consolidation of debt, or plain default. This default risk factor affects the borrowing costs that government need to pay when they become indebted. Default risk perception is affected by different elements, such as the level of the debt (if it is very high, it is difficult for fiscal policy to be stabilizing), political instabilities delaying structural reforms and budget adjustments, or if current fiscal policies are projected to significantly increase future public debt (Favero et al., 1997). The higher the risk perception, the higher the sovereign yield will be.

Empirical evidence supports the view that fiscal rules improve public budgets (Poterba, 1994; Bohn and Inman, 1996), with subsequent improvement in financial market confidence and the valuation of government financial liabilities. For instance, Poterba and Rueben (1999) develop an empirical study on the effect of fiscal rules in the US on State borrowing costs. Their results show that States with stricter fiscal rules limiting public spending or deficits encounter lower borrowing costs than states with easier fiscal rules. More specifically, the cost to issue State debt decreases by around 9 basis points in the presence of a strict fiscal rule.

Feld et al. (2013) focus on the role of fiscal rules in restoring investor confidence regarding the sustainability of public finances, which translates in lower sovereign credit spreads. More specifically, they find that the risk premium that sub-national Swiss governments pay for their bond issuance decreases significantly (more than 10 basis points) with fiscal rule presence and strength, as well as with a credible no-bailout policy. The authors conclude that "both numerical fiscal rules and a credible no-bailout policy can contribute to lower refinancing costs and help to restore financial market confidence" (Feld et al., 2013).

Hatchondo et al. (2012) explain that fiscal rules benefit governments through the expectations created of a lower future indebtedness. A fiscal rule acts as a commitment which generates the expectation by lenders of lower debt levels in the future, allowing the government to borrow at lower rates in the present period. Afonso and Jalles (2019) show in their analysis that fiscal rules put downward pressure on sovereign credit spreads and reduce them by 1.2 to 1.8 percentage points, thereby leading to lower government borrowing cost. The most relevant finding of this paper is that fiscal rules influence the composition of government expenditure in US States, suggesting that fiscal rules can affect how governments allocate spending across different categories such as social services, infrastructure, and defense.

In the EA, similar studies have also shown results in this direction. For instance, Iara and Wolff (2014) show that especially during market turmoil fiscal rules have a stronger decreasing effect on EA sovereign risk premia. In this sense, the price of EA

government bonds factors in the confidence of the financial market in the commitment of governments for having sustainable fiscal balances and policies. Iara and Wolff (2014) study the effect of fiscal constraints on public borrowing costs and compile insights from several relevant papers. For instance, Bayoumi et al. (1995) find that the impact of fiscal constraints on the cost of sovereign debt depends on the level of public indebtedness. If the amount of debt is at an average or moderate level, then a fiscal constraint reduces the interest rate cost of borrowing by 50 basis points. In a similar vein, Eichengreen and Bayoumi (1994); Bayoumi and Eichengreen (1994) confirm the negative effect of fiscal constraints on public sector borrowing costs and find a negative effect of fiscal rules on public debt cost of a similar magnitude. Hallerberg and Wolff (2008) also find evidence that strong fiscal institutions are a key determinant of lower government bond yields in the EMU.

Going at a deeper level, Poterba and Rueben (1999) offer insights for different types of rules and find that rules for expenditure, deficit, and debt levels have a negative effect on state bond risk premia, while rules revenue limits (e.g., taxation) have a positive effect on state bond risk premia. According to research by Poterba and Rueben (1997), expenditure rules can reduce borrowing costs indirectly through higher credit ratings. In contrast, the authors find that revenue rules (those limiting taxation, for instance) increase borrowing costs. Regarding debt rules, the study finds a counterintuitive effect that is also not in line with other research (Bayoumi et al., 1995): a debt rule limiting how much debt a government can issue increases borrowing costs by 3.3 basis points. However, this confirms that the effects of interest rate costs go through credit ratings. Therefore, it is possible to expect lower borrowing costs via higher credit ratings in the presence of budget balanced rules. In this context, debt rules seem to have the least effect. Johnson and Kriz (2005) find that revenue rules are directly related to higher interest rate costs, while debt, expenditure, and budget balanced rules indirectly lead to lower borrowing costs due to their impact on better credit ratings. The authors conclude that fiscal institutions are a factor for investors and bond holders in their assessment of creditworthiness and rating.

Arbatli and Escolano (2015) find that fiscal transparency is associated with higher credit ratings, in the case of both developing and developed economies. This can be

explained by a direct effect on the credibility on the rating as well as an indirect effect via fostering more sustainable fiscal policies.

In other research by Balikc¸iog˘lu and Yilmaz (2019), unemployment is identified as the main factor affecting credit scores, across different research scenarios. For long term estimates, the researchers find that growth, unemployment, savings, current account deficit and public debt have a higher effect, while for short term estimates it is the budget deficit, primary balance, and public debt that have a higher effect. Therefore, based on this research, credit ratings are mainly impacted by public finance and fiscal policy considerations, which according to the authors, "can be considered to be a sign for the political decisiveness of governments". Based on the near estimates results, it appears that credit institutions' models are more likely to concentrate on short-term outcomes (primarily fiscal policy parameters) without paying attention to a strong relationship with economic fundamentals from a medium-term perspective.

In sum, shrinking sovereign yield spreads and improving credit ratings have the potential to generate an illusion of safe investment environment, which could fuel speculative forces (Feld et al., 2013; Iara and Wolff, 2010; Knott, 2010). When interest rates hit the zero-lower bound in the light of fiscal rules, the latter might also drive up financial innovation, speculation, and search for yield activities, which could generate asset bubbles and credit booms in sectors that are less visible or regulated.

Business cycle and inflation volatility

The behavioral finance literature has emphasized the role of market expectations and reactions in the functioning of economic systems. In essence, reactions in an economic system can amplify the initial movement in the business cycle. The increased complexity of financial systems makes the system behave differently than it was stipulated by former theories. Furthermore, the greater intervention, or implicit guarantee provided by governments, reduces downward risk and induces a greater degree of upside or inflationary bias into the economy (Minsky, 1977). As suggested by López-Salido et

al. (2017), investor sentiment in credit markets can be a relevant driver of economic fluctuations, creating volatility in the output of the business cycle. This is in line with Rognlie et al. (2018), who argue that during a credit boom, generalized optimism can lead to over investment, which can in turn make the business cycle vulnerable to a downturn.

While economic theory has clearly established a causal link between fiscal deficits and inflation, the empirical tests of this relationship have been less conclusive (Cata˜o and Terrones, 2001). From a theoretical point of view, inflation volatility can be detrimental for economic growth as it increases uncertainty around price level developments, thereby driving up risk premia especially for long-term contracts. It raises costs of hedging transactions and reduces market efficiency (Rother, 2004). According to Badinger (2009), if fiscal policy is discretionary, it will have a direct large effect on GDP volatility and all its subcomponents. However, this direct effect on output volatility is not matched by a direct effect on inflation volatility. Instead, discretionary fiscal policy will have an indirect effect on inflation volatility through its direct effect on output volatility. Output volatility is a key determinant of inflation volatility, and therefore discretionary fiscal policy affects indirectly inflation volatility.

From an empirical point of view, papers such as Cata˜o and Terrones (2001) find that a 1 percentage point reduction in the ratio of fiscal deficit to GDP typically lowers long-run inflation by 1.5 to 6 percentage points in emerging market economies. In a similar vein, Rother (2004) show empirically for a sample of OECD countries that fiscal discretion and volatility increase inflation volatility. More specifically, according to their results, a one standard deviation increase in discretionary fiscal policy volatility leads to an increase in inflation volatility of 10 percent. The authors show that these results are robust to changes in the data frequency, the sample period, or the econometric method.

5.2 Quantitative empirical results

The empirical results confirm that (i) fiscal rules have a significant and positive effect on private credit (first stage models) and (ii) fiscal rules have a significant and positive effect on financial deregulation (second stage models).

5.2.1 Effect of fiscal rules on private credit

Regarding the effects of fiscal rules on private credit, results are reported in Tables 7 to 11. In order to account for potential outliers driving the results (i.e., the standard deviation of the dependent and independent variables are quite large) the natural log is taken. Results in Table 7 show a consistently positive and statistically significant effect of fiscal rule strength on the private credit to GDP ratio and the aggregate private credit-to-GDP ratio. Similarly, results in Table 8 show a consistently positive and statistically significant effect of the number of fiscal rules on the private credit to GDP ratio and the aggregate private credit to GDP ratio, with the exception of specification (8) where the effect is not significant when the capital account openness index is included as control. Tables 9 and 10 show also a positive and statistically significant effect of both fiscal rule strength and number of fiscal rules on real private credit and aggregate real private credit. Table 11 shows a consistently positive and statistically significant effect of fiscal rule strength on the log of household debt, while the number of fiscal rules is positive and statistically significant in specifications (5) and (7). Overall, the fiscal rule strength index shows a stronger effect on credit dynamics than the number of fiscal rules, highlighting the relevance of the institutional set-up around fiscal rules. Besides, the effect is also stronger for the private credit metrics than for the aggregate private credit metrics. Taking only into account the full model specifications (those including all controls), the relationship between fiscal rules and private credit is strongest for household debt (Table 11 specification (4)).

In Table 7 the results show that the private credit to GDP ratio increases in the range of 0.22 to 0.27 percent for each percent increase in the fiscal rule strength index. As for the aggregate private credit to GDP ratio, it increases between 0.16 and 0.22 percent for every

percent increase in the fiscal rule strength index. The effect is positive and statistically significant across all specifications. When using the number of fiscal rules as independent variable (Table 8), the results remain robust and show a positive and statistically significant effect in most cases, ranging between 0.16 and 0.26 percent on private credit to GDP and between 0.11 and 0.21 on the aggregate private credit to GDP. Looking at the full model specification for private credit (4), for every percent increase in the number of fiscal rules, the private credit to GDP ratio increases by 0.16 percent.

Control variables in Tables 7 and 8 are significant in most instances. The GDP growth rate is statistically significant and has the expected negative sign, given that it is the denominator of the dependent variable (i.e., if the GDP grows the credit to GDP ratio decreases in relative terms). The log of real interest rate is statistically significant and has the expected negative sign given that lower interest rates tend to crowd-in private credit, as discussed earlier in the thesis. The log of investment as a share of GDP is positive and statistically significant, as expected, since higher levels of private investment require credit and thus contribute to the increase in private credit to GDP. The capital account openness is only significant in the full model specifications for private aggregate credit to GDP ratio (8). This can be due to the fact that aggregate private credit includes lending by non-banks, which increases when the domestic capital account is open to foreign investment. The capital account openness has the expected sign, as higher capital account openness can lead to capital inflows and stronger competition in the banking sector and higher levels of lending.

In Table 9, results show that private real credit increases in the range of 0.25 to 0.32 percent for each percent increase in the fiscal rule strength index. As for aggregate private real credit, it increases between 0.21 and 0.26 percent for every percent increase in the fiscal rule strength index. In Table 10, results show that private real credit increases in the range of 0.19 to 0.30 percent for each percent increase in the number of fiscal rules. As for aggregate private real credit, it increases between 0.18 and 0.24 percent for every percent increase in the number of fiscal rules. The effect on private real credit is stronger for the fiscal rule strength index than for the number of fiscal rules, similarly to the models in Tables 7 and 8, and the effect is weaker for the aggregate credit variables, as expected, given that aggregate credit includes also non-banks which include development banks.

The business model of these banks is not always oriented towards profit making, which may explain the reason why the effect is less pronounced for aggregate credit. Regarding the control variables in Tables 9 and 10, they have the expected sign and are significant in most instances. In contrast to Tables 7 and 8, the capital account openness variable is significant in the private real credit specification but not in the aggregate private real credit specification.

In Table 11 the control variable investment share of GDP is removed (as this variable is less relevant for household debt than for nonfinancial debt) and instead the government credit to GDP ratio is included (as it is expected that lower government spending on welfare benefits leads to higher household debt). The effect is positive and statistically significant: household debt increases in the range of 0.28 to 0.41 percent for each percent increase in the fiscal rule strength index. The effect of the number of fiscal rules is lower and only significant in specifications (5) and (7), ranging between 0.23 to 0.35 percent. The real interest rate has a negative coefficient as expected but is not statistically significant, perhaps because household debt is driven by other micro factors such as household income and saving preferences which are not included in this macro model. The capital account openness is not significant in the full model specifications (4) and (8).

Tables 14 to 18 in the Annex show the same regressions as in Tables 7 to 11 but including the GDP per capita instead of the GDP growth rate. The effect of fiscal rules remains positive and statistically significant across most specifications. However this is not the case for the effect on household debt (Table 18).

Table 7: Fiscal Rule Strength and Private Credit-to-GDP ratio

	Private Credit-to-GDP, log				Aggregate Private Credit-to-GDP, log			
	(1) OLS, fe	(2) OLS, fe	(3) OLS, fe	(4) OLS, fe	(5) OLS, fe	(6) OLS, fe	(7) OLS, fe	(8) OLS, fe
Fiscal Rule Strength Index, log	0.27***	0.25***	0.23***	0.22***	0.22**	0.19***	0.16**	0.16**
	(0.10)	(0.07)	(0.07)	(0.07)	(0.10)	(0.07)	(0.07)	(0.07)
GDP growth rate	-0.00	-0.00	0.00	0.00	-0.00	-0.00	0.00	-0.00
	(0.01)	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)
Real Interest Rate, log		-0.04**	-0.05**	-0.04**		-0.04*	-0.04**	-0.04**
Investment share of GDP, log		(0.02)	(0.02)	(0.02)		(0.02)	(0.02)	(0.02)
			0.70***	0.67***			0.73***	0.70***
			(0.17)	(0.16)			(0.16)	(0.15)
Chinn-Ito Capital Openness, high=open				0.07				0.08*
				(0.05)				(0.05)
Constant	3.64***	3.62***	0.60	0.60	3.78***	3.80***	0.64	0.65
	(0.26)	(0.16)	(0.75)	(0.73)	(0.28)	(0.17)	(0.70)	(0.67)
Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Observations	766	535	535	526	740	512	512	503
R^2	0.45	0.34	0.40	0.42	0.42	0.29	0.37	0.39
$\hat{\sigma}$	0.23	0.20	0.19	0.19	0.23	0.20	0.19	0.19
Country FE	✓	✓	✓	✓	✓	✓	✓	✓
# Countries	73	64	64	63	72	62	62	61

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

Table 8: Number of Fiscal Rules and Private Credit-to-GDP ratio

	Private Credit-to-GDP, log				Aggregate Private Credit-to-GDP, log			
	(1) OLS, fe	(2) OLS, fe	(3) OLS, fe	(4) OLS, fe	(5) OLS, fe	(6) OLS, fe	(7) OLS, fe	(8) OLS, fe
Number of Fiscal Rules, log	0.26**	0.21***	0.18**	0.16**	0.21**	0.16**	0.13*	0.11
	(0.10)	(0.07)	(0.08)	(0.08)	(0.10)	(0.07)	(0.07)	(0.07)
GDP growth rate	-0.00	-0.00	0.00	-0.00	-0.00	-0.00	0.00	-0.00
	(0.01)	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)
Real Interest Rate, log		-0.04**	-0.05**	-0.05**		-0.04*	-0.04**	-0.04**
		(0.02)	(0.02)	(0.02)		(0.02)	(0.02)	(0.02)
Investment share of GDP, log			0.70***	0.68***			0.73***	0.71***
			(0.18)	(0.17)			(0.16)	(0.15)
Chinn-Ito Capital Openness, high=open				0.07				0.08*
				(0.05)				(0.05)
Constant	4.13***	4.12***	1.05	1.03	4.17***	4.18***	0.97	0.96
	(0.11)	(0.11)	(0.78)	(0.75)	(0.11)	(0.10)	(0.71)	(0.69)
Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Observations	766	535	535	526	740	512	512	503
R^2	0.44	0.32	0.39	0.40	0.42	0.28	0.35	0.38
$\hat{\sigma}$	0.23	0.20	0.20	0.19	0.23	0.20	0.19	0.19
Country FE	✓	✓	✓	✓	✓	✓	✓	✓
# Countries	73	64	64	63	72	62	62	61

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

Table 9: Fiscal Rule Strength and Private Real Credit

	Private Real Credit, log				Aggregate Private Real Credit, log			
	(1) OLS, fe	(2) OLS, fe	(3) OLS, fe	(4) OLS, fe	(5) OLS, fe	(6) OLS, fe	(7) OLS, fe	(8) OLS, fe
Fiscal Rule Strength Index, log	0.32***	0.28***	0.26***	0.25***	0.26**	0.23***	0.21**	0.22**
	(0.11)	(0.07)	(0.08)	(0.09)	(0.12)	(0.08)	(0.08)	(0.08)
GDP growth rate	0.00	0.01	0.01*	0.01	0.00	0.00	0.00	0.00
	(0.01)	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)
Real Interest Rate, log		-0.06**	-0.06***	-0.06***		-0.04*	-0.04*	-0.05**
Investment share of GDP, log		(0.02)	(0.02)	(0.02)		(0.02)	(0.02)	(0.02)
			0.72***	0.69***			0.39*	0.38*
			(0.21)	(0.20)			(0.22)	(0.22)
Chinn-Ito Capital Openness, high=open				0.08*				0.03
Constant	27.30***	27.41***	24.29***	(0.05)	27.72***	27.86***	26.16***	(0.03)
	(0.30)	(0.18)	(0.91)	24.34***	(0.31)	(0.20)	(0.95)	26.15***
				(0.88)				(0.95)
Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Observations	786	540	540	531	748	508	508	499
R^2	0.63	0.56	0.60	0.61	0.63	0.57	0.59	0.59
$\hat{\sigma}$	0.26	0.23	0.22	0.22	0.25	0.21	0.20	0.20
Country FE	✓	✓	✓	✓	✓	✓	✓	✓
# Countries	73	64	64	63	70	61	61	60

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

Table 10: Number of Fiscal Rules and Private Real Credit

	Private Real Credit, log				Aggregate Private Real Credit, log			
	(1) OLS, fe	(2) OLS, fe	(3) OLS, fe	(4) OLS, fe	(5) OLS, fe	(6) OLS, fe	(7) OLS, fe	(8) OLS, fe
Number of Fiscal Rules, log	0.30**	0.25***	0.22**	0.19**	0.24**	0.20**	0.18**	0.18**
	(0.12)	(0.08)	(0.08)	(0.09)	(0.12)	(0.08)	(0.08)	(0.09)
GDP growth rate	0.00	0.01	0.01*	0.01	0.00	0.00	0.00	0.00
	(0.01)	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)
Real Interest Rate, log		-0.06**	-0.06***	-0.06***		-0.04*	-0.05*	-0.05**
		(0.02)	(0.02)	(0.02)		(0.02)	(0.02)	(0.02)
Investment share of GDP, log			0.72***	0.69***			0.39*	0.38*
			(0.22)	(0.21)			(0.22)	(0.22)
Chinn-Ito Capital Openness, high=open				0.08*				0.02
Constant	27.89***	27.97***	24.80***	(0.05)	28.19***	28.29***	26.57***	(0.03)
	(0.12)	(0.09)	(0.94)	24.82***	(0.12)	(0.09)	(0.96)	26.57***
				(0.91)				(0.96)
Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Observations	786	540	540	531	748	508	508	499
R^2	0.63	0.55	0.59	0.60	0.63	0.57	0.58	0.58
$\hat{\sigma}$	0.26	0.23	0.23	0.22	0.25	0.21	0.21	0.21
Country FE	✓	✓	✓	✓	✓	✓	✓	✓
# Countries	73	64	64	63	70	61	61	60

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

Table 11: Fiscal Rules and Household Debt

	Household Debt, log							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	OLS, fe	OLS, fe	OLS, fe	OLS, fe	OLS, fe	OLS, fe	OLS, fe	OLS, fe
Fiscal Rule Strength Index, log	0.41**	0.28*	0.32**	0.31**				
	(0.20)	(0.15)	(0.15)	(0.15)				
GDP growth rate	-0.02***	-0.03***	-0.03***	-0.03***	-0.02***	-0.03***	-0.03***	-0.03***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Real Interest Rate, log		-0.04	-0.04	-0.04		-0.03	-0.04	-0.04
		(0.03)	(0.03)	(0.03)		(0.03)	(0.03)	(0.03)
Gov credit/GDP ratio, log			-0.04	-0.03			-0.03	-0.03
			(0.04)	(0.04)			(0.03)	(0.03)
Chinn-Ito Capital Openness, high=open				0.10				0.09
				(0.08)				(0.08)
Number of Fiscal Rules, log					0.35*	0.23	0.25*	0.24
					(0.19)	(0.15)	(0.14)	(0.15)
Constant	3.74***	4.15***	4.20***	4.00***	4.55***	4.75***	4.87***	4.66***
	(0.55)	(0.39)	(0.39)	(0.43)	(0.18)	(0.10)	(0.18)	(0.22)
Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Observations	340	236	217	217	340	236	217	217
R^2	0.66	0.66	0.69	0.69	0.63	0.64	0.66	0.67
$\hat{\sigma}$	0.15	0.14	0.13	0.13	0.16	0.14	0.14	0.14
Country FE	✓	✓	✓	✓	✓	✓	✓	✓
# Countries	28	27	27	27	28	27	27	27

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

An important consideration in interpreting the results is the potential impact of pretrends inherent in the variables of interest. A trend is defined as a long-run increase or decrease in the time series affecting multiple variables. In this specific case there is a deterministic trend, where a consistent increase affecting the main variables of interest is observed. This trend can distort the relationship between the dependent and

independent variables. The model includes year dummies to account for this identified pretrend (Wooldridge, 2010). Alternatively, as robustness check, a linear trend variable is modelled[21] and included in the regressions instead of the year dummies. These tables are shown in the Annex (Tables 19 to 21). The effect of fiscal rules remains positive and statistically significant across most specifications. Overall, the baseline results of this first stage analysis confirm the hypothesis that fiscal rules are correlated with higher levels of private debt. The results are robust when using different metrics for the dependent and independent variables of interest and to different pretrend modelling approaches.

In the next section, the analysis focuses on the second stage models, which test the effect of fiscal rules on financial deregulation.

5.2.2 Effect of fiscal rules on financial liberalisation

Increases in private credit may be to some extent driven by political agency, or government interventions in financial market regulation. According to the conceptual model proposed, a fiscally constrained government has stronger incentives to encourage credit demand and supply. A means to do so is to deregulate credit markets via financial reforms.

Results in Table 12 show a positive and statistically significant effect of the fiscal rule strength index on the financial liberalisation index. The effect is around 0.02 percent across specifications, meaning that for each percent increase in the fiscal rule strength index the financial liberalisation index increases by 0.02 percent. In Table 13 the effect of the number of fiscal rules on the financial liberalisation index is shown and it is also statistically significant and positive across specifications, although the magnitude is smaller than for the fiscal rule strength index. In Annex Table 22 the regressions are run including a time trend instead of year dummies. While in this case the coefficients for the number of fiscal rules have the expected positive sign but are not statistically significant, the fiscal rule strength index shows a positive and statistically significant effect in specifications (2) and (4).

21 The variable "linear trend" increases by one unit every year.

The GDP growth rate has a positive and significant coefficient across specifications. This is in line with existing literature discussing how governments may be more prone to implement financial liberalization when the country is experiencing favorable growth opportunities (Popov, 2018; Tornell et al., 2004). Abiad and Mody (2005) also find that recessions (defined as negative GDP growth over several quarters) impact the likelihood of financial reforms (with negative economic growth leading to a reversal of financial liberalization reforms). The population control variable has the expected positive sign but it is not statistically significant. For robustness purposes, in specifications (2), (4), and (6) the GDP growth rate is substituted by GDP per capita, which shows a negative coefficient and is not statistically significant. The negative interaction between GDP per capita and financial liberalization suggests that the latter is not necessarily higher in richer countries, although other studies find the opposite (Burgoon et al., 2012; Abiad and Mody, 2005). Specifications (3) and (4) include as control variable a dummy for systemic banking crises, while specifications (5) and (6) include total trade as percentage of GDP. These variables appear as not statistically significant and do not seem to influence financial liberalization. Similarly, Abiad and Mody (2005) do not find a significant relationship between a country's openness to trade and the likelihood of financial reform.

These empirical results above are in line with previous literature such as Agnello et al. (2015); Burgoon et al. (2012); Abiad and Mody (2005). Focusing on 17 OECD countries, Agnello et al. (2015) find that fiscal consolidation increases the likelihood of financial reform. Similarly, the study reveals that there is a negative correlation between trade and financial reform, indicating that as trade increases, financial reform tends to decrease, or vice versa. Interestingly, the authors also discover that implementing financial reforms can significantly enhance the credibility of the government. This increase in credibility often leads to a reduction in risk premia, which are the additional returns investors require for holding risky assets. This reduction in risk premia suggests that financial reforms can improve market perceptions of stability and reduce perceived investment risks.

This finding implies the existence of a reinforcing mechanism between political agency and market signaling channels. In other words, not only do fiscal rules (which are a component of political agency) influence market behavior by setting boundaries and guidelines for fiscal policy, but financial reforms also play a crucial role in shaping market

perceptions. Both fiscal rules and financial reforms serve as signals to the market, providing information that impacts investment decisions and pricing strategies. As a result, these reforms can influence economic outcomes by altering how markets perceive risk and credibility, thereby affecting overall investment behavior and pricing dynamics.

Table 12: Fiscal Rule Strength and Financial Liberalization

	Financial Liberalization Index, log					
	(1) OLS, fe	(2) OLS, fe	(3) OLS, fe	(4) OLS, fe	(5) OLS, fe	(6) OLS, fe
Fiscal Rule Strength Index, log	0.0207**	0.0209*	0.0207**	0.0209*	0.0203**	0.0200*
GDP growth rate	(0.01) 0.0039*** (0.00)	(0.01)	(0.01) 0.0039*** (0.00)	(0.01)	(0.01) 0.0050*** (0.00)	(0.01)
Population, log	0.1949 (0.24)	0.2495 (0.25)	0.1949 (0.24)	0.2495 (0.25)	0.1963 (0.23)	0.2436 (0.25)
GDP per Capita, PPP (Constant International USD)		-0.0000 (0.00)		-0.0000 (0.00)		-0.0000 (0.00)
Systemic Banking Crisis			0.0191 (0.04)	0.0100 (0.05)		
Total trade (percentage of GDP)					-0.0010 (0.00)	-0.0004 (0.00)
Constant	-0.1713 (3.98)	-1.0147 (4.05)	-0.1713 (3.98)	-1.0147 (4.05)	-0.1135 (3.73)	-0.8954 (4.02)
Year FE	✓	✓	✓	✓	✓	✓
Observations	205	206	205	206	205	206
R^2	0.17	0.12	0.17	0.12	0.21	0.13
$\hat{\sigma}$	0.02	0.02	0.02	0.02	0.02	0.02
Country FE	✓	✓	✓	✓	✓	✓
# Countries	27	27	27	27	27	27

Table 13: Number of Fiscal Rules and Financial Liberalization

	Financial Liberalization Index, log					
	(1)	(2)	(3)	(4)	(5)	(6)
	OLS, fe	OLS, fe	OLS, fe	OLS, fe	OLS, fe	OLS, fe
Number of Fiscal Rules, log	0.0173*	0.0172*	0.0173*	0.0172*	0.0179**	0.0167*
GDP growth rate	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
	0.0039***		0.0039***		0.0050***	
	(0.00)		(0.00)		(0.00)	
Population, log	0.1870	0.2392	0.1870	0.2392	0.1911	0.2343
	(0.25)	(0.26)	(0.25)	(0.26)	(0.24)	(0.26)
GDP per Capita, PPP (Constant International USD)		-0.0000		-0.0000		-0.0000
		(0.00)		(0.00)		(0.00)
Systemic Banking Crisis			0.0247	0.0166		
			(0.04)	(0.05)		
Total trade (percentage of GDP)					-0.0010	-0.0005
					(0.00)	(0.00)
Constant	-0.0004	-0.8082	-0.0004	-0.8082	0.0121	-0.7046
	(4.12)	(4.22)	(4.12)	(4.22)	(3.88)	(4.21)
Year FE	✓	✓	✓	✓	✓	✓
Observations	205	206	205	206	205	206
***R*2**	0.16	0.11	0.16	0.11	0.20	0.12
$\hat{\sigma}$	0.02	0.02	0.02	0.02	0.02	0.02
Country FE	✓	✓	✓	✓	✓	✓
# Countries	27	27	27	27	27	27

5.3 Limitations of results

When discussing the results of this research, it is important to highlight aspects that can influence the interpretation and the general applicability of the study. The following limitations highlight opportunities for improvement and for future research.

First, the research mainly focuses on the political agency dimension in the analysis of fiscal rules and private debt, without extensively exploring the market signalling channel in the country case studies and in the empirical analysis. Although the proposed conceptual model offers a broad and interdisciplinary understanding of how fiscal rules can affect private debt dynamics through both political agency and market mechanisms, the role of market signals in this relationship has been discussed solely as an additional scope consideration waiting to be empirically tested. This limitation affects the thesis ability to fully capture all relevant dynamics involved in the relationship between fiscal rules and private debt. As explained previously in the thesis, including an empirical test for market signalling implies the development of more complex models, which could be done in future research linked to this thesis.

Second, the empirical model is subject to endogeneity concerns. There is the possibility that generalized changes in ideology or economic thinking are driving a simultaneous implementation of fiscal rules and financial reforms. This temporal overlap complicates the identification of which of these factors arises first and how it affects the other. Fiscal rules can drive private debt by reducing the role of the state in the economy, thereby creating space for the financial sector to expand. For example, as public pension systems are scaled back, individuals are encouraged or required to invest in private pension funds, increasing the flow of money into financial markets. Private debt, in turn, can reinforce fiscal austerity. As discussed earlier in the thesis, when financial markets grow in influence, they often advocate for policies that prioritize low inflation, low taxes, and reduced public spending, which align with conservative fiscal policies. The relationship between fiscal rules and private debt is likely symbiotic and self-reinforcing, with each process amplifying the effects of the other. The difficulty of distinguishing between causality and correlation in this context is an inherent challenge to empirical analysis, and the techniques to address endogeneity used in this thesis may not be sufficient to unravel

the underlying causal relationships. Addressing all potential sources of endogeneity would require the development of more complex econometric models in future research.

Third, the financial liberalisation index used as proxy of political agency consists mostly of supply-side reforms. Despite the importance of demand-side reforms in shaping the broader financial landscape, there is an absence of indices that integrate these measures within the existing literature. The exclusion of such reforms from current indices may result in an incomplete or skewed representation of the impact of financial reforms, thereby limiting the analytical utility of these indices in assessing the full scope of political agency. For instance, the development of an index focused specifically on credit subsidy programs or mortgage tax deductions could provide valuable insights.

Lastly, the case studies are limited to developed economies due to the higher availability of information, data and academic literature compared to developing economies. This restricted focus may not adequately capture the dynamics present in developing economies or different contexts. The selection of the United States, the United Kingdom, and Spain as case studies is based on the availability of data and existing academic focus, but it limits the generalization of the findings to economies with similar economic and political characteristics. This could affect the applicability of the results to a broader range of global economic contexts. For future research, additional case studies could be developed with a focus on emerging economies.

6. CONCLUSIONS

6 CONCLUSIONS

The purpose of this thesis is to study the relationship between fiscal rules and private credit. To this enad, two objectives are pursued and achieved. First, the thesis develops a novel conceptual model that identifies two transmission channels through which fiscal rules can lead to increased private debt: the political agency channel and the market signalling channel. While the market signalling channel is qualitatively discussed as an additional scope consideration, as second objective, the thesis tests empirically the political agency channel. Focusing on political agency helps maintain the public policy and political economy character of the thesis. Attempting to model the market signalling effects would imply a significant change in scope of the current work, which would need to be more oriented towards the disciplines of behavioral economics and finance.

Empirical results confirm the hypothesis and show that fiscal rules have a positive and statistically significant effect on private debt (especially on household debt) and financial deregulation, which supports the presence of political agency in the relationship between fiscal rules and private credit. The results imply that, in the presence of fiscal rules, macroeconomic leverage risk transitions from the public to the private sector, but effectively does not disappear, as fiscally constrained politicians are more prone to implement imprudent financial policies that lead to higher private debt. Therefore, constraining policymakers through rules-based frameworks such as fiscal rules is insufficient to curb political shortsightedness.

The thesis contributes to existing literature on the use of financial regulation as a macroeconomic policy tool, where the financial system becomes a victim of domestic politics. In this sense, the thesis highlights the importance of shielding financial systems

from interventions driven by political agency, especially when these come in the form of deregulation and incentives for increased risk-taking. In fact, because of the way they impact financial markets, governments can be a key source of systemic risk. Governments, when designing and implementing financial and banking regulations, directly impact the institutional framework and the incentives under which markets operate and credit is allocated. In fact, the incentives for the private sector that are set through regulations and taxes are as systemically relevant as the impact of governments on the allocation and riskiness of debt. Furthermore, the systemic instabilities that policies generate tend to be less frequent and build-up over time, which makes them more difficult to identify (Lucas, 2014a). In this respect, the results of this thesis call for a homogeneous implementation of the Basel III reforms by national governments, as this can mitigate political agency interventions in domestic financial systems. Further research could investigate the impact of the implementation of Basel III and macro-prudential policies introduced after 2010 on the results. This study deliberately utilizes data from the period preceding the financial crisis to provide a baseline for comparison. The introduction of new macroprudential frameworks and tools, such as LTV ratios and counter-cyclical capital buffers, is anticipated to mitigate the effect of fiscal rules on private credit through the political agency channel. By examining data post-2010, future studies could assess whether these regulatory measures have successfully moderated the influence of fiscal policy on private lending, potentially offering insights into the effectiveness of these macro-prudential interventions in enhancing financial stability and reducing systemic risk. In the case of the EU for instance, the creation of the SSM brought supervisory powers to the ECB, thereby limiting the impact of domestic politics on the domestic banking system and its supervision.

Given the increased use of fiscal rules across the globe, to enhance the institutional framework of monetary unions, it is essential to closely assess and monitor their potential adverse effects. In a context with strong fiscal rules, fiscal transparency and adequate oversight of financial markets is key to prevent distorted incentives. Strong institutions are needed to mitigate potential costly shocks to public budgets and the financial sector (e.g., the bank-sovereign nexus). In this sense, fiscal transparency is needed to encompass contingent liabilities and expected bail-outs when defining fiscal rules. Furthermore, cooperation and information sharing between IFIs (Independent Fiscal Institutions) and regulatory and supervisory authorities (ECB, EBA, ESMA, EIOPA) at the EU and national

level is key. Policy coordination is needed to ensure that fiscal and financial reforms do not work against each other or against monetary policy[22].

As outlined in this thesis, the drive toward fiscal consolidation and the expansion of capital markets have placed governments under immense pressure to reduce welfare spending while promoting private debt as a substitute for public welfare provisions. This trend, exemplified by the shift toward asset-based welfare systems like homeownership and privatized Keynesianism, highlights how fiscal constraints have reshaped the social safety net into one reliant on private credit. While this approach temporarily shields fiscal balances, it exacerbates long-term financial instability and social inequality by shifting the burden of welfare provision onto heavily indebted households. Ultimately, the interaction between fiscal conservatism, financial liberalization, and political agency has not only constrained the capacity of welfare states but has also led to significant distortions in social welfare outcomes, demanding a reassessment of how welfare is provided in the context of neoliberal economic frameworks.

Overall, the insights provided by this thesis contribute to the ongoing discussions surrounding the revamp of the EU fiscal rule framework, for which the European Commission put forward a three-legged reform package in April 2023. In this window of opportunity to rethink the European fiscal framework, academic research is crucial to inform evidence-based policies. The contribution of this thesis is timely to support the development of holistic policies that consider the multi-faceted impact of fiscal rules on political and financial incentives. In an environment where governments operate under tight fiscal constraints and amid open product and capital markets, achieving national employment goals and the viability of welfare states is an increasing challenge.

22 Investing in tomorrow: Future-proofing fiscal policies and governance in Europe. Opening remarks by Fabio Panetta, Member of the Executive Board of the ECB, at the joint workshop of European independent fiscal institutions and the European System of Central Banks on “European fiscal policy and governance reform in uncertain times”. Frankfurt am Main, 20 September 2023.

7. POLICY IMPLICATIONS

7 POLICY IMPLICATIONS

Several key policy implications can be drawn from this thesis. First, a conservative framework for fiscal policy based solely on rules is not sufficient, as fiscal rules do not eliminate incentives for politicians to bypass the rules, especially in situations where monetary policy is also constrained like in monetary unions. This provides important insights for the institutional design of economic integration projects. Political agency undermines the effectiveness of fiscal rules, which create a perverse political trade-off between fiscal sustainability, economic growth and welfare redistribution. This encourages "opaque and erratic fiscal games to find money for desired policies without re-prioritising real resources" and "deceptive or bad economic policy"[23], in other words, imprudent policies. Rules-based frameworks need to be complemented by institutional arrangements, especially in the context of monetary unions. In other words, "fiscal rules can define in broad terms the boundaries of acceptable or unacceptable policies that an independent fiscal authority would be responsible for enforcing" (Debrun and Kumar, 2007). For instance, independent fiscal bodies can monitor fiscal sustainability plans. However, even this is not sufficient, because these bodies often have limited mandates. In addition to independent review bodies, rules-based frameworks can also be enhanced by establishing accountability mechanisms, such as non-compliance penalties, which should be credible and usable. In the case of the EU, the new framework foresees both preventive and corrective elements, with the latter involving fines for non-compliance.

Secondly, political incentives to use financial systems to circumvent fiscal rules are a source of increased private debt, as structural reforms can be pursued as a substitute for fiscal and monetary policy. Despite the importance of institutional arrangements

23 "When fiscal rules create a perverse political trade-off", Martin Sandbu. Financial Times, 10 March 2024.

supporting the functioning of fiscal rules, this thesis argues that a broader oversight of politicians beyond fiscal plans is needed, one that encompasses also the assessment of reforms in areas such as labour and finance. In this sense, strong financial regulation and supervision of the financial system can mitigate the consequences of these political incentives and structural reforms with short-term economic objectives. For instance, a stricter regulatory framework for risk management and capital requirements reduces the opportunities of politicians for melding into bank practices. By discouraging excessive risk-taking and speculative behavior by financial institutions, the Basel III reforms can mitigate the moral hazard inherent in politicians' attempts to exploit financial systems for fiscal ends, thereby reducing the effectiveness of such strategies. Linked to this is the CMU project in the EU which would diversify financing sources away from the traditional banking model that is present at large in the EU. Alternative financing mechanisms such as equity financing and venture capital may be less susceptible to manipulation by politicians seeking to bypass the public budget.

A third policy implication is the need for research insights on the interaction between fiscal and prudential policies[24] in order to support an enhanced coordination between these two policies. There is extensive academic literature on the interaction between monetary and fiscal policy on the one hand, and between monetary and prudential policy on the other hand. The interaction between fiscal and monetary policy, and the dominance of one over the other, has been a contentious debate in economics since the Breton Woods system came into place. Since the 2008 financial crisis, the interaction between monetary and prudential policy has been in the spotlight and received extensive academic attention. However the interaction between fiscal and prudential policy is less present in academic debates. A policy implication of this thesis is the need for enhanced coordination between fiscal and prudential policy, based in research such as Reis (2020); Boscá et al. (2022), which aim at filling this gap in the literature. For instance, as discussed earlier in the thesis, fiscal policy measures such as tax incentives for homebuyers can contribute to the formation of asset price bubbles, such as housing bubbles. Prudential policy can complement fiscal policy by implementing measures to prevent the buildup of excessive risk in asset markets, such as imposing limits on mortgage lending (e.g., LTV caps).

24 Prudential policies relate to actions that promote sound practices and limit risk-taking in the financial industry.

Information exchanges between independent fiscal bodies and prudential policymakers could be a starting point to identify potential cases where the financial system is used to bypass fiscal rules. This could serve as a deterrent for political myopia. This collaborative approach can enable policymakers to anticipate potential risks to both fiscal sustainability and financial stability, allowing for more proactive policy responses. Information sharing could be done via the establishment of formal mechanisms between fiscal and prudential policymakers, such as joint committees or task forces. Embedding collaboration into governance structures can ensure a long-term sustained coordination beyond individual mandates or administrations. Over time this collaboration could provide greater scrutiny of national financial reforms that may be designed to circumvent fiscal rules.

A fourth policy implication of this thesis is that enhanced fiscal capacity at the EU level can mitigate political incentives to bypass fiscal rules by reducing reliance on national fiscal policies, enhancing enforcement and compliance, and facilitating macroeconomic stabilization. By establishing mechanisms for pooled fiscal resources and coordinated fiscal decision-making at the EU level, Member States may have less incentives to bypass fiscal rules through financial reforms at the national level. A stronger EU fiscal capacity can provide support to Member States facing fiscal challenges, reducing the pressure on individual governments to resort to risky financial maneuvers to meet fiscal objectives. An enhanced EU fiscal capacity can support measures to promote fiscal sustainability across Member States. By providing resources and incentives for sound fiscal policies, such as investment in productive sectors and structural reforms, the EU can reduce the temptation for politicians to resort to short-term financial engineering to achieve fiscal objectives. This can help shift the focus towards long-term fiscal stability and growth. A stronger EU fiscal capacity can enable more effective macroeconomic stabilization measures at the regional level. By having the ability to deploy fiscal stimulus or support during economic downturns, the EU can reduce the need for Member States to resort to risky financial reforms to address fiscal challenges in isolation. This can help prevent destabilizing financial practices driven by political imperatives.

Finally, this thesis has important policy implications regarding the welfare state, as it emphasizes the need for a reevaluation of the current approach to welfare provision

and fiscal policy. Governments should reconsider the heavy reliance on private credit and asset-based welfare models, which have proven unsustainable and inequitable in the long term. Instead, there is a strong case for restoring more direct public welfare provisions and strengthening social safety nets to reduce the dependence on private debt for essential services like housing, education, and healthcare. Fiscal frameworks must be recalibrated to ensure that governments can maintain robust welfare systems without resorting to financial market mechanisms that increase household indebtedness and financial instability. Moreover, international coordination is necessary to mitigate the constraints imposed by global financial markets and ensure that welfare policies can adapt to the interconnectedness of national economies. Overall, a more balanced approach to fiscal sustainability one that prioritizes social welfare and long-term stability over short-term market efficiency should guide future policy reforms.

A. APPENDICES

A APPENDICES

A.1 Robustness checks

Table 14: Fiscal Rule Strength and Private Credit-to-GDP ratio

	Private Credit-to-GDP, log				Aggregate Private Credit-to-GDP, log			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	OLS, fe	OLS, fe	OLS, fe	OLS, fe	OLS, fe	OLS, fe	OLS, fe	OLS, fe
Fiscal Rule Strength Index, log	0.18**	0.20***	0.18***	0.18***	0.13*	0.14**	0.13**	0.12*
	(0.08)	(0.06)	(0.06)	(0.07)	(0.08)	(0.06)	(0.06)	(0.06)
GDP per capita, log	1.29***	1.34***	1.15***	1.13***	1.28***	1.29***	1.09***	1.07***
	(0.34)	(0.43)	(0.39)	(0.39)	(0.35)	(0.43)	(0.40)	(0.40)
Real Interest Rate, log		-0.03*	-0.04**	-0.03**		-0.03	-0.03*	-0.03
		(0.02)	(0.02)	(0.02)		(0.02)	(0.02)	(0.02)
Investment share of GDP, log			0.54***	0.53***			0.58***	0.56***
			(0.15)	(0.14)			(0.14)	(0.13)
Chinn-Ito Capital Openness, high=open				0.06				0.08*
Constant	-8.40**	-9.38**	-9.90**	(0.05)	-8.15**	-8.74**	-9.24**	(0.04)
	(3.19)	(4.18)	(3.83)	-9.78**	(3.29)	(4.24)	(3.84)	-9.13**
				(3.82)				(3.85)
Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Observations	767	535	535	526	741	512	512	503
***R*2**	0.52	0.43	0.46	0.48	0.50	0.38	0.43	0.45
$\hat{\sigma}$	0.22	0.19	0.18	0.18	0.22	0.19	0.18	0.18
Country FE	✓	✓	✓	✓	✓	✓	✓	✓
# Countries	73	64	64	63	72	62	62	61

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

Table 15: Number of Fiscal Rules and Private Credit-to-GDP ratio

	Private Credit-to-GDP, log				Aggregate Private Credit-to-GDP, log			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	OLS, fe	OLS, fe	OLS, fe	OLS, fe	OLS, fe	OLS, fe	OLS, fe	OLS, fe
Number of Fiscal Rules, log	0.17**	0.16**	0.14**	0.13*	0.13	0.11*	0.09	0.08
	(0.09)	(0.07)	(0.07)	(0.07)	(0.08)	(0.06)	(0.06)	(0.06)
GDP per capita, log	1.32***	1.37***	1.18***	1.17***	1.30***	1.31***	1.11***	1.10***
	(0.35)	(0.44)	(0.40)	(0.40)	(0.36)	(0.45)	(0.41)	(0.41)
Real Interest Rate, log		-0.03*	-0.04**	-0.03**		-0.03	-0.03*	-0.03
		(0.02)	(0.02)	(0.02)		(0.02)	(0.02)	(0.02)
Investment share of GDP, log			0.54***	0.53***			0.58***	0.56***
			(0.15)	(0.14)			(0.14)	(0.13)
Chinn-Ito Capital Openness, high=open				0.06				0.08*
				(0.05)				(0.04)
Constant	-8.33**	-9.30**	-9.85**	-9.77**	-8.09**	-8.70*	-9.24**	-9.18**
	(3.32)	(4.32)	(3.97)	(3.95)	(3.41)	(4.37)	(3.96)	(3.95)
Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Observations	767	535	535	526	741	512	512	503
***R*2**	0.52	0.41	0.45	0.46	0.50	0.37	0.42	0.44
$\hat{\sigma}$	0.22	0.19	0.18	0.18	0.22	0.19	0.18	0.18
Country FE	✓	✓	✓	✓	✓	✓	✓	✓
# Countries	73	64	64	63	72	62	62	61

Standard errors (robust) in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 16: Fiscal Rule Strength and Private Real Credit

	Private Real Credit, log				Aggregate Private Real Credit, log			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	OLS, fe	OLS, fe	OLS, fe	OLS, fe	OLS, fe	OLS, fe	OLS, fe	OLS, fe
Fiscal Rule Strength Index, log	0.17**	0.19***	0.18***	0.17**	0.13	0.15**	0.14**	0.15**
	(0.08)	(0.06)	(0.06)	(0.07)	(0.08)	(0.06)	(0.06)	(0.06)
GDP per capita, log	2.05***	2.19***	2.05***	2.04***	1.85***	2.00***	1.95***	1.95***
	(0.39)	(0.48)	(0.44)	(0.44)	(0.42)	(0.44)	(0.43)	(0.44)
Real Interest Rate, log		-0.03*	-0.04**	-0.04**		-0.02	-0.02	-0.02
		(0.02)	(0.02)	(0.02)		(0.02)	(0.02)	(0.02)
Investment share of GDP, log			0.43***	0.41***			0.12	0.12
			(0.15)	(0.14)			(0.16)	(0.16)
Chinn-Ito Capital Openness, high=open				0.08*				0.03
				(0.04)				(0.02)
Constant	8.25**	6.23	5.73	5.94	10.51***	8.59**	8.45**	8.55**
	(3.64)	(4.63)	(4.38)	(4.35)	(3.96)	(4.28)	(4.19)	(4.19)
Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Observations	787	540	540	531	749	508	508	499
*R*2	0.72	0.68	0.70	0.71	0.72	0.70	0.71	0.71
$\hat{\sigma}$	0.23	0.20	0.19	0.19	0.22	0.17	0.17	0.17
Country FE	✓	✓	✓	✓	✓	✓	✓	✓
# Countries	73	64	64	63	70	61	61	60

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

Table 17: Number of Fiscal Rules and Private Real Credit

	Private Real Credit, log				Aggregate Private Real Credit, log			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	OLS, fe	OLS, fe	OLS, fe	OLS, fe	OLS, fe	OLS, fe	OLS, fe	OLS, fe
Number of Fiscal Rules, log	0.16*	0.15**	0.14*	0.12	0.12	0.12*	0.12*	0.12*
	(0.08)	(0.07)	(0.07)	(0.07)	(0.08)	(0.07)	(0.07)	(0.07)
GDP per capita, log	2.08***	2.23***	2.09***	2.07***	1.88***	2.02***	1.98***	1.97***
	(0.40)	(0.49)	(0.45)	(0.45)	(0.43)	(0.45)	(0.44)	(0.44)
Real Interest Rate, log		-0.03*	-0.04**	-0.04**		-0.02	-0.02	-0.02
		(0.02)	(0.02)	(0.02)		(0.02)	(0.02)	(0.02)
Investment share of GDP, log			0.43***	0.41***			0.12	0.12
			(0.15)	(0.14)			(0.16)	(0.16)
Chinn-Ito Capital Openness, high=open				0.08*				0.02
				(0.04)				(0.02)
Constant	8.29**	6.28	5.75	5.91	10.54**	8.65*	8.51*	8.60**
	(3.75)	(4.77)	(4.52)	(4.47)	(4.03)	(4.38)	(4.29)	(4.29)
Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Observations	787	540	540	531	749	508	508	499
***R*2**	0.72	0.68	0.69	0.70	0.72	0.70	0.70	0.70
$\hat{\sigma}$	0.23	0.20	0.20	0.19	0.22	0.17	0.17	0.17
Country FE	✓	✓	✓	✓	✓	✓	✓	✓
# Countries	73	64	64	63	70	61	61	60

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

Table 18: Fiscal Rules and Household Debt

	Household Debt, log							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	OLS, fe	OLS, fe	OLS, fe	OLS, fe	OLS, fe	OLS, fe	OLS, fe	OLS, fe
Fiscal Rule Strength Index, log	0.10	0.08	0.09	0.08				
	(0.06)	(0.08)	(0.06)	(0.06)				
GDP per capita, log	2.49***	2.41***	2.35***	2.41***	2.56***	2.53***	2.51***	2.56***
	(0.46)	(0.83)	(0.84)	(0.82)	(0.48)	(0.86)	(0.86)	(0.84)
Real Interest Rate, log		-0.01	-0.01	-0.01		-0.00	-0.01	-0.01
		(0.02)	(0.02)	(0.02)		(0.02)	(0.02)	(0.02)
Gov credit/GDP ratio, log			0.02	0.02			0.03	0.02
			(0.02)	(0.02)			(0.03)	(0.02)
Chinn-Ito Capital Openness, high=open				-0.07				-0.07
				(0.08)				(0.08)
Number of Fiscal Rules, log					0.07	0.03	0.03	0.02
					(0.07)	(0.07)	(0.07)	(0.06)
Constant	-21.00***	-20.19**	-19.62**	-20.06**	-21.51***	-21.20**	-20.99**	-21.39**
	(4.69)	(8.58)	(8.62)	(8.44)	(4.93)	(8.83)	(8.84)	(8.62)
Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Observations	341	236	217	217	341	236	217	217
***R*2**	0.82	0.80	0.81	0.81	0.82	0.79	0.81	0.81
$\hat{\sigma}$	0.12	0.11	0.11	0.10	0.12	0.11	0.11	0.11
Country FE	✓	✓	✓	✓	✓	✓	✓	✓
# Countries	28	27	27	27	27	27	27	27

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

Table 19: Fiscal Rules and Private Credit-to-GDP ratio (time trend)

	Private Credit-to-GDP, log				Aggregate Private Credit-to-GDP, log			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	OLS, fe	OLS, fe	OLS, fe	OLS, fe	OLS, fe	OLS, fe	OLS, fe	OLS, fe
Fiscal Rule Strength Index, log	0.21***	0.19***			0.15**	0.12**		
	(0.07)	(0.07)			(0.07)	(0.06)		
GDP growth rate	-0.01		-0.01		-0.00		-0.01	
	(0.00)		(0.00)		(0.00)		(0.00)	
Real Interest Rate, log	-0.04*	-0.02	-0.04*	-0.02	-0.03	-0.01	-0.03	-0.01
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Investment share of GDP, log	0.41**	0.28	0.41**	0.28	0.44**	0.30*	0.45**	0.30*
	(0.19)	(0.17)	(0.19)	(0.18)	(0.19)	(0.18)	(0.19)	(0.18)
Chinn-Ito Capital Openness, high=open	0.08*	0.07	0.08*	0.07	0.08*	0.08*	0.09*	0.08*
GDP per capita, log	(0.04)	(0.04)	(0.04)	(0.05)	(0.04)	(0.04)	(0.04)	(0.04)
		1.10***		1.13***		1.07**		1.10**
		(0.40)		(0.41)		(0.42)		(0.43)
Number of Fiscal Rules, log			0.16*	0.14*			0.10	0.08
			(0.08)	(0.08)			(0.07)	(0.07)
Constant	1.37*	-8.15**	1.74**	-8.08**	1.38*	-7.85**	1.62**	-7.84**
	(0.71)	(3.63)	(0.73)	(3.76)	(0.74)	(3.75)	(0.75)	(3.85)
Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Observations	526	526	526	526	503	503	503	503
***R*2**	0.34	0.40	0.32	0.38	0.32	0.38	0.31	0.38
$\hat{\sigma}$	0.20	0.19	0.20	0.19	0.19	0.18	0.19	0.18
Country FE	✓	✓	✓	✓	✓	✓	✓	✓
# Countries	63	63	63	63	61	61	61	61

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

Table 20: Fiscal Rules and Real Credit (time trend)

	Private Real Credit, log				Aggregate Private Real Credit, log			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	OLS, fe	OLS, fe	OLS, fe	OLS, fe	OLS, fe	OLS, fe	OLS, fe	OLS, fe
Fiscal Rule Strength Index, log	0.24***	0.18***			0.19**	0.14**		
	(0.08)	(0.06)			(0.08)	(0.06)		
GDP growth rate	0.00		0.00		0.00		-0.00	
	(0.00)		(0.00)		(0.00)		(0.00)	
Real Interest Rate, log	-0.06***	-0.03**	-0.06***	-0.03**	-0.04*	-0.02	-0.04*	-0.02
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Investment share of GDP, log	0.47**	0.24	0.48**	0.24	0.32*	0.07	0.33*	0.07
	(0.21)	(0.18)	(0.21)	(0.18)	(0.18)	(0.15)	(0.18)	(0.15)
Chinn-Ito Capital Openness, high=open	0.10**	0.10**	0.10**	0.10**	0.03	0.03	0.03	0.03
GDP per capita, log	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.02)	(0.03)	(0.02)
Number of Fiscal Rules, log		1.97***	0.18**	2.00***		1.90***	0.16**	1.92***
		(0.43)		(0.44)		(0.42)		(0.43)
				0.12*				0.11*
Constant			(0.09)	(0.07)			(0.08)	(0.06)
	24.09***	7.09*	24.51***	7.14*	25.22***	8.94**	25.55***	9.02**
	(0.77)	(3.87)	(0.79)	(3.98)	(0.70)	(3.73)	(0.70)	(3.81)
Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Observations	531	531	531	531	499	499	499	499
***R*2**	0.58	0.68	0.57	0.67	0.57	0.69	0.57	0.69
$\hat{\sigma}$	0.23	0.20	0.23	0.20	0.20	0.17	0.21	0.17
Country FE	✓	✓	✓	✓	✓	✓	✓	✓
# Countries	63	63	63	63	60	60	60	60

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

Table 21: Fiscal Rules and Household Debt (time trend)

	Household Debt, log			
	(1) OLS, fe	(2) OLS, fe	(3) OLS, fe	(4) OLS, fe
Fiscal Rule Strength Index, log	0.33**		0.13*	
	(0.14)		(0.07)	
GDP growth rate	-0.02***	-0.02**		
	(0.01)	(0.01)		
Real Interest Rate, log	-0.03	-0.03	-0.00	0.00
	(0.02)	(0.02)	(0.02)	(0.02)
Gov credit/GDP ratio, log	-0.03	-0.02	0.03	0.03
	(0.03)	(0.03)	(0.02)	(0.03)
Chinn-Ito Capital Openness, high=open	0.12*	0.11*	-0.04	-0.05
	(0.06)	(0.06)	(0.08)	(0.09)
Number of Fiscal Rules, log		0.26*		0.08
		(0.14)		(0.08)
GDP per capita, log			2.09**	2.23**
			(0.87)	(0.91)
Constant	2.97***	3.64***	-17.16*	-18.26*
	(0.48)	(0.29)	(8.50)	(8.94)
Year FE	✓	✓	✓	✓
Observations	217	217	217	217
***R*2**	0.67	0.65	0.77	0.76
$\hat{\sigma}$	0.13	0.14	0.11	0.11
Country FE	✓	✓	✓	✓
# Countries	27	27	27	27

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

Table 22: Fiscal Rules and Financial Liberalisation Index (time trend)

	Financial Liberalization Index, log							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	OLS, fe	OLS, fe	OLS, fe	OLS, fe	OLS, fe	OLS, fe	OLS, fe	OLS, fe
Fiscal Rule Strength Index, log	0.0146	0.0175**	0.0140	0.0174**				
	(0.01)	(0.01)	(0.01)	(0.01)				
GDP growth rate	0.0032***		0.0040***		0.0033***		0.0041***	
	(0.00)		(0.00)		(0.00)		(0.00)	
Population, log	0.1812	0.2415	0.1366	0.2201	0.1683	0.2247	0.1212	0.2005
	(0.23)	(0.22)	(0.23)	(0.22)	(0.23)	(0.22)	(0.23)	(0.23)
Systemic Banking Crisis	0.0112	0.0139			0.0140	0.0173*		
	(0.01)	(0.01)			(0.01)	(0.01)		
GDP per Capita, PPP (Constant International USD)		-0.0000		-0.0000		-0.0000		0.0000
		(0.00)		(0.00)		(0.00)		(0.00)
Total trade (percentage of GDP)			-0.0007	-0.0003			-0.0007	-0.0003
			(0.00)	(0.00)			(0.00)	(0.00)
Number of Fiscal Rules, log					0.0120	0.0138	0.0109	0.0133
					(0.01)	(0.01)	(0.01)	(0.01)
Constant	0.0814	-0.8853	0.8476	-0.5264	0.3215	-0.5776	1.1267	-0.1734
	(3.71)	(3.62)	(3.69)	(3.65)	(3.71)	(3.64)	(3.73)	(3.70)
Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Observations	205	206	205	206	205	206	205	206
***R*2**	0.11	0.07	0.14	0.07	0.11	0.06	0.14	0.06
$\hat{\sigma}$	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Country FE	✓	✓	✓	✓	✓	✓	✓	✓
# Countries	27	27	27	27	27	27	27	27

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

A.2 Descriptive statistics

Table 23: Descriptive statistics

Variable	Mean	Std. Dev.	Min.	Max.	N
Log of Credit to GDP ratio	3.099	0.986	-0.692	5.645	6043
Log of Aggregate Credit to GDP ratio	3.171	1.004	-0.692	5.645	5680
Log of Real Credit	25.091	3.452	15.821	35.753	6566
Log of Aggregate Real Credit	25.359	3.464	16.395	35.999	6087
Log of Household Debt	4.512	0.75	1.984	5.827	466
Financial Liberalisation Index, log	2.758	0.355	1.792	3.219	1453
Fiscal Rule Strength Index, log	2.407	0.613	0.693	3.555	927
Number of Fiscal Rules, log	0.654	0.462	0	1.609	926
GDP growth rate	3.959	6.167	-51.031	106.28	6398
GDP per capita, log	8.529	1.264	4.614	11.722	4632
GDP per Capita, PPP (Constant International USD)	10181.394	12188.951	100.886	123262.99	4632
Real Interest Rate, log	1.853	0.974	-4.916	6.672	3274
Gov credit/GDP ratio, log	1.118	1.683	-9.938	4.768	5747
Investment share of GDP, log	4.098	0.544	1.359	9.686	6891
Chinn-Ito Capital Openness, high=open	0.046	1.532	-1.864	2.439	5646
Population, log	15.482	1.91	10.6	21.014	7113
Systemic Banking Crisis	0.094	0.292	0	1	4670
Total trade (percentage of GDP)	75.290	47.072	0.309	460.471	6379

A.3 Detailed data description

Table 24: Variable description

Variables	Description and source
Fiscal rule strength index	This is a continuous variable that provides information on the strength of fiscal rules in country *i* at time *t* (higher values of the index imply a stronger fiscal rule). The IMF Fiscal Rule dataset (Schaechter et al., 2012b) contains information types of rule (Expenditure, Revenue, Budget Balance, and/or Debt) and characteristics (i.e., institutional dimensions) of rules. Following the methodology by Schaechter et al. (2012), I aggregate the following dimensions of fiscal rules in country *i* at time *t* to generate a fiscal rule strength index: i) independent body sets budget assumptions and monitors implementation; ii) fiscal responsibility law in place; iii) multi-year expenditure ceilings; iv) enforcement procedure; v) type of coverage; and vi) legal basis. These six institutional dimensions are dummies where 1 means a stronger institutional framework in place. Source: IMF Fiscal Rules Dataset (Schaechter et al., 2012b).
Number of fiscal rules	Used as independent variable to conduct robustness checks. This variable is constructed by adding the number of fiscal rules in place for a given country and year. Source: IMF Fiscal Rules Dataset (Schaechter et al., 2012b).
Financial liberalisation index	For purposes of the empirical analysis, the index is modified (factors which are not related to deregulation are taken out of the indicator) and used as a proxy for political agency. The financial reform index by Abiad et al. (2010) index is built on a cross-country database of financial reforms spanning for 91 countries between 1975 to 2005, and covers seven areas of financial reforms: (i) credit controls and excessively high reserve requirement, (ii) interest rate controls, (iii) entry barriers, (iv) state ownership of banks in the financial sector, (v) financial account restrictions, (vi) prudential regulations and supervision of the banking sector, and (vii) securities market policy. Each area has underlying questions, which are scored (0,1,2) based on the answers. Then the raw scores of the underlying questions are added and coded as follows: Fully Liberalized = [4 or 5 depending on the number of underlying answers], Largely Liberalized = [3], Partially Repressed = [1,2], Fully Repressed= [0]. A raw score is first assigned to each dimension, on different scales. Next, each raw score is normalized between 0 and 3. Source: Abiad et al. (2010).

Variables	Description and source
Private credit to GDP and Real private credit (extended by the banking sector)	Real private credit (bank) is line 22d in the IMF International Financial Statistics (IFS). Real GDP is taken from the World Bank's World Development Indicators (WDI)). Private Credit to GDP variable is constructed by dividing real private credit (bank) by the country's real GDP in the same year. Source: World Bank's World Development Indicators (WDI) and IMF International Financial Statistics.
Aggregate private credit to GDP and Aggregate real private credit (extended by the banking sector and by the non-bank sector)	Aggregate real private credit (bank and non-bank) is line 42d in the IMF International Financial Statistics (IFS). Real GDP is taken from the World Bank's World Development Indicators (WDI)). Private Aggregate Credit to GDP is constructed by dividing real private aggregate credit (bank credit plus non-bank credit) by the country's real GDP in the same year. If aggregate private credit has less than 10 years of observations, I replace the row with line 22d. Missing values are interpolated as long as there are no more than two years missing. Exceptions to this are Congo, Morocco, and Tunisia. Real private credit (bank and non-bank) is line 42d in the IMF International Financial Statistics (IFS). Real private credit (bank) is line 22d in the IMF International Financial Statistics (IFS). Source: World Bank's World Development Indicators (WDI) and IMF International Financial Statistics.
Household Debt	Defined as "all liabilities that require payment or payments of interest or principal by household to the creditor at a date or dates in the future. Consequently, all debt instruments are liabilities, but some liabilities such as shares, equity and financial derivatives are not considered as debt. According to the 1993 System of National Accounts, debt is thus obtained as the sum of the following liability categories, whenever available/applicable in the financial balance sheet of the households and non-profit institutions serving households sector, such as: currency and deposits; securities other than shares, except financial derivatives; loans; insurance technical reserves; and other accounts payable. For households, liabilities predominantly consist of loans, in particular mortgage loans for the purchase of houses. This indicator is measured as a percentage of Net Disposable Income. Data are under System of National Accounts (SNA 1993) for all countries except for Australia and United States (SNA 2008)." Source: OECD.
Real GDP growth rate	Annual percentage growth rate of GDP at market prices based on constant local currency. Aggregates are based on constant 2005 U.S. dollars. Source: World Development Indicators (World Bank).
Real GDP per capita	I take the nominal GDP in current local currency units from the World Development Indicators (WDI) and deflate the series with the GDP deflator. I take 2005 as the base year and take the log across the series. Source: International Financial Statistics line 99b (International Monetary Fund) and World Development Indicators (World Bank).

Variables	Description and source
Real interest rates	The nominal interest rate adjusted for inflation. It reflects the cost of borrowing or the return on investment after accounting for changes in the price level. Source: International Financial Statistics (International Monetary Fund).
Government credit to GDP ratio	Measures the proportion of government credit or debt relative to the country's GDP. This variable indicates the size of the government's borrowing relative to the economy's overall output. Source: International Financial Statistics (International Monetary Fund).
Investment (percentage of GDP)	The ratio of total gross fixed capital formation to GDP. This measure is used to gauge the level of investment relative to the size of the economy. Includes the total value of new and replacement investments in physical assets such as buildings, machinery, and infrastructure. It represents the net increase in an economy's capital stock. Source: International Financial Statistics (International Monetary Fund).
Chinn-Ito Capital Openness	Measures a country's degree of capital account (financial) openness (Chinn and Ito, 2008). I use the corrected version of the index (Karcher and Steinberg, 2013). Source: Chinn and Ito (2008); Karcher and Steinberg (2013).
Total trade (percentage of GDP)	The sum of exports and imports of goods and services as a percentage of GDP. This measure reflects the openness of an economy and its integration into the global market. Source: World Development Indicators (World Bank).
Population	The total number of people living in a country at a specific point in time (annual figures). Source: World Development Indicators (World Bank).
Systemic Banking Crisis	This variable is defined as a dummy, taking the value of 1 in years where a systemic banking crisis is ongoing and 0 otherwise. Source: Valencia and Laeven (2012).

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