

Finance and labour in an age of inequality

A study of the impact of financialization and labour unions on income inequality in 27 OECD nations, 1975 - 2014

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Thesis submitted for the degree of
Master in Political Science
(29.111 words)

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UNIVERSITY OF OSLO

Spring 2018

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Printed: CopyCat Skøyen

Abstract

Income inequality has risen in most OECD countries since the 1970s. In the same period, the economy has become more financialized both as an accumulative property and as a corporate strategy. Meanwhile, labour unions have become less significant in industrial relations and political decision-making. In this thesis, I study whether there might be a connection between these developments. The research question sounds: To what degree does financialization affect income inequality, and does this effect decrease under conditions of higher labour union strength?

I use power resources theory to hypothesize on how labour unions and financialization affect income inequality. The theory assumes that power differences between social classes allows income to be concentrated among capital owners and labour. Further, I explain how financialization ought to benefit capital owners, while union organization ought to benefit labour.

To investigate the research question, I apply a fixed effects model and study a sample of 27 OECD nations over a period from 1975 to 2014. I find that financialization conceptualized in its broadest form, as an accumulative property, does increase income inequality to some degree. The more narrow conceptualisation, as a corporate strategy, is not directly linked to income inequality. I also find that labour union strength often reduces the effect that financialization has on income inequality. Thus, my study finds that although financialization to some degree concentrates income among a few, countries with strong labour unions are less affected by this development.

Preface

It has been an experience to complete the large project of writing a master's thesis. I have learned a lot during the process. Not only have I become accustomed within many literatures, but I have also seen first hand how a steady amount of effort will eventually add up to a finished product. It has been inspiring, and I hope to experience it again sometime.

Upon completing this project, I would like to thank my two supervisors, Carl Henrik Knutsen and Magnus Bergli Rasmussen, for sharing their knowledge and experience with me. Without their guidance, I could easily have gotten lost in the complexity of the thesis. I am also grateful to my dear friend, Kaia, for proof-reading and for helping me make the text accessible and readable.

Thank you also to my family and friends. You never cease to provide great inspiration, and I am grateful for having you in my life. Last, to my dearest Lasse, thank you for your patience, support and encouragement – but most of all, thank you for insisting that I relax sometimes as well.

The content in this thesis is mine, including any errors.

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1 Introduction

On the 17th of September 2011, a group of protesters mobilized in Zuccotti Park on Wall Street to demonstrate their dissatisfaction with the growing income gap between the super rich and the rest of the population. News of the demonstration spread quickly, and so did its main political slogan – “we are the 99 %”. Their slogan condemned the increased concentration of income going to the top 1 % of the population. These Wall Street protests inspired an international campaign against increased economic inequality and a democratic failure to address the issue. The “Occupy Movement”, as the campaign came to be known, led thousands of people all over the world to organize and protest against a new perceived enemy; growing economic differences (Rogers, 2011).

The Occupy Movement ebbed out by the end of 2011, but issues related to economic differences had become an important issue. Income inequality has grown persistently in the last decades in developing and developed countries alike. Today, the richest 10 % of the population in OECD countries earns nearly ten times more than the poorest 10 %. This is a seven-fold increase from the earnings dispersion in the 1980s (Keeley, 2015). The Occupy Movement appears to have sparked a lasting interest on the issue. In 2013, the French economist Thomas Piketty published a 700 pages long book on economic inequality. Despite its size and technical language, the book managed to engage a huge number of readers. In July 2014, “Capital in the Twenty First Century” reached the number 1 on Amazon’s bestseller list (Moore, 2014).

Widespread public interest has inspired lots of research, but scholars have found it difficult to pinpoint the exact causes of the widening of the income gap in industrialized countries. In this thesis, I will contribute to the literature on income inequality by turning my attention to two variables of interest; financialization and union strength. Both of these variables have seen notable changes in the post-war years, when income inequality was on the rise. While many OECD economies have become more financialized, labour unions in many countries have lost members. Thus, my argument is twofold. First, I argue that financialization – broadly understood as a shift from production-oriented growth to finance-oriented growth (Krippner, 2011) – has contributed to increasing income inequality. In short, the argument holds that increasing returns to finance has allowed for a more exclusive economic growth, which benefits fewer, and more unstable growth, which possibly harms more. This way, financialization is assumed to concentrate income in a few hands.

The second argument pertains to the role of labour unions. While financial openness has allowed for a spectacular mobility in capital, labour is yet to a large degree confined by territorial borders and human capital. A low skilled worker with few migration options has a harder time negotiating his interests with an employer than an investment banker who could transfer wealth by the click of a button. This creates a power asymmetry between labour and capital that, by assumption, should make union organizing and collective bargaining even more important. In the presence of strong labour unions and bargaining institutions, the effect of financialization on income inequality should assumedly be less pronounced. This leads me to my research question: *To what degree does financialization affect income inequality, and does this effect decrease under conditions of higher labour union strength?*

To answer this question, I study a sample of 27 OECD nations from 1975 to 2014. Limiting the sample to OECD nations allows for better comparability across industrialized nations, and it eases data access. The chosen time period is also of substantial interest. As I will show below, the years 1975-2014 captures a clear rise in income inequality, increasing financialization and declining union density. It is thus interesting to study the dynamic between these variables in the chosen period. My study indicates that financialization might be one of the driving forces behind increased income inequality. Increased circulation of credit in the economy is significantly associated with an increase in the income gap between the top 1 % and the rest of the population, and in the Gini coefficient. I also find that labour unions still play an important role in evening out income differences in an era of financialization. This effects holds despite unions' lowered capacities.

The remains of this thesis will be structured as follows. First, in section 1.1, I briefly present the historical background and ideological shift that scholars often refer to when they contextualize trends in income inequality, financialization or labour union strength. This ideological shift is commonly known as the shift to neoliberalism (Munck, 2005), and although this thesis can hardly do full justice to the complexity of this ideological shift, a short introductory note on what it means will hopefully better equip to reader to follow up on the next section. In section 2, I present the concepts of the three main variables, financialization, labour unions and income inequality, in turn. Since each variable is rather complex with a large background literature, each receive their own subsection where I first explain how the concept is defined, followed by an overview on how they have changed over the relevant years for this thesis – from the 1970s to today.

The interrelation between the variables is outlined in section 3. In section 3.1 I use power resources theory to clarify how financialization might affect income inequality by concentrating resources among a a rentier class, and how this process may (or may not) be modified by labour union strength. The theory takes power asymmetries into account, and in this section, I argue that labour unions may have lost power to influence the income distribution due to their declining membership numbers, lack of influence in the formation of social pacts and more constrained access to social democratic parties. If the reasoning in section 3.1 holds true, it does not matter much whether a country has strong unions and bargaining institutions – financialization will still exert the same effect on income inequality. I outline the exact anticipated relationships in section 3.2 and 3.3. Here, I draw on section 1.1, 2 and 3.1 to set the three variables in context of each other and formulate hypotheses on how they presumably link together. Hypothesis 1 and 2 assume that financialization should exert a positive effect on income inequality, both on its broadest level and on its more narrow level. Hypothesis 3 states that this effect ought to decrease under conditions of higher labour union strength.

The next part of the thesis is dedicated to the empirical study of financialization's effect on income inequality and the modifying effect of labour unions. Under section 4, I first present operationalizations of the variables, structured the same way as section 2 on concepts. I also present some control variables. Section 4.5 discusses the fixed effects methodological approach used in the thesis. Then, in section 5, I investigate

the hypotheses formulated in section 3.2 and 3.3. In the first part of the analysis, I study the effect of financialization on income inequality. I find support for hypothesis 1, that financialization conceptualized in its broadest form (measured as credit expansion) is indeed associated with more income inequality. The more limited concept of financialization (stock liquidity and stock capitalization) is less robustly linked to income inequality. The effect of this measure could not be distinctly separated from other global trends among OECD countries, causing me to reject hypothesis 2. In the second part of the analysis, I find that union strength exerts an overall negative effect on the link between financialization and income inequality. Hypothesis 3 therefore receives some support. Last, in section 6, I conclude the thesis and make some brief notes on the way forward.

1.1 Ideological and historical background

1.1.1 The rise of neoliberalism

Every social development happens within a framework of ideas. Social and political outcomes are not only consequences of natural forces, they are also a product of intentions, strategizing and beliefs. In political economy, one of the ideological frameworks that possibly mould these beliefs is the shift in political orientation towards neoliberalism. The literature on financialization often intertwine with the literature on neoliberalism – sometimes they are even confused with each other (Van der Zwan, 2014, p. 104). Yet, an important difference is that while financialization refers to a new way of accumulating value¹, neoliberalism is an ideological framework focused on ethics of competition and policy ideas (Belfrage & Kallifatides, 2018).

The exact emergence of the neoliberalist ideology is hard to pinpoint, but most date the rise of neoliberalism to the 1980s (Munck, 2005). Neoliberalism can be defined as an increased reliance on "market-based economic institutions and [a] willing[ness] to use exposure to the market ideology as a means of disciplining the population" (Ravenhill, 2014). The neoliberalist shift can thus explain the ideological framework that facilitated deregulation of capital flow and a decline in union-state collaboration. Deregulation and reduced union-state collaboration have both been cited as possible drivers behind increasing income inequality (Pontusson, 2013; Hyde, Vachon & Wallace, 2017; Alvarez, 2015; Darcillon, 2015).

Arguably, one of the defining features of neoliberalism is the retreat of the government from functions such as lending support to unions, regulating business, controlling finance and building social welfare programs. For the sake of clarification, one can contrast neoliberalism with its predecessor, "Keynesianis", which refers to a political orientation that became popular in Europe and the U.S. in the immediate post-war years. Within the Keynesian ideological framework, governments were expected to regulate financial markets, adjust the pace of growth and sustain employment levels. A consequence of the Keynesian approach was that economic growth would be monitored and restrained. Investment and growth would be kept in check, but so would the level of income inequality (Munck, 2005).

¹More on what this means follows in section 2.1.1.

The postwar years of government activism were accompanied by prosperity, lending inherent legitimacy to the Keynesian idea. However, in the late 1960s, the economy in the US and Europe became increasingly unstable (Crotty, 2005). Two OPEC oil price shocks, excessive debt build-up in the Third World and the fall of the Bretton Wood fixed exchange rate system gave rise to new pressure groups demanding less regulatory power to national government (Crotty, 2005, p. 77). The neoliberalist advocates argued that a large bureaucracy was meaningless if the market forces could allocate resources just as well. According to the neoliberalist idea, the market's supply and demand function would ensure that productive factors are paid what they are worth, thus removing the need for welfare institutions or trade unions (Munck, 2005).

1.1.2 Depoliticization

While neoliberalism refers to a framework of thought that can be used to explain decision making, depoliticization refers to a mechanism used to realize the neoliberalist ideal. We have seen that neoliberalism is a political ideology that stresses market dynamics. Neoliberalists believe that the distribution of resources is more fairly and effectively allocated through the price mechanism than through political governing. To achieve these ideas, depoliticization can become an attractive solution. The term "depoliticization" refers to "the process of disentangl[ing] [...] the state apparatus from direct management of the aspects of the economy" (Bonefeld, Brown & Burnham, 1995). An example of such distancing of the state from the market is to define problems of inflation as a technical economic question rather than a question of competing demands from groups in society (Fairbrother & Rainnie, 2007, p. 3). Ravenhill (2014) has stressed that neoliberalism "is often closely associated with policies of privatization and the retreat of the state from prominence in economic affairs". Thus, under the influence of neoliberalist thought processes, new depoliticized tools such as privatization were introduced, allegedly redefining political problems into economic issues (Fairbrother & Rainnie, 2007).

Understanding what depoliticization is and what it has to do with neoliberalism is important to understand the account in section 2 on why financialization has come to prominence, why labour unions have lost members, and in turn, why income inequality has risen. There are, of course, several reasons why these developments took place, but especially for political scientists, questioning the role of the state often comes naturally. Analytically, depoliticization means that scholars separate the role of the market from the state, viewing their effects as external and separate rather than in connection (Fairbrother & Rainnie, 2007). When distributional issues are left to market dynamics, the state is assumed not to bear any responsibility for the outcome.

Depoliticization can be used as a tool by politicians to enact unpopular policies by referring to market-based solutions as apolitical (Krippner, 2011). Yet, no allocation mechanism is free from influence, and neither is the price mechanism. For the price mechanism to work flawlessly, a number of acknowledged, but unrealistic, conditions need to be met, such as perfect information, no transaction costs and homogenous

products. When workers call for increased protectionism from the government to defend jobs from being made redundant by international capital (Owen & Johnston, 2017), what they arguably wish for is a more politicized allocation of resources. As Bryan (2000, p.5) points out:

”In a world of international mobility (and pricing) of capital and commodities, national costs come down predominantly to labor as the economic factor which, by its relative immobility internationally, is the one most imbued with the characteristics of ‘nationality’. Labor costs become the key to national success.

They also become the zone of sacrifice in order to achieve that success.”

With the above section, we can see the contours of how depoliticization might affect the allocation of power resources. While an active government allows labour unions power through corporate negotiations and social pacts, financial actors are assumed to more often thrive when capital flows are deregulated and credit flourishes. Given diverging interests on how growth should be distributed, this asymmetry of power should indeed have an effect on the income distribution. I will return the argument of power resources in section 3.1. However, before I turn to elaborate on power resources theory, a clarification of the three main concepts involved in the thesis is in order.

2 Concepts

2.1 Financialization

Despite its popular use, most scholars recognize the difficulty of pinning the concept of financialization down to one simple definition (Aalbers, 2017). In this thesis, I will follow the practice of several scholars (e.g. Darcillon (2015); Cushen and Thompson (2016); Tomaskovic-Devey, Lin and Meyers (2015)) who make use of Van der Zwan (2014)’s division of financialization into three core concepts, (1) financialization as a regime of accumulation, (2) financialization as the rise of shareholder value, and (3) financialization of the daily life. Her classification scheme makes an attempt at sorting the rather chaotic state of the financialization literature by dividing the concept into three levels at which they can be studied. My time-series cross-sectional data has country-years as units, therefore, I employ only the first two understandings of financialization. In the following section, I discuss in more depth what financialization as a regime of accumulation and shareholder value means², followed by a brief historical review on the expansion of finance.

2.1.1 A regime of accumulation

When scholars discuss financialization in its broadest form, they often define the concept in terms of an increase in financial activities together with an increasing share of return to these activities. These definitions are consistent with financialization as a regime of accumulation.

²The last understanding of financialization - financialization of the daily life - refers to the prominence of the citizen investor and the democratization process of finance, exemplified by mortgage loans and pension plans (Van der Zwan, 2014).

One commonly used definition is given by Epstein (2005, p. 3), who defines financialization as "the increasing role of financial motives, financial markets, financial actors and financial institutions in the operation of the domestic and international economies." Here, focus lies on the build-up of financial activities and innovations in the financial markets. Innovation in financial activities is exemplified by the multitude of financial institutions that now accompany banks in the management of finance, such as pension funds, mortgage companies, private equity firms and hedge funds (Aalbers, 2017). The explosion in the market for derivatives³ illustrates the expansion in the market for financial instruments, which has risen from almost nothing in 1990 to a market of outstanding contracts adding up to 370 trillion dollars in 2006 (Aalbers, 2017). Yet another characteristic of financialization is the shift in employment patterns, where the percentage of the working population employed in FIRE business (finance, insurance, real estate) has increased markedly since 1970 (Hyde et al., 2017). The rise of finance is present in terms of both actors, instruments and methods.

Figures 1 and 2 below show the development for my main financialization variable, credit expansion. Several authors (e.g. Krippner (2011); Alvarez (2015); Hyde et al. (2017)) have noted how credit expansion importantly captures the concept of financialization⁴. Credit expansion indicates credit that is provided by financial institutions to the private sector within the country as a percentage of GDP⁵. It is also a measure of inflation accumulating within financial assets (Krippner, 2011). As shown in figure 1, there has been a steady rise in the average amount of credit extended to private sector as a percentage of GDP, with a peak in 2008, at the time of the financial crisis. For many countries the amount of credit extended as a percentage of GDP has clearly increased. For Nordic and liberal countries, this increase is particularly evident, rising from below 50 % in the 1970s to over 150 % before the financial crisis. Central European countries appear to be the most stable with regard to credit extended relative to GDP, but many of the presumably most stable countries have shorter time series, which means that an overall trend is harder to gauge for these countries.

³Derivatives are complex financial instruments designed to prescribe a market price to some underlying commodity, asset or event. The name "derivative" stems from the method in which the contracts that determine the price is derived from a price index, interest rate, exchange rate or event. Some examples of derivatives include options, futures, forwards and swaps (Dodd, 2005).

⁴A more comprehensive discussion on chosen variables, operationalizations and validity follows in section 4.

⁵Credit is extended from financial actors such as monetary authorities, deposit money banks, leasing companies, money lenders, insurance companies, pension funds and foreign exchange companies. It is directed at financial involvement such as giving loans, purchasing non-equity securities and administering trade credits (?, ?). It thus proxies increased activity from financial actors.

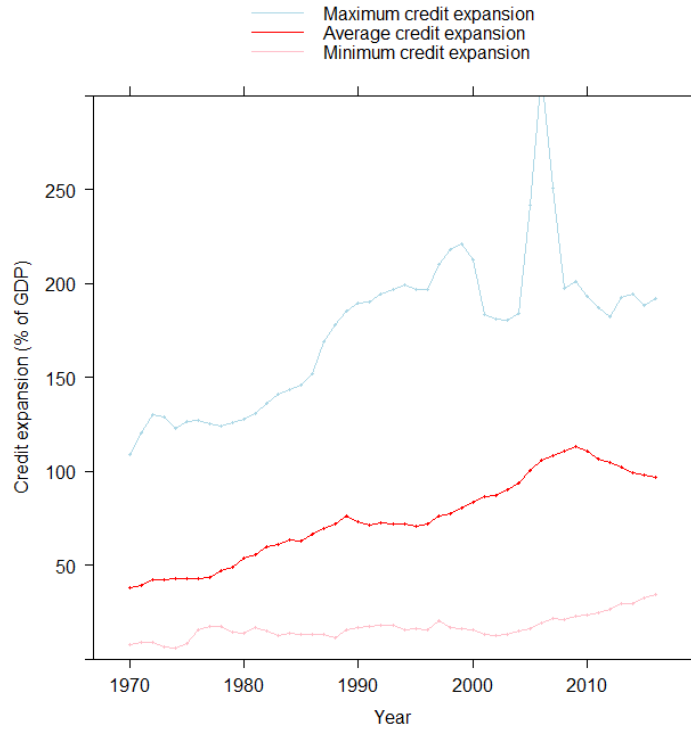


Figure 1: Aggregates for credit expansion, OECD countries.

Source: World Bank, IMF data and OECD Estimates.

Krippner (2011, p. 4) offers another widely used understanding of financialization, in which "profit making in the economy occur[s] increasingly through financial channels rather than through productive activities." By this definition, financialization refers to an increasing share of return that goes to financial activities. While Epstein (2005) defined financialization in terms of increased volume, activity and mobility in financial assets, Krippner (2011)'s focus is on value and profit generation. For Krippner, "financial" refers to the "provision (or transfer) of capital in expectation of future interest, dividend, or capital gains", while "productive" means "the range of activities involved in the production or trade of commodities".

Krippner (2011)'s specifications point to a crucial difference between financial and productive factors, namely how value is determined in the market. For productive commodities, the value of a product is determined by at the end of a production chain, by the price that a customer is willing to pay for that product. For financial factors, the value is always a future construct, determined by whether there is a general expectation that the value will increase or decrease. This allows for speculation in the market and is a source of instability⁶.

As firms face increasing returns to financial factors relative to productive factors, finance as a source of revenue has become more important to non-financial firms as well (Krippner, 2011; Epstein, Jayadev et al.,

⁶This change in how market actors perceive value – as a future quantity rather than a present exchange – is also fundamental for understanding why shareholder value has become a corporate strategy. Prices of corporate shares are severely influenced by expectations in the market, and an exciting announcement or seeing a large shareholder withdraw might be enough to make investments either overflow or dry up. I expand on the notion of shareholder value in section 2.1.2.

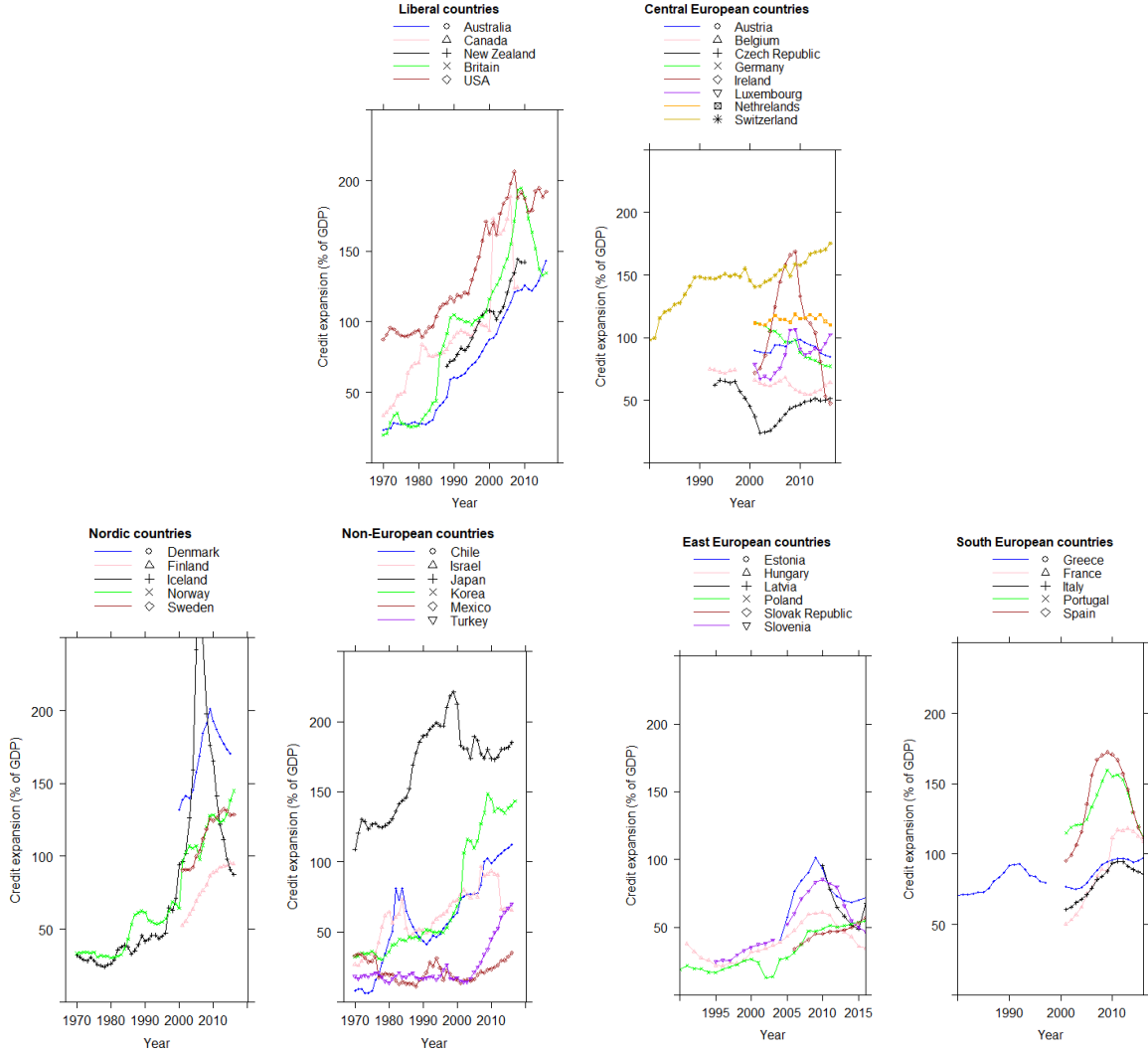


Figure 2: Credit expansion for OECD countries.

Source: World Bank, IMF data and OECD Estimates.

2005). Krippner (2011) uses U.S. data to show that the rate of portfolio income to cash flow⁷ has increased for non-financial firms in the period 1950 to 2001, with a particular rise in the 1980s, and especially among manufacturing firms. The case of General Electric is often given as an example of how this development takes place (Krippner, 2011; Kus, 2013; Tomaskovic-Devey et al., 2015). In the 1970s, probably fuelled by increased international competition and higher interest rates, the industrial firm General Electric set up banking operations and started to extend credit cards to its customer base. What shareholders and managers in GE noticed, was that the return on operating and managing these banking operations were higher than the income from traditional production and manufacturing (Hyman, 2012). Similar mechanics have been found in later studies at the industry level (Lin & Tomaskovic-Devey, 2013) and at the firm level (Lin, 2016). Moreover, while most scholarship has focused on the U.S., research suggests that these processes are also at work in European political economies (Van der Zwan, 2014; Stockhammer, 2004; Duménil & Lévy, 2005). Thus, firms -- financial as well as non-financial -- are shifting their perspective on what value is, as well as how it should be generated.

⁷Krippner (2011) measures portfolio income as earning from interests, dividends and realized capital gains on investments income. Cash flows are measured as profit plus depreciation allowances.

The above definitions of Epstein and Krippner portray financialization as a broad tendency in the economy, and indeed, scholars, frequently refer to financialization as a shifting form of capitalism, from Keynesian "managerial capitalism" to neoliberal "investor capitalism" (Dore, 2008). These broad definitions fit with the understanding of financialization as a "regime of accumulation", and refers to the tendency for firms to increasingly derive profits from financial activities, while at the same time, non-financial firms increase their payments to the financial sector through interest payments, dividend payments and share buy-backs (Alvarez, 2015). In the end, this process leaves less capital available for productive investment such as machinery and employment, despite non-financial firms' increasing profits from financial activities (Van der Zwan, 2014). In short, financialization as a regime of accumulation is understood as (1) a way of understanding value as a future extraction, (2) a way of generating this value through new financial innovations, and (3) an expansion in the nexus of actors that work to generate financial value.

2.1.2 Shareholder value

Van der Zwan (2014)'s second understanding of financialization is more narrow. It focuses on firms' shifting business motivations, and she terms it financialization as shareholder value. Shareholder value is an investor-oriented idea of how firms ought to be run to maximize their value. The value as such is determined by rating agencies, market watchers and stockholders who guide investment to firms, and who measure the firms' worth as a ratio, with a numerator for profits and a denominator for costs (Cushen & Thompson, 2016). This induces senior managers to focus on cost cutting and boosting profits in the short run to make the quarterly reports look promising.

In the shareholder value notion, firms are perceived as bundles of assets. All their resources, from plant and operating machinery to human resources, market shares and even "goodwill", can be priced and sold. This change of notion can be paralleled with the neoliberalist ideological framework, in which market forces are expected to allocate resources optimally through the price mechanism. For the price mechanism to work, all parts of a firm need to be assigned a value, and this value determines supply and demand of stocks.

The presence of a shareholder value paradigm is well acknowledged (Jung, 2014). The paradigm's consequences for inequality has even been a topic this year at the intellectual conference, World Economic Forum (Byanyima, 2018). Its origin is harder to point out, but for the sake of clarity, I would like to briefly mention three drivers which have been identified in the literature. The first driver is the entry of developing countries in global markets for traditional industry, causing hard competition on price efficiency to ensure, which again made cost-cutting a desirable strategy⁸. The second driver is the shift in investment patterns

⁸Many developing countries rely on the export of unprocessed commodities that are priced cheaply internationally (Ravenhill, 2014). To climb the value chain, the economy has to shift to value-generating production, typically industrial activities such as generating electrical appliances, ship building and steel. However, competing on these markets means competing with developed countries that already have considerable sunk costs. Developing countries often have access to cheap workforce that make them competitive, but despite rough competition, developed countries with sunk costs have few exit options. Crotty

from direct investment to portfolio investment (Lazonick & O’sullivan, 2000), which also shifted the motivation behind an investment from that of providing ”patient capital” (Crotty, 2005, p. 87) in order to build a firms’ competitiveness, to that of boosting a share’s value in a short-term perspective to capitalize on the ownership⁹. The third driver was a change in the job description for top managers in a firm, where owners to a larger degree made managers accountable to the performance of the firm, thus persuading top managers to adopt shareholder value as a corporate strategy¹⁰.

Shareholder value implied a shift in corporate strategy that presumably has intensified work life and contributed to increasing income inequality. Lazonick and O’sullivan (2000) have famously termed this changed corporate strategy a shift from ”retain and invest” to ”downsize and distribute”. Instead of retaining their income and investing it back into operational activities, firms would downsize their labour forces and distribute revenue to improve the price of the company stocks. To be sure, the shift to adopt shareholder value did not come about equally in all countries. Lazonick and O’sullivan (1996) explain that in the U.S., for example, the shift started in the 1960s, and was driven by the entry of institutional investors into a market previously dominated by individual investors. Where individual investors had previously stuck with one firm over a longer period, institutional investors possessed considerably more information in search of the firms with the highest yield. Studying U.S. firms, Jung (2014) finds that there has been a growing number of downsizing announcements from 1981 to 2006, and many of these appear to be related to goals of boosting shareholder value.

In Germany, strong regulatory frameworks after the war had initially provided firms with an influx of patient capital. However, in 1967, the state deregulated interest rates and allowed for bank advertisements, giving rise to commercial banks. The idea was that the new competitive climate would lower interest rates on loans

(2005) explains how the opening of international trade thus led to competition following a derogatory path, with firms focusing on cost-cutting rather than productivity enhancement. He also outlines how excess of supply was followed by declining demand due to high interest rates and meagre wage growth, making cheap products a more competitive good than quality products.

⁹Lazonick and O’sullivan (1996) explain how investors with a long-term perspective endure illiquidity in the start-phase of a firm to raise its value. To monetize on their investments, direct investors can sell shares of their firm on the stock market, which function is to ”provide wealthholders with not only access to shares but also the ready prospect of selling those shares – that is, liquidity” (Lazonick & O’sullivan, 1996, p. 15). When a firm has demonstrated its revenue-generating ability, portfolio stockholders buy shares at a higher price. These stockholders do not participate in the enhancement of innovation and productivity in the firm, but they still demand liquidity and increasing returns on their investment. Thus way, portfolio investments paved the way for logics of shareholder value.

¹⁰Owners of the firm hired managers who were expected to exert full control over the firm, be fully accountable for performance in terms of efficiency and profitability, and take on a more general role of leading the firm in contrast to partaking in its day-to-day activities. The change in top management is often called ”managerialism”, and it was strongly influenced by principal-agent theory and a general concern that managers might not always act in the owners’ best interest (Crotty, 2005). The new strategy contributed to that of creating an alliance between managers and owners, illustrated for example through the increased use of executive stock-option grants (Jung, 2014; Stockhammer, 2004), while at the same time distancing management from the workers. This way, management also came to view the firm as a bundle of assets, and maximizing shareholder value was perceived as a rational strategy. As Crotty (2005, p.90) explains: ”Sub-unit management and labour obviously had firm- and industry-specific human capital; they were committed to their industries. Top home-office managers, on the other hand, began to think of their own sub-units as liquid assets that could be disgorged to capital markets if they underperformed, and to look at other firms as assets to be added to their own portfolio if their acquisition would raise expected returns.”

and thus boost economic growth. However, as Lazonick and O’sullivan (1996, p. 32) put it: “These changes in the German banking industry over the past two decades appear [...] to have reduced the incentive and ability of financial institutions to ensure that industrial enterprises have access to committed finance needed for developmental investments, and thus may weaken rather than strengthen the German economy”. Japan has, according to Lazonick and O’sullivan (1996), had the most persistent access to patient capital because of the traditional close ties in the Japanese business community. Values of loyalty ensured a commitment to cross-shareholding and a desire to ensure workers’ long-term employment and career opportunities within the firm. Yet, although explicit notions of shareholder value appears to be less prominent in Japan, the consequences may still be the same. Kang and Shivdasani (1997) have documented downsizing measures in low-performing Japanese firms over a period from 1986 to 1990.

Christensen and Van Bever (2014) refer to the shift in corporate strategy as “efficiency innovation”, which, in contrast to “market-creating innovation”, is not a job-creating procedure. Market-creating innovation signifies the development or radical transformation of a product that creates increased demand or a whole new market. Examples of innovations that create new markets are the personal computer, the smartphone, and washing machines in the post-war years. Efficiency innovation, on the other hand, denotes the corporate practice of selling the same products or services to a lower price. Firms manage this through increasing productivity and shedding unnecessary costs, thus freeing up capital for other uses, such as share buybacks. In general, efficiency innovation results in practices such as keeping more peripheral employment, less firm-sponsored employee training, increased work intensification, frequently changing work processes, outsourcing, centralization, mergers, heightened employee insecurity and performance exposure. All these practices combined result in profits systematically being channeled away from labour. For investors who believe in shareholder value, a firms’ success depends on its ability to maximize returns on its assets in order to distribute income through dividend payments and share buybacks (Cushen & Thompson, 2016).

2.1.3 The rise of finance

The development behind the rise of finance warrants some attention, because a recurring problem when trying to trace the origins of financialization is the difficult job of separating the “explanandum” from the “explanans” (Aalbers, 2017). As Van der Zwan (2014) warns, “frequently, financialization is rendered abstract, underlying historical developments are not fleshed out, and ‘finance’ becomes the driving force behind its own expansion”. Although my thesis is oriented towards financialization’s effect on income inequality, and not financialization per se, historical developments and national variation is usually interesting to study, especially when the data is of a cross-sectional time-series character. A simple correlation, or lack thereof, is better understood in the context of which they originate.

The section below is largely focused on the United States. This is because Krippner (2011)’s analysis of the American political economy gives a strong and well-grounded account on how financialization has come about by conscious choices to depoliticize. There is, however, a growing literature on the financialization

process in other OECD countries as well (Dünhaupt, 2012; Tranøy, 2000; Alvarez, 2015; Belfrage & Kallifatides, 2018). These analyses also argue that financialization has been an unintended effect of a conscious aim to deregulate the financial sector.

Krippner (2011) explains that the U.S. government did not intend to financialize the economy, but that it happened as an unintended consequence as the state responded to three different political dilemmas that started in the 1960s and 1970s — a social crisis, a fiscal crisis, and a legitimacy crisis. The common determinant for the policies made to solve these crises is depoliticization, which, as described above, involves a shift in which the state assigns social tasks to the market, obscuring the role of the state, allowing it to "govern the economy at one remove" (Krippner, 2011, p. 145). According to Krippner, the responses to these three crises thus divided the state and the market, in turn leading to an unintended financialization of the economy.

The social crisis was a conflict of distribution of credit, ultimately leading to credit expansion. In the Keynesian era, the government regulated interest rates, and exchange rates were fixed, making capital a scarce resource. But increasing inflationary pressures distorted the allocation of capital, directing it towards large corporations and limiting it for suburban homeowners, urban residents and owners of small businesses (Krippner, 2011, p. 61). Demands for credit access rose, but as the U.S. government worked to restructure the financial system to make distribution of credit fairer, financial institutions experimented with the regulatory loopholes and external access to credit. A new concept, "consumer-savers", emerged from the financial experimentation, understood as small savers who would invest to balance out the household loans (Krippner, 2011, p. 74). With this new source of credit, variable interest rates became a much desired option for both financial institutions and the state, because lenders would immediately pass on the costs associated with higher interest rates to borrowers.

Meanwhile, securitization of credit¹¹ allowed financial institutions to externalize risks (Krippner, 2011, p. 82). The new methods for obtaining credit led to an enduring credit expansion with rising interest rates, which further facilitated access to credit. The U.S. state maintained the development. Where access to credit had been a political problem before, it was now taken care of in the market, where the price mechanism imposed a budget constraint rather than a democratic constraint on individuals' demand for credit. However, as it turned out, the price mechanism was a poor restriction, as interest rates climbed quite high before business and consumers pulled back from borrowing. The idea was that "the price mechanism would ration individuals from the market in much the same way as had formerly been achieved by rickety interest controls" (Krippner, 2011, p. 83), but the price mechanism largely failed to ration as Americans kept borrowing despite rising prices. By way of comparison across OECD nations, Andersson and Jonung (2015) has documented a similar pattern in Sweden, in which financial deregulation in the 1980s contributed to an expansion of credit, declining real wages (Belfrage & Kallifatides, 2018) and a larger degree of debt-led consumption.

¹¹Securitization of credit refers to the resale of loans in new packages.

The fiscal crisis refers to the structural gap between state expenditures and tax revenues, an issue that would lead to an influx of foreign capital. In the post-war decades, the U.S. state took on the role of providing Marshall Help to war-trodden European countries and Japan, also pegging the dollar to gold in order to facilitate international trade despite post-war inflation. Although business benefitted from the economic help, as Europe and Japan bought American products, proportional taxation lagged behind. President Lyndon's War on Poverty and war in Vietnam added to the pressure, while the economies in Europe and Japan started to recover, reducing the dependency on American wares. The budget deficit grew, the U.S. printed dollars, and it became clear that there was too much dollar in circulation to manage full convertibility into gold, should the demand arise. Expecting a devaluation of dollar, speculators exchanged dollar for gold until the Nixon administration, in 1971, chose to suspend dollars' convertibility into gold (Krippner, 2011, p. 90). The intended effect was to escape the constraints of the global system to gain control over the trade deficit and limit job losses. An unintended effect was to open the doors for a global capital market. Some scholars, for example Dünhaupt (2012), argue that the fall of the Bretton Woods fixed exchange rate system can be seen as a starting point for a wave of liberalisation and deregulation in several OECD countries from the 1970s onwards. Comparing the U.S. and Germany, she shows how Germany followed a similar path to deregulate the financial sector, although where the U.S. started deregulating in the 1970s, Germany had a more gradual and delayed period of financial liberalisation that started in the 1990s. Attracting foreign capital was, if not the intended goal, then at least a result of the policy.

Later, the Reagan administration's "supply side" economics created lax taxation rules but did not manage to cut expenditures equally. The solution became the flow of global capital, particularly from Japanese investors who, in a saturated national market for capital, opted to invest in U.S. treasuries (Krippner, 2011, p. 95). The Reagan administration welcomed the investors, but the increased demand for dollar brought the price for dollar up, leaving American exporters at a competitive disadvantage as their products became relatively more expensive abroad. As U.S. firms lost market shares, the Reagan administration sought to liberalize other economies as well through diplomatic missions (Krippner, 2011, p. 101). Foreign investments continued to lay the ground for financialization despite ample attempts at limiting access to credit to stabilize inflationary pressures. Krippner (2011, p. 103) explains that "in an era of deregulating and globalized financial markets, neither the mechanisms of disintermediation from the banking system, nor the crowding out of private borrowers from capital markets functioned to choke off seemingly limitless demands for credit". This dual mechanism made the price of money rise along with the interest rates, directing capital increasingly to speculative uses, from investment in plant and equipment to more lucrative financial ventures. The result was to transfer inflation from the non-financial to the financial economy – where it was not visible (or conceptualized) as such.

At last, the crisis of legitimacy reflected declining public confidence in the government to sustain economic growth and support social objectives, ultimately leading to a belief that the market forces would be restraining enough, making government regulation superfluous. There was an enduring paradox in that to sustain economic growth, the government had to limit inflation by imposing austerity, resulting in the need to limit credit expansion, which made it look as if the government was opposed to growth. Thus, the Federal

Reserve adopted "monetarism" in 1979 — a policy that targeted money supply rather than interest rates to control the rate of economic growth in a more subtle manner (Krippner, 2011, p. 114). The method, however, turned out to be too inconsistent to restrain capital sufficiently, while new financial innovations challenged inflationary pressures. In the period 1982-1987, the government thus returned to managing the interest rate, but this time they allowed for larger fluctuations of the rate, creating "market-like" effects. This allowed distributive blames to fall on the market rather than the state, and it meant that market forces became more apparent, so that policymakers could take these into account (Krippner, 2011, p. 122). The stock crash in 1987 ended the policy of targeting borrowed reserves, but policymakers had made another important lesson — that of transparency. Making market forces more visible had a self-stabilizing effect in that in anticipation of policy moves, the rate moved to the desired level because market actors formed their expectations according to the Federal Reserve's most likely response to the data on the state of the economy. But the notion that the "market do the job for the Fed" soon turned to a belief that the Fed was redundant (Krippner, 2011, p. 131). A new understanding grew forth that central banks should not attempt to control soaring asset prices, because speculative bubbles would eventually be stabilized by the market. However, the market turned out not to be a very effective restraint, and "transferring control to the market ultimately served to loosen rather than restrict credit, propelling financialization to its most intense phase" (Krippner, 2011, p. 137).

2.2 Labour union strength

Fundamentally, labour unions are made up of individuals who "independently come together in a formal organization to advocate their interests as people who sell their labour for a wage" (Ahlquist, 2017, p. 411). In economics, unions are typically thought of as trying to capture rents from the firm, and this rent-capture can take various forms, for example higher wages, fewer hours and better working conditions (Naylor, 2003). For the purpose of this thesis, I will focus on labour union strength in terms of unions' bargaining power. This delineation distinguishes labour union strength from the redistributive properties provided by labour market institutions such as minimum wage, working time regulations and types of employment contracts (Berg et al., 2015). My focus is on labour unions' active role in redistributive activities through collective bargaining. Yet, labour unions' bargaining power may be more or less aided by institutional arrangements such as how centralized bargaining is, whether collective agreements are usually made applicable through public law, and whether the law entitles workers to representation in firms (Darcillon, 2015). I will return to these varieties of union strength in section 4.2. In this section, I give a more thorough picture of how labour unions traditionally have exerted their interests, and why their ability to do so might have been challenged over the last decades.

In section 2.1 I explained how scholars conceptualize financialization, and how financial deregulation, market-exposure and changing investment patterns have produced finance-led growth. Increased accumulation of value within financial activities and the rise of the shareholder value paradigm are two manifestations of how finance has come to prominence. While several scholars explain how financialization has risen across

OECD countries, other scholars preoccupy themselves with how labour unions have been weakened due to loss of, for example, members (Pontusson, 2013), political ties (Culpepper & Regan, 2014), regulatory protection (Palier & Thelen, 2010) and legitimacy (Heckscher, 1988).

2.2.1 Decline in labour union strength

Labour union strength is frequently measured as union density, which refers to the ratio of wage earners who have union membership. To some degree, this membership rate has declined in all OECD countries, with various peak years ranging from the 1960s to the late 1970s and 1980s, to the early 1990s. From the initial peak period, the largest drop in unionization rates are seen for France, the U.S., New Zealand, Austria and Portugal, where union rates have been more than halved since their respective top membership years. Norway and Belgium are the most stable, though they too have observed declining membership rates (Pontusson, 2013, p. 800). As can be seen from figure 3 and 4 below, there is some variation, but the trend is that of a falling rate.

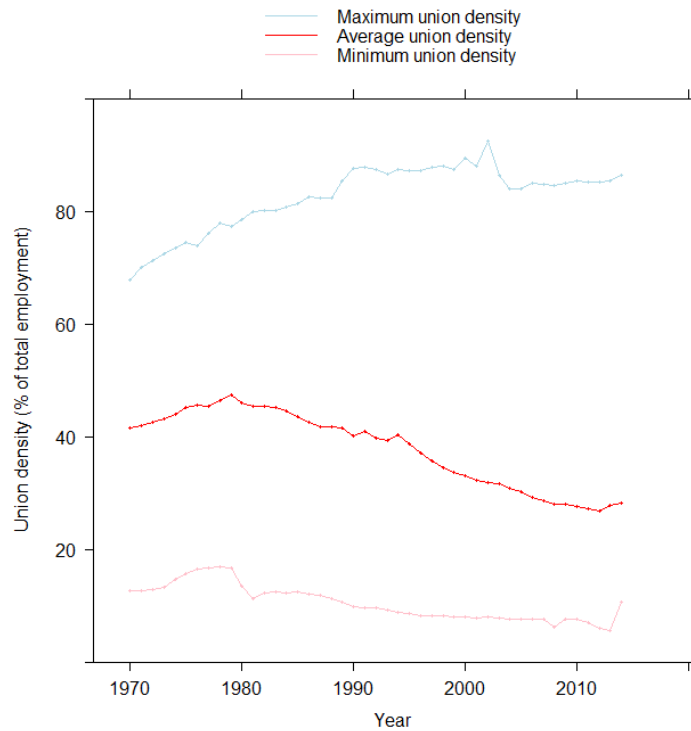


Figure 3: Aggregates for union density, OECD countries.

Source: OECD Labour Statistics.

Though it is often used as an indicator, labour union density is of course only one measure of union strength. There are other areas where union bargaining may have lagged behind. First, I would like to mention the role of social pacts. A social pact is a collaborative agreements with employee and employer organizations, sometimes including the state as a third part (Berg et al., 2015). Social pacts have often played an important part in moderating wage growth to contain unemployment and inflation, particularly for non-corporatist countries that did not have an institutionalized channel for collective bargaining, and where weak gov-

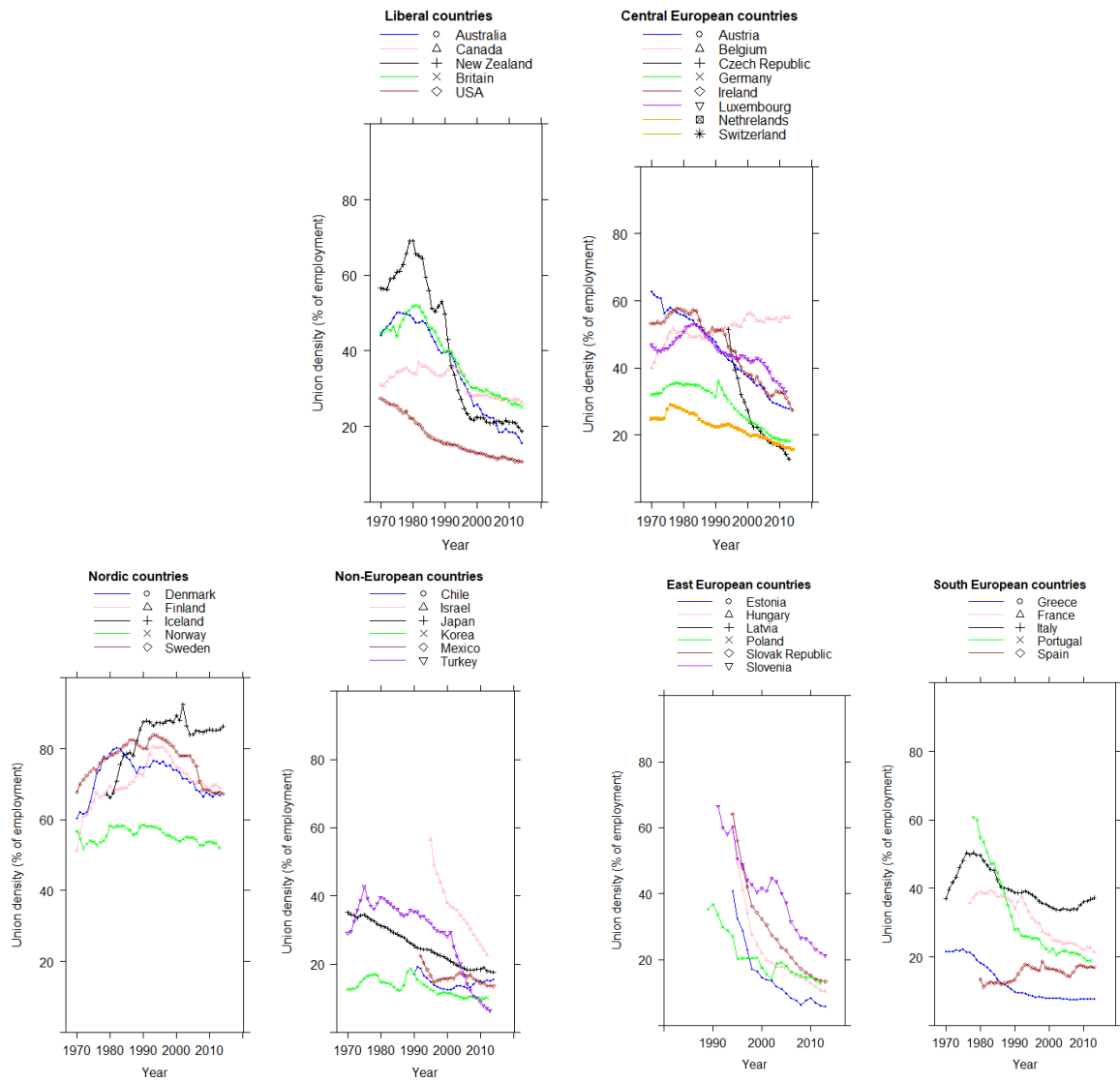


Figure 4: Union density for OECD countries.

Source: OECD Labour Statistics.

ernments needed support to enact unpopular policies (Baccaro & Simoni, 2008). Yet, for non-corporatist countries that frequently made use of social pacts, such as Greece, Ireland, Portugal, Italy and Spain, the quantity of social pacts have decreased since the late 1990s (Baccaro & Howell, 2011). Culpepper and Regan (2014), using Italy and Ireland as case studies, argue that unions have lost capacity in terms of membership and legitimacy, thus making their role in policy formulation negligible. More generally, Fitcher and Greer (2004) observe that when weakened industrial frameworks are coupled with low union capacity and narrow interest pursuing, social pacts do not have the effect of increasing bargaining power, membership rates or political power.

Second, parallel to the decline in union membership, it has also been argued that the traditional ties between labour unions and social democratic parties have been weakened. In several European countries, political parties have shifted to become more conservative (Ross, 2000). An example is given by Tony Blair's establishment of the "New Labour" in Britain, and the announcement that the party would follow a "third

way” in policy formulation, a way that was meant to combine business with welfare (Piazza, 2001). After the election, Blair promised ”fairness, not favouritism, to unions” and worked to remove labour unions’ influence from party members (Rothstein, May 1996). Allern, Aylott and Christiansen (2007) argue that the de-coupling may have been a result of a strategy to secure more voters, a shift from the ”mass party” to the ”catch all party”. Since traditional linkages might make some voters feel excluded from the party politics and abstain from voting for the party, social democratic parties would build down linkages to labour unions in order to catch a larger segment of the voter base. Others, yet, argue that globalization has pushed forth a distance between social democratic parties and labour unions. Hamann and Kelly (2004), for example, argue that many industrial relation issues - for example work regulations - now are determined through EU directives. Meanwhile, they argue, governments have cut welfare benefits to contain public spending, introduced labour market reforms to increase flexibility and enhance competitiveness, and set new legal frameworks for unions to operate in. In the same vein as Culpepper and Regan (2014) argued that declining union strength has resulted in less social pacts with employer organizations, Piazza (2001) argues that the decline in labour union strength has made social democratic parties less responsive to unions’ proposals. This, they hold, is particularly a result of globalization and the new neoliberal agenda that has brought the need for lower labour costs in order to stay competitive and attract international investments. In this line of argument, labour unions’ declining membership base along with the opening of international markets have made social democratic parties loosen their ties with labour unions and refrain from maintaining a close affiliation.

The decline in union strength is well acknowledged (Bryson, Ebbinghaus & Visser, 2011; Piazza, 2001). In this thesis, I study the possible consequences of labour unions’ falling strength, in terms of their ability to even out the effect of financialization on income inequality. However, just as the factors behind the rise of finance (see section 2.1.3) might be helpful to understand what processes may have been at work when inequality increases, so might the factors behind declining union strength clarify the presumed mechanisms. Therefore, below, I sketch out some of the explanations to the decline in union strength given in the literature.

Many scholars choose to explain declining union strength by looking at sectoral variation, partly because there is a clear pattern to be observed here. Generally across OECD countries since the 1980s, membership decline in the manufacturing sector has been evident. In particular, there has been a clear decline from initially high membership numbers. In contrast, the public sector has higher coverage numbers, and the decline has been less pronounced, but as Pontusson (2013) notes, many governments have also chosen to trim the number of jobs in the public sector, plausibly decreasing the overall number of unionised workers. Meanwhile, membership levels within commerce and services vary a lot, but the absolute numbers are low compared to the manufacturing sector (Pontusson, 2013).

Observing low membership rates in the private sector together with a shift towards more privatization and fewer unionised workers in manufacturing jobs, deindustrialization is a commonly given explanation for the decline in union membership. The argument is that in a deindustrialised economy, traditional manufacturing jobs are offshored or replaced by new technology to remain profitable. Meanwhile, new, skill-based jobs

emerge that better complement the technological advancement. This development puts traditional labour unions in a dilemma. If the unions oppose technological advancement, they alienate the emerging group of high skilled workers who thrive in technology-effective economies. If they embrace technological advancement, they alienate their traditional membership base within the manufacturing sector (Meyer, 2017). The "technology cleavage" for labour unions means that they either have to abandon old members to gather new, or they have to cling to their old members in spite of a dwindling number of jobs within low skilled occupations. In the short term, the result is never the less the same; fewer members.

Another widely used explanation is that of a shift in job types. The sectoral focus is then primarily on the services sector. Here, atypical employment, such as part-time work and temporary workers, is particularly widespread, and some cite this as a possible reason behind the membership decline. These scholars argue that workers in atypical jobs are less likely to be willing to bear the costs of union membership because they earn less than full time workers, and they often receive support from other sources, such as the government or a spouse (Ebbinghaus, Göbel & Koos, 2011; Palier & Thelen, 2010).

Beyond sectoral differences, Schnabel (2013) has contributed with a literature review on the reasons behind labour union decline. He emphasizes that the presence of a Ghent system¹², the degree to which unions are present on the workplace, and decline in unemployment levels all show clear links to union density. On the other hand, he notes that the more elusive concept of economic globalization has so far not been shown to exert any strong direct effect on declining union membership. Generally, foreign direct investment, financial openness, trade openness and trade flows do not have any significant effect on union density once one also controls for cyclical and demographic features (Schnabel, 2013).

As the quick review above has shown, there are several driving forces behind declining labour union strength, and doubtlessly, there are complex processes at play. Lastly, I would like to note that in studying the moderating effect labour unions (see section 5.2), I treat union strength as an exogenous variable. Many other scholars that study labour unions, financialization and income inequality, have chosen to treat union strength as more of a mediator - a variable that is affected by financialization, which in turn affects income inequality (e.g. Darcillon (2015); Dünhaupt (2016); Flaherty (2015)). These scholars argue that the financialization process, as described in section 2.1, has contributed to declining union strength. Since I treat the two developments as separate in this thesis, I will not expand on these explanations, but merely note that the processes are plausibly more or less intertwined.

2.3 Income inequality

Income inequality may be a persistent topic, but it is also a source of controversy. The dispute is seldom about whether income inequality is bad per se. Income inequality is a consequence of incentivizing product-

¹²In Ghent systems, unemployment insurance is linked to union membership. Countries with Ghent systems include Sweden, Finland, Denmark and Belgium.

ive behaviour in a capitalist market, and most would agree that effort deserves remuneration. The question, rather, is whether top earnings today are proportional to their added value, and whether there is a limit to how much income inequality we can tolerate before it becomes derogative. Studies show that large economic differences can undermine trust, solidarity and mutuality in society (Wilkinson & Pickett, 2010), and that it can impair economic growth (Keeley, 2015).

The notion of inequality is very broad. Sen (1992) has outlined several core variables in the study of inequality in order to answer the first question that needs to be asked in any study of inequality; "inequality of what?". The core variables as outlined by Sen (1992) include monetary variables such as expenditure, income or wealth, and may contrast or compliment non-monetary variables such as life satisfaction, standard of living and capabilities.

In this thesis, I am going to focus on economic inequality in terms of income inequality. Economic inequality is more likely to be explicated linked to financialization than non-monetary inequality because finance is itself a monetary concept (Krippner, 2011). Focusing on economic inequality, I also limit my study to look at income shares, not wealth shares. I acknowledge that limiting the study to income inequality is not self-evident. Since wealth is connected to asset ownership and debt levels, and financialization is associated with higher debt (Van der Zwan, 2014) and concentration of wealth (Mishel, Bernstein & Allegretto, 2007), studying wealth would indeed have been relevant. However, there are also several reasons why income inequality is interesting. Once an individual capitalizes on his ownership of an asset (for example by selling stocks), the profit is registered as income (Atkinson, 2015). Wealth inequality might therefore be a more passive reflection on how resources concentrate among a few, while income inequality resonates a more dynamic picture on how economic actors actively use financial assets to boost income. Moreover, the distribution of wealth is possibly more sensitive to norms of estate divisions between heirs and the state of the elderly in the population, topics that labour unions presumably focus less on than wage bargaining and income levels (Ahlquist, 2017). As such, labour unions might be more capable of modifying financialization's effect on income inequality rather than wealth inequality. Yet, as should be noted, future studies of the linkage between financialization and wealth inequality will be much welcomed.

2.3.1 Increasing income inequality

While students of labour unions employ union density as their main variable, a widely used measure in studying income inequality is the Gini coefficient. The Gini coefficient estimates the spread of a given resource in a distribution, where a value of one implies that everyone has an equal share and zero means that all the resources sit with one person¹³ (Ravenhill, 2014). In my thesis, I look at the Gini coefficient before taxes and transfers, which can be referred to as market generated inequality (Solt, 2016). This measure is directly influenced by international and domestic market structures, and should therefore be more sensitive

¹³The Gini coefficient is a widely used measure for inequality, but it is important to remember that it does not take into account the specific shape of the income distribution within each country, a caveat that I will discuss more fully in section 4.3

to financialization. Figure 5 and 6 below show the trend over time for pre-tax, pre-transfer Gini coefficients.

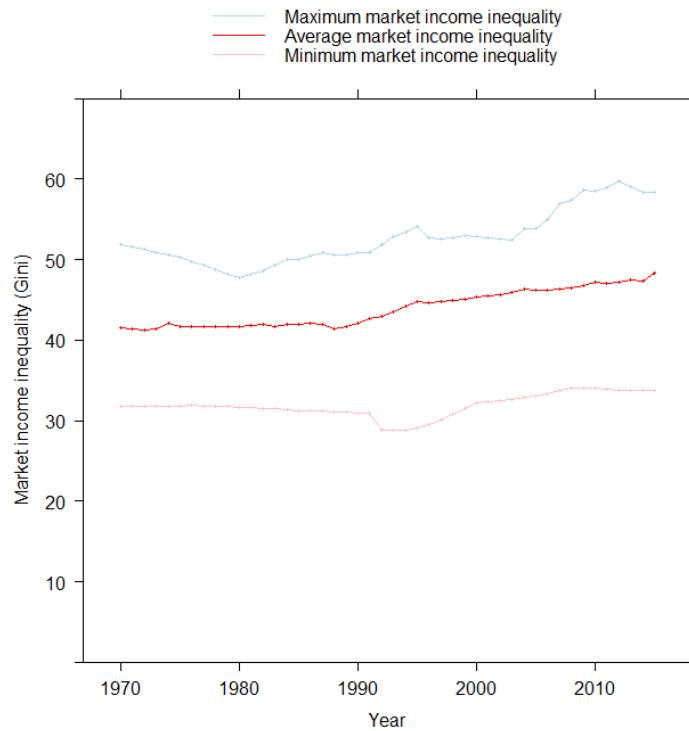


Figure 5: Aggregates for the pre-tax, pre-transfer Gini coefficient, OECD countries.

Source: Standardized World Income Inequality Database.

In my sample, the general trend is that of an increase in income inequality since the 1980s. In the long term, Keeley (2015) describes the pattern of income inequality as a U-shaped curve, where inequality first declined in the 1920s and 1930s in North America and much of Europe, before it began to rise again in the 1970s and 1980s. He reports that since the mid-1980s, income inequality has risen by almost 10 % in most OECD countries, averaging just under 32 Gini points. The trend has not just affected those countries with initially high income inequality, but also countries with traditionally low levels, such as Germany, Sweden and Denmark. For my sample, the average, unweighed growth rate for the Gini coefficient was at 0,39 % per year during the period 1970 to 2016.

The shape of the income distribution also shares some characteristics. As Atkinson (2015) shows, most OECD countries have had a modest improvement in poverty rates, while at the same time, the rise in inequality among the top 1 % of earners has risen considerably. Keeley (2015, p. 33) explains that a significant economic trend among the world's countries is that the benefits of economic growth increasingly goes to a smaller segment of society, typically the top 10 % earners.

The trends outlined above are broad aggregates, and are thus only suggestive. Countries vary considerably with regard to the shape of the income distribution and degree of income inequality. For example, while income inequality is particularly high in some countries such as Mexico, Israel, Britain and the United States, it is still rather low in Norway, Denmark, Slovakia and Slovenia. Moreover, it has risen most in the

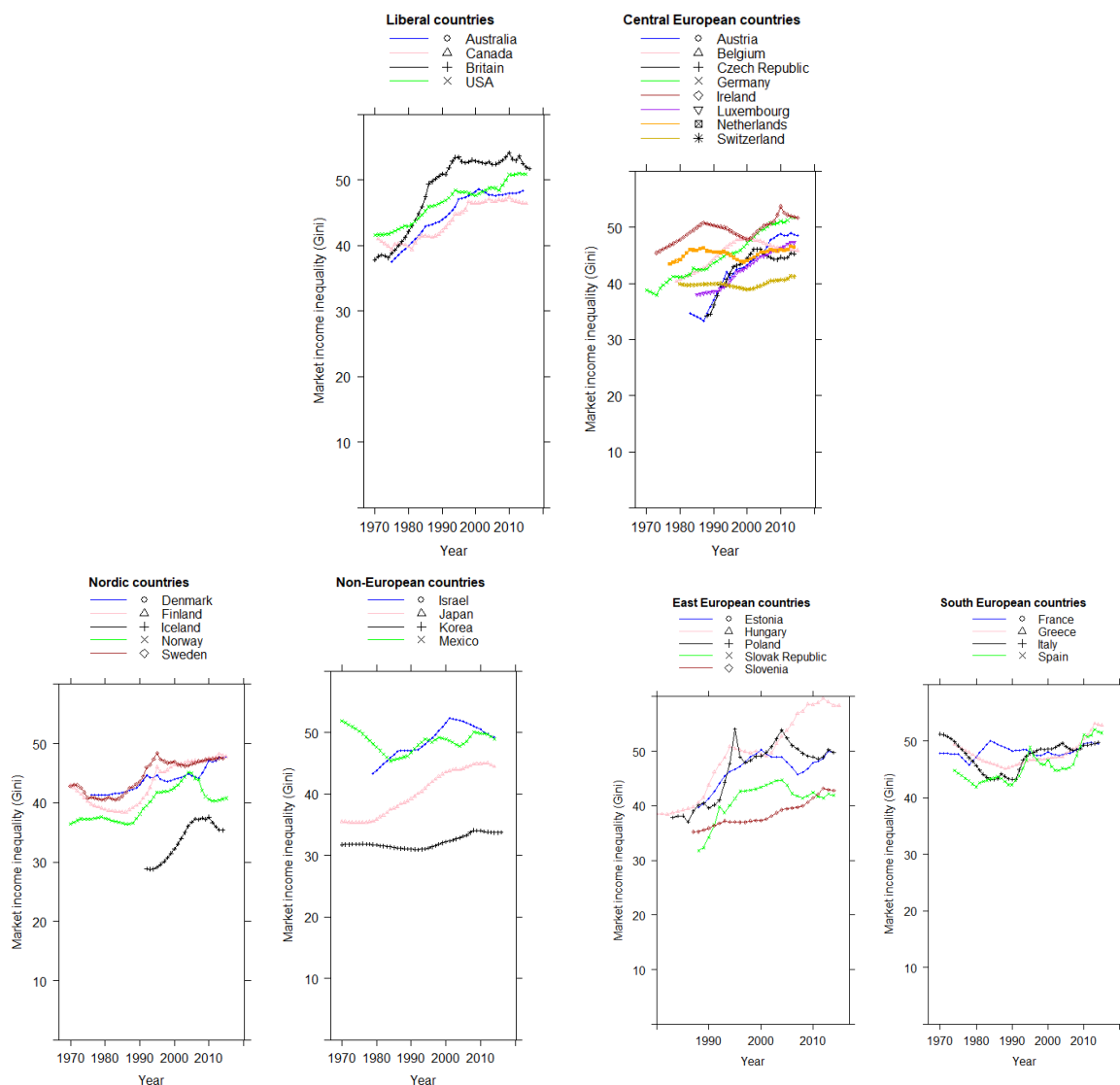


Figure 6: Pre-tax, pre-transfer Gini coefficients for OECD countries.

Source: Standardized World Income Inequality Database.

United States, Britain, Hungary, Sweden and Finland. Among the factors explaining the variation, two are particularly important. One is the role of the state in redistributing income through taxes and transfers. The second is the "wage dispersion" – that is, the gap between the high earners and the low earners (Keeley, 2015).

In this analysis, I have chosen to include three other measures of income inequality including the Gini coefficient. These are the wage share, income accruing to the top one percent and income accruing to the top ten percent. Income going to top earners is particularly relevant for the financialization variable, since the magnitude of capitalization in the stock market, salaries in the financial sector, CEO payouts and value accruing from capital have been shown to generally benefit the top earners most (Flaherty, 2015; Keeley, 2015; Stand & Rising, 2011). The wage share, meanwhile, measures the share of income going to labor relative to capital. Given the retreat of the government in the neoliberal era along with increased focus on shareholder value and "efficiency innovation" (Christensen & Van Bever, 2014), the wage share may

well be negatively affected by increased financialization. An emerging number of studies already indicate this negative correlation (Dünhaupt, 2016; Torres & for Labour Studies, 2011; Stockhammer, 2015). One might also speculate if labor unions are better equipped and inclined to affect the wage share rather than the income distribution in the country as a whole, since wage earners are more often union members. I return to this hypothesis in section 5. In the next section I give an outline of the theory that builds the background for the anticipated relationships between financialization, union strength and income inequality; power resources theory.

3 Argument and hypotheses

3.1 Power resources theory

Power resources theory is a theoretical tradition that stresses the importance of group organization to counter the inherent imbalances present in a capitalist society (Esping-Andersen, 2013; Korpi & Palme, 2003). The basic idea is that capitalist societies rely on the protection of private property, which results in an asymmetric distribution of power resources. Protection of private property and redistribution are two values that are inherently at odds with each other, much like the broader values of freedom and equality. Since capital concentrates in a few hands, state power would go almost exclusively to capital owners if opposing groups did not organize. However, democracy assures freedom of association, allowing labour to mobilize to promote their own interests. The strength of labour organization can therefore explain the extent and course of social policy and welfare state development in OECD countries, as well as the degree of redistribution (Bradley, Huber, Moller, Nielsen & Stephens, 2003).

Power resources theory is well adapted to explain differences in outcomes that depend on diverging interests for different social classes. Arguably, financialization could be said to have benefited a "capitalist class", in that one of the assumed consequences of the rise of finance is an increased concentration of income for wealthy individuals and top earners (see section 3.2). In fact, the oft-quoted study of Epstein et al. (2005) look precisely at how financialization has benefited what they term the "rentier class". Rentiers, for them, denote those who capitalize on "financial market activity of the financial industry, including, of course, banks, stockbrokers and insurance companies" (Epstein et al., 2005, p. 48). They find that for most OECD countries, rentier's share of income¹⁴ was higher in the 1980s and 1990s than in the 1960s and 1970s, increasing at the advent of neoliberalism and the shift to deregulate financial markets. Replicating their measurements, Dünhaupt (2012) compared the wage share with rentier's share of income in the U.S. and Germany, finding some evidence that rentier's share of income has increased while labour's share of income has decreased, although the trend was more pronounced for Germany¹⁵. Studying the link between financialization and labour's share of income in more detail, she later finds that when firms oblige them-

¹⁴Measured as profits earned by firms engaged in financial activities plus interest income earned by non-financial, non-governmental resident units (Epstein et al., 2005, p. 50).

¹⁵Dünhaupt (2012) speculates that falling wage shares for the U.S. may have been put off by high executive pay rates.

selves to hand out more dividend and interest payouts, labour's wage share is reduced (Dünhaupt, 2016). In other words, although these scholars do not employ power resources theory in their studies, there is some empirical grounding to justify the idea of a rentier class in the financialization literature.

If financialization benefits a rentier class, labour unions might be expected to put off this effect in the framework of power resources theory. Conventionally, the theory assumes that labour unions promote redistribution through two channels. First, representing the median member, unions tend to articulate the interests of low-wage workers relative to high wage workers, leading to more wage compression where unions are stronger. Second, in elections, unions mobilize voters to focus on political parties that promise to redistribute income, including income between capital owners and wage earners (Pontusson, 2013). Labour unions that are strong in terms of institutional status and member coverage should arguably be better equipped to utilize these channels to increase redistribution.

Yet, as explained in section 2.2.1, it is generally acknowledged that labour unions have lost power in many OECD countries. To summarize, the section explained how labour unions have lost members in the latter half of the 20th century (Pontusson, 2013), how governments no longer feel the need to include labour unions in social pacts when they enact unpopular policies (Culpepper & Regan, 2014), and how social democratic parties have withdrawn from supporting labour unions (Piazza, 2001). These developments are likely to compromise unions' ability to bargain for the interests of low-wage workers and to mobilize voters for political parties. A reduced number of unionised workers means that labour unions represent a smaller segment of the working population, possibly exposing their bargaining tactics to be viewed as "special interests". Indeed, Culpepper and Regan (2014) and Piazza (2001) note how minority governments and social democratic parties refrain from allying themselves with labour unions because they are increasingly perceived as just another interest group. When labour unions' declining membership spills over into lack of legitimacy and manpower, their power to shift income concentration from the rentier class to the working class is under pressure. First, their ability to promote low-wage workers' interests through the bargaining channel is compromised. Second, their redistributive properties through the political channel is reduced. In section 3.3, I elaborate on how these channels have come under pressure. The important point for this section, is that according to power resources theory, financialization is presumed to concentrate income among top earners, while given their declining capacities, labour unions are presumed not to be able to modify this trend.

The power resources theory is very general. Before I proceed to the hypotheses, I would like to point out that labour unions are far from a homogenous group. Even within OECD countries, there are many differences in labour union organization and strategies. I account for some of the institutional differences in my analysis – for example how centralized bargaining is – as specified in section 4.2. However, there are also many cultural union characteristics that are more difficult to measure, but which may be important in determining the income distribution. For example, Maurice and Sellier (1979) draw comparisons between the charismatic and emotional solidarity of French unionism to the more bureaucratic and professionalized German unionism. Unions also vary to the degree that they rely on political action rather than industrial

relations, and how active they are towards their members (Ahlquist, 2017). Since I use a fixed effects methodological approach, I control for many of these cultural characteristics. Thus, the effect of these variables are not estimated in my model. This improves the generalizability of the results, which makes using a general theory such as power resources theory more applicable. However, I should also mention that it also obscures some possibly important effects.

3.2 The link between financialization and income inequality

So far, I have stressed that the assumption in this thesis is that that financialization should plausibly increase income inequality, and that labour unions may or may not be able to modify this effect. In this section, I expand on the presumed mechanisms behind these processes to answer the question of *how* these correlations might come about.

Several studies highlight the correlation between financialization and income inequality. Some of these studies look at the Gini (Assa, 2012; Hyde et al., 2017), others look at wage share (Stockhammer, 2012; Kus, 2013; Dünhaupt, 2016). Looking at the relationship between financialization and top income shares is less common, but Flaherty (2015) finds a positive connection between financialization and the incomes of the top one percent in light of larger bargaining asymmetries and weaker redistributive institutions.

Palley (2013) has summarized three mechanisms through which financialization plausibly affects income inequality and labour market restructuring. These three channels are (1) a change in the structure of the economy to contain more financial assets and speculative enterprises, (2) a change in corporative behaviour among non-financial firms to adopt notions of shareholder value and debt finance, and (3) enactment of new economic policy aimed at containing social spending, reduce top income taxes, accommodate for international trade and contain inflation. He also notes that these variables interact with each other, and that they work in self-reinforcing mechanisms. Below, I draw on these mechanisms to hypothesize on how financialization might increase income inequality. Specifically, financialization is assumed to benefit "rentiers" by concentrating resources among a top segment of income earners (see section 3.1).

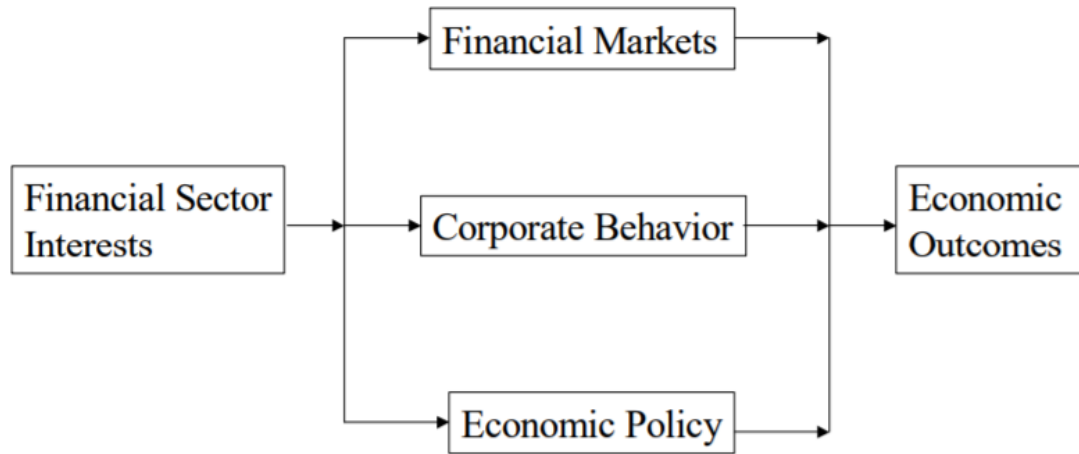


Figure 7: Linkage between financialization and income inequality.

Source: Palley (2013)

In section 2.1, I specified how financialization, for the purpose of this thesis, will be conceptualized as respectively a regime of accumulation and as shareholder value. Two of the mechanisms in figure 7 - financial markets and economic policy - could arguably be said to sort under financialization as a regime of accumulation, and I will look at these mechanisms first. Corporate behaviour refers to firm specific strategies, and will be treated below as a linkage referring to shareholder value. Then, before I embark on the hypotheses pertaining to the modifying effect of labour unions, I will briefly discuss some alternative explanations to the increase in income inequality beyond financialization.

I demonstrated the trend in financialization conceptualized as a regime of accumulation in section 2.1.1 using credit expansion as a proxy. Credit expansion is a measure of the flow of capital going from investment bankers to businesses in the private sector, and there are several ways through which an increase in the availability of credit could increase income inequality. Hyde et al. (2017) sketch out three ways on how credit expansion may affect income inequality.

First, credit expansion was a result of deregulation of financial activities (see section 2.1.3), which facilitated an overheating of the economy and increased vulnerability to shocks and downturns. An "overheated" economy is characterized by excessive and unsustainable growth. An example could be given by the bank liberalization in Norway in the 1980s. In this period, Europeanisation of the credit market led to laxer regulation on the Norwegian banking industry, causing a boom of credit to be extended from banks. In 1984-1987, credit supply was in large excess compared to government targets, and Norwegian banks grew to nearly double their size in three years. These boom years were followed by a bust when interest rates rose and the banks suffered extensive losses. The government bail-out in 1991 corresponded to about 3.7 percent of the Norwegian GDP (Tranøy, 2000, p. 12-13). Throughout the world, credit expansion has often gone together with bank growth and mergers. As deregulation allowed for cheap funding, banks were able

to grow to enormous sizes compared to their countries' GDP, generally leading to a lower bank valuation and reliance on government bail-outs when growth slowed (Demirgüç-Kunt & Huizinga, 2013).

Hyde et al. (2017, p. 5) also note how credit expansion is coupled with increased leveraging and growth in financial instruments, two factors that could affect the income distribution. Leveraging corresponds to the practice of using borrowed capital to fund investments, and this practice can become an attractive option for banks when prices rise and credit is abundant. However, credit extracted from the borrowed capital stemming from investors, consumers and homeowners also enabled banks to externalize risk throughout the economy. As such, when prices fell, these borrowers suffered along with the banks. Credit expansion also created a larger market for complex financial instruments, including derivatives such as futures and options, which were significantly more risky ventures than bank accounts or regular stocks. Boom times, enabled by credit expansion, as explained by (Kindleberger & Aliber, 2005), create a mania which drives several actors, from large financial institutions to middle class homeowners, to invest in risky ventures in belief that prices will keep increasing. Yet, at the same time, due to the risk involved in their investments, these actors expose themselves to large losses and possible bankruptcy when prices fall again (Hyde et al., 2017). In sum, excessive credit expansion assumedly has a deteriorating effect on income equality by (1) overheating the economy, (2) adding incentives for leveraging, and (3) expanding the market for risky financial instruments. These three mechanisms again increase the vulnerability of the economy to shocks and crises.

A second mechanism inherent in the financial markets category is the frequency and effect of stock market crashes. Stock market crashes - which are themselves attributable to overconfident investment booms - may have a severe impact on the market. Reinhart and Rogoff (2009) suggest that financial crises often have both build-up effects and after-effects. These after-effects are severe and long-lasting. The financial crisis in 2008 caused world trade to fall by 12 %, led to an increase in unemployment reaching an average of 8.7 % for OECD countries, and made government debt soar, reaching 100 % of GDP for several OECD countries – legacies that many economies are still struggling with today (Brian & Patrick, 2010, p. 12). Yet, the 1 % top earners recovered much quicker from the crisis, illustratively capturing 91 % of income gains from 2009 to 2012 in the United States (Saez & it Richer, 2015). Hyde et al. (2017) find that in the absence of welfare policies, stock market crashes significantly increase income inequality for several years both before and after the crash.

Third, booms in the stock market can make some investments highly profitable, allowing early, wealthy entrants to benefit from significantly high returns on their investments (Kus, 2013). People with higher incomes are not only able to invest more and thus benefit more from these investments than people with low incomes, but they also possess a cushion against drops in prices. Expansion of the stock market may thus benefit high-earners more as they stand to gain more from share dividend and capital market gains (Keeley, 2015, p. 59). An OECD report (Stand & Rising, 2011, p. 35) shows that income from investments, property and capital has become more important for all OECD households, but especially so for the top 1 %. Meanwhile, taxation seems to have had a less redistributive effect in many OECD countries. Pre-tax income for the top 0.1 % earners rose to account for 8 % of income in the U.S., 4-5 % in Canada, the United

Kingdom and Switzerland, and 3 % in Australia, New Zealand and France. Yet, top rates of personal income tax fell over the same period, from 60-70 % in the early post-war years to 40 % on average by the late 2000s (Stand & Rising, 2011).

In sum, then, financial interests operating through the financial market might exert an effect on income inequality through the formation of credit abundance, the long-lasting effects associated with financial crises and wealthy individuals' ability to capitalize significantly on financial ventures. A fourth mechanism concerns the tendency for states to opt for finance- and market enabling policies, which might be linked to the economic policy channel in figure 7. An example of this shift is the broadened tendency for states to adopt monetarist economics (Kus, 2013), in which governments focus on curbing inflation rather than on social spending. Less inflation means that the banks can sustain higher profits by borrowing money from customers and lending it to investors. Meanwhile, austerity measures – common in monetarist policies because it poses a reductionist approach to economic questions – meant that states would cut social spending and reduce redistribution. Labour market policies have arguably changed as well, from promise of long-term employment to "labour market flexibility". In this new agenda, unemployment benefits have been cut, minimum wages eroded, and employee rights set aside in order to reduce government expenses and increase firm competitiveness (Hermann, 2014).

Financialization as shareholder value focuses on firms, and it applies to the mechanism termed corporate behavior in figure 7. Here, income inequality may have been on the rise, first, due to the expansion of finance coming at the expense of the productive economy. Financial innovations such as private equity and leveraged buyouts¹⁶ are examples of routes that enabled financial actors to capitalize on productive firms. Whether these practices are inherently harmful to employees is a debated issue (Wood & Wright, 2009), but in order to make a firm profitable, private equity and leveraged buyouts often leave firms with a shrunk workforce, lower wages and cut in employee benefits, and sometimes they result in larger debt obligations for the firm (Hermann, 2014).

Second, as non-financial firms have become increasingly financialized, so has the focus on shareholder value become a leading principle in how profitability is measured. Using shareholder value as a principle for investment choices adds pressure among firms to increase payout ratios from dividends, interests and other financial assets (Krippner, 2011; Stockhammer, 2004; Alvarez, 2015). To achieve this, firms have to generate large productivity gains and distribute profit to financial assets, sometimes at the expense of labour. Alternatively, firms can cut wages to distribute the income otherwise. In section 2.1.2, I noted how this mechanism can be termed a shift from "market-generating innovation" to "efficiency innovation" (Christensen & Van Bever, 2014) or from "retain and invest" to "downsize and distribute" (Lazonick & O'sullivan, 2000). This might cause income inequality to rise by reducing wages and employment openings for the bottom earners.

¹⁶Private equity refers to the practice of buying firms to improve their efficiency, and then sell the firm at a profit. Leveraged buyouts involve the practice of buying a firm using largely borrowed money in order to acquire a firm without committing a lot of capital. The assets of the company are often used as insurance for the loan.

Third, the shareholder value paradigm also increase payouts to the top earners. The choice on how a firm should distribute profits is made via managers. In section 2.1.2 I explained how shareholder value principles have resulted in coalitions between managers and owners to meet efficiency-innovative goals and boost short-term profits. Managers have adopted the new corporative method from "retain and invest" to "downsize and distribute" because portfolio owners with short-term perspectives capitalize on increased stock prices. In the principal-agent theory, the new coalition between managers and owners is maintained by increasing remuneration to top managers when stock prices increase - both through cash bonuses and by unifying interests by letting a part of the bonus for top-managers be placed in stocks and options (Palley, 2013; Jung, 2014). To illustrate, U.S. executives, for example, earned 24 times more than the average worker in 1965. In 2000, this ratio grew to 300 (Mishel et al., 2007). This development has coalesced with the private equity and buyout movement as explained above, where the hunt to make firms profitable has been fuelled by top management incentives.

Given the many routes through which financialization might affect income inequality, I set forth two hypotheses that I aim to test in this thesis:

Hypothesis 1: Finance-led accumulation increases income inequality.

Hypothesis 2: Shareholder value corporate strategies increase income inequality.

The above section makes a thorough effort at justifying hypothesis 1 and 2. However, the rise in income inequality is a complex phenomenon, and attributing the trend solely to increased financialization would be premature. International migration, for example, has spawned larger gaps between income earners, partly because these are job-takers with low individual bargaining power - a trend that unified with the change towards more atypical employment (Publishing, 2015). Meanwhile, a phenomena such as declining state redistribution might well be a consequence of political choices made by voters, not merely lobbying from strong financial sector interests. Technological change and the shift towards knowledge economics has also ruled out old, traditional industries and increased workers' obligation to maintain relevant skills.¹⁷ In section 4.4 I include several control variables to account for these possible effects, while in section 4.5, I explain how using a fixed effects approach strengthens the analysis' robustness against omitted variable bias.

Clearly, financialization is by no means the only channel through which income inequality has risen. To the degree that financial activities allow for mature investments, adequate credit availability and economic growth, they may even reduce income inequality. Moreover, private equity and leveraged buyouts can have

¹⁷A trend that also deserves mentioning when discussing increased income inequality is the shift in family structures. Couples are increasingly similar with regard their income levels, particularly because women are more likely to have qualifications and careers that match or exceeds men's. Moreover, single-parent families have become more widespread, a trend that obviously affects household incomes (Keeley, 2015).

a positive impact on workers within the firm. Wood and Wright (2009), for example, summarize a number of studies on the consequences of private equity, showing that buyouts could sometimes yield wage growth and steady employment levels over time. Shareholder value orientation, meanwhile, has been a deliberate consequence of agency theory, employed in order to increase efficiency (Palley, 2013) from a period of perhaps quarrelsome and stagnant managers.

3.3 Conditioning the effect upon labour union strength

Labour unions work to represent the interests of their members. These members typically constitute either middle class or lower class workers, and – given that income inequality is attributable to a concentration of wealth at the top of the distribution – their interests often have the effect of promoting income equality, even if this is not their particular aim. This effect should arguably be more pronounced in countries with widespread unionization.

Although collective bargaining may improve workers’ conditions, it can also have disadvantageous effects on income. In a macroeconomic perspective, unionized firms that pay high overall wage bills may in turn reduce employment, thus skewing the income distribution. Additionally, in open economies, wage pressure from unions in the non-tradeable sector can impede competitiveness in the tradeable sector (Swenson, 1991). However, given the weakening of unions and several labour institutions in the past 20-30 years (Darcillon, 2015; Culpepper & Regan, 2014), a lack of ability to promote income inequality may just as well be due to a lack of power to do so. Therefore, as explained in section 3.1, it is not self-evident that the benefits accruing to rentiers in light of financialization might actually be lowered by higher union strength.

In this section, however, I will hypothesize on how the connection between financialization and income inequality might be modified by union strength. First, I outline how a large membership base translates into more bargaining power, then I look at some institutional determinants that may influence unions’ power. Given the popularity of using union density as an indicator for union strength, it is natural to discuss this measure first. In short, many unionized members does means that labour unions’ interests align with more workers, so that the redistributive implications ought to encompass a larger portion of the population. Also, high density can also be an important source of power. In order to alter the effect that financialization has on income inequality, a large membership base makes unions better equipped to lobby against interest groups in the financial sector.

There are various ways in which a large membership base could translate into more bargaining power. Culpepper and Regan (2014) argue that unions traditionally have exerted power by two different means, the carrot and the stick, as shown in figure 8. The carrot centers on increased legitimacy drawn from unions with high membership rates. Higher membership enables a larger segment of the workers to be represented and involved in policies involving wage moderation, so that unions become an important actor to facilitate active consent to difficult firm decisions or policies (Baccaro & Simoni, 2010). The stick could work as a

threat or halting mechanism for a policy, and the larger the membership base, the more efficient strikes or protests are. For example, in 2018, union members from over sixty different universities in the United Kingdom engaged a series of strikes that eventually led to an agreement between union negotiators and university employers’ organization. The strikers protested a shift in pension plans from ”defined benefits” to ”defined contributions”, where the payout from retirement savings would not be fixed, but depend on the performance of financial markets (Rooksby, 13.03.2018). Culpepper and Regan (2014, p. 778) also specify that if the strikes spill over into general protests, austerity policies could be particularly difficult to enact. Portugal’s two largest labour unions, for example, administered two general strikes in 2010 and 2011 against austerity measures after the financial crisis, effectively delaying implementation of the policies (Fulton, 2016).

	Firm-level	Polity-level
Carrot	Mobilize consent	Problem-solving
Stick	Industrial action	Mass protests

Figure 8: Labor union capacities and the importance of membership.
Source: Culpepper and Regan (2014)

Unions need not have a direct effect on the income distribution. The mere existence of unions could induce non-union employers to raise wages in order to prevent widespread unionization. Especially where strikes pose a serious threat to the firm, employers may meet labour’s demands under the threat of organizing. The existence of unions could also help institutionalize norms of ”fair play” in the economy by emphasizing social solidarity in their public discourse, influencing public policies and ideas about cooperation and responsibility (Western & Rosenfeld, 2011).

Institutional circumstances are also important for union’s conditioning effect. Centralization of bargaining, for example, changes the ability for unions to internalize costs of demanding high wages in a competitive environment. When bargaining takes place at a national level, social partnerships and centralized responsibility helps unions internalize externalities from wage settings, such as higher unemployment and higher product prices (Aidt & Tzannatos, 2008). Oskarsson (2003) suggests that institutional characteristics complement each other, so that centralized bargaining and local union capacity together determine union strength. Moreover, where collective agreements are automatically extended to public law, non-union members will also benefit from union provisions.

Labour unions might thus have a beneficial effect on the income distribution by mobilizing members to use carrot- and stick tactics, add pressure on employers to raise wages, and through institutional settings such as centralized bargaining, representation at the work place and extension of collective agreements. Unions might restrain top income shares as well. In some countries, laws entitle unions to representation in corporate boards, thus enabling them to have a say in decisions regarding dividend- and interest payouts and excecutive pay (Ahlquist, 2017). Gomez and Tzioumis (2006) use panel data for US firms and find

that the presence of unions correlate with lower executive pays, especially by reducing stock option rewards. Another strategy that has been studied is unions' role in owning pension funds. A pension fund enables considerable access to capital that, in the hands on labour unions, can be used as a source of patient capital rather than to maximize returns and compensation to shareholders, thus possibly cancelling out the effect that the shareholder value paradigm has on income inequality (Naczyk, 2016).

As explained in section 3.2, private equity and leveraged buyouts might fuel shareholder value orientations among firms. To summarize, shareholder value strategies are expected to raise income inequality by incentivizing large CEO payouts and cut labour benefits. Appelbaum, Batt and Clark (2013) use four case studies to illustrate how private equity buyouts have caused top managers to make a breach in contracts of trust with labour and their unions by for example implementing badly negotiated outsourcing, pension cuts and trading of work security for work flexibility. Their case studies illustrate how unions work to ease the effect that increased shareholder value orientation has on workers. To exemplify, one of their cases include a buyout in 2010, in which Kraft Corporation bought the British chocolate factory Cadbury. Afraid that the buyout would lead to cost-cutting and mass dismissals, the labour unions secured a two-year deal with Kraft that it would forego redundancy and plant closures. This stalled the effectivization process initiated by Kraft, and allowed workers to continue in their occupations for a few more years. Yet, shortly after the deal expired, Kraft announced that it would effectively lay off 5,500 employees. If this example illustrates the potential negotiation power of labour unions, it could also be argued to expose their limitations.

Labour unions might not only be limited in their power to exert influence, but also in their focus on who the benefactors are. Despite some spillover effects, labour unions do not necessarily work to stimulate economic equality in society as a whole. The literature on "dualization" argue that labour unions tend to represent "insiders" in the labor market, workers with secure and stable well-paid jobs, rather than "outsiders", who constitute part-time workers, the unemployed and the non-unionized (Pontusson, 2013). Labour unions who narrow their focus to "insiders" may be seen to not have any effect on the income distribution at all, since they do not aim to promote income equality generally. Some scholars hold that defining "insiders" and "outsiders" may have been a means of coping with increased international competition and cuts in social spending, where unions worked to ensure rights to a member core, while compromises were made for other employment positions (Palier & Thelen, 2010).

If labour unions focus their efforts more narrowly, so should their modifying effect be constrained. Assuming that labour unions might choose to focus on those who are employed rather than society as a whole, their effect is expected to be on wages rather than income inequality overall. The third hypothesis thus considers the modifying effect of labour unions on the relationship between financialization and income inequality:

Hypothesis 3: Under conditions of higher union strength, financialization's effect on income inequality will be less pronounced.

Unions might feel particularly powerless in the face of high financialization. At the firm level, the presence of shareholder value logics may curb union bargains. A firm that anticipates an obligation to increase payout ratios on financial assets to its shareholders might opt to constrain the room labor unions have to negotiate and bargain. If managers experience large pressure and/or incentives to distribute surplus to financial assets rather than to wages, labour unions must exert a considerable strength to even the influence out (Alvarez, 2015). Higher levels of financialization should therefore require higher level of unionization to null the effect of financialization on income inequality out.

4 Operationalisations and methodology

4.1 Credit, stocks and value

Financialization is a tricky variable to operationalize. Not only do the definitions regarding its conceptual content vary, but also how scholars tend to operationalize it. Moreover, where the conceptual grounding of the term usually receives a thorough discussion, the choice of operationalization is typically less nuanced. This may be because the concept of financialization, though popularly studied since the early 2000s, has had a rather short life in scholarly debates (Van der Zwan, 2014).

The lack of an established understanding of which indicators best capture the concept of financialization may lead to low validity. As Adcock (2001, p. 530) points out, when the scores of an indicator fail to capture the ideas contained in the corresponding concept, the measurement validity is low, and the researcher is not estimating what he claims to be estimating. In this thesis, I employ eight different measures of financialization that have been used in the literature; FIRE employment, value added in finance, credit expansion, financial globalization, stocks traded, stock capitalization, bank profitability and securities under bank assets. All eight variables are listed and described in table 1 below. As main variables, I have chosen credit expansion, log stocks traded and stock capitalization, a choice I will return to below. All of the eight variables correlate positively with each other, and a principal component analysis shows that all variables load with the same direction on one factor (see appendix section A). This indicates that the eight variables might be manifestations of the same concept, or that they at least are not drastically different from each other.

Epstein et al. (2005) emphasized that financialization pointed to an increase in financial activities in domestic and international markets, ranging from a large financial sector to an expansion in the creation and use of financial instruments. The variables FIRE employment and value added in finance are measures of the size of the financial sector. Credit expansion may be related to an increase in financial instruments, as well as more volatility and fragility in the economy due to bubbles. Since more credit in circulation increases demand for credit (Krippner, 2011), it also incentivizes financial institutions to develop methods to acquire more credit, leading to more financial innovations. Bank securities under assets in banks' accounting is a

Table 1: Operationalization of financialization variables

Variable	Definition	Relevance	Source	Coverage	Literature
Credit expansion Main variable: Financialization as a regime of accumulation	Domestic credit provided by financial institutions (e.g. monetary authorities, depository money banks, leasing companies, money lenders, insurance corporations, pension funds, foreign exchange companies) to private sector as % of GDP.	Proxies a lending spree when numbers are too high, bubbles in the economy, fragility to economic crises, and is an indication of high credit demand, which may incentivize the development and spread of more financial instruments, e.g. derivatives.	International Monetary Fund, International Financial Statistics and data files, and World Bank and OECD estimates.	N = 996	Hyde et al. (2017) Flaherty (2015) Gatti & Vaubourg (2009)
FIRE employment	Percentage of total employment working in financial, insurance and real estate activities (ISIC Rev. 4).	Proxies the size of the financial sector and the number of individuals with vested interests in a financial accumulation regime.	STAN Database for Structural Analysis.	N = 758	Hyde et al. (2017) Assa (2012) Darcillion (2015)
Value added in finance	The contribution the financial sector (both labor and capital) makes to production. Calculated as the value added in finance as percentage of total value added in the economy.	Proxies the size and profitability of the financial sector.	OECD Data	N = 949	Assa (2012) Darcillion (2015)
Financial Globalization Index	Foreign direct investment, portfolio investment, international debt, international reserves and international income payments.	Broad measure of the flow and growth of finance in the economy.	KOF Swiss Economic Institute	N = 1461	Flaherty (2015)
Log stocks traded Main variable: Financialization as shareholder value	Total shares traded on the stock market exchange, measures in value of shares as a percentage of GDP. Variable is logged to account for skewedness.	Proxies activity in the stock market, volatility and investors' preference for liquidity instead of long-term investments.	Financial Structure and Development Dataset	N = 1154	Kus (2012) Meyer (2017)
Stock capitalization Main variable: Financialization as shareholder value	Value of shares of listed firms as a percentage of GDP, calculated using deflation method.	Proxies the increased reliance on capital forces among high-earners and pressure to maximize shareholder value.	Financial Structure and Development Dataset	N = 1097	Flaherty (2015) Meyer (2017) Dünhaupt (2014) Gatti & Vaubourg (2009)
Bank profitability	Bank income before tax as a percentage of GDP.	Proxies banks' shifting role to become active, profit-seeking financial intermediators.	OECD Bank Profitability Statistics	N = 538	Kus (2012)
Securities under bank assets (z-score)	Securities listed under bank assets in banks' accounting sheet.	Proxies the increase in financial instruments.	OECD Bank Profitability Statistics	N = 608	Kus (2012)

straight forward measure of the degree to which banks rely on financial instruments.

Krippner (2011) pointed to increased profit extracted from financial activities, a development that has been particularly pointed in the non-financial sector. While bank profitability is an indicator of the profitability in the financial sector, the variables stocks traded and stock capitalization may both indicate the degree to which stocks are used as profit-generating instruments for households, financial firms and non-financial firms (though notably, the variables only encompass stocks traded for listed firms). In particular, stocks traded and stock capitalization may proxy shareholder value as more liquidity and higher gains on stocks might indicate higher pressure to maximize yields on stocks rather than facilitating long-term investments.

In addition to validity, access to data over time is an important consideration. Due to the varying peak years for labour union membership rates among different OECD countries from the 1960s to early 1990s (Pontusson, 2013), including variables with a long time span is desirable to fully capture the modifying effect unions might have. One candidate with large amounts of data is the financial globalization index. However, this variable includes measures on e.g. foreign direct investment, which is not directly related to financialization (see sections 2.1.1 and 2.1.2). Because of this, I include the variable in my analysis of financialization and income inequality, but do not use it as a main variable. However, stocks traded and stock capitalization - which I do employ as main variables - have the second highest coverage of all eight variables, hopefully increasing reliability of the results.

Given these different considerations and utilities, I will test all variables and compare results. The main variable for finance-led accumulation is credit expansion ($N = 996$), which I choose because it is a broad and often-used measure for financialization (e.g. Hyde et al. (2017); Flaherty (2015)). It is not contaminated with unrelated variables like the financial globalization index, and applies to both financial and non-financial corporations, unlike value added in finance and FIRE employment. Yet, it is possible that credit extension need to reach a threshold level before it creates instability in the economy. As such, using other variables to compare is important. The variables stocks traded ($N = 1154$) and stock capitalization ($N = 1097$) both capture the idea of liquidity and value maximization inherent in the shareholder value conceptualization, and they will thus be used as proxies for shareholder value.

4.2 Union density, strength and bargaining power

For labour unions, operationalization poses a different challenge than for financialization. Labour union strength is conventionally operationalized as union density, which measures the share of employed persons in a union as a percentage of all employed persons (see e.g. Pontusson (2013); Kim and Margalit (2017); Western and Rosenfeld (2011)). Summarizing from section 2.2 and 3.3, the idea is that higher membership leads to more political influence because the unions can claim to represent more workers, financial transfers often depend on membership rates, and the unions possess more manpower in case of strikes (Heery &

Adler, 2004).

Yet, whereas financialization is a global trend which plausibly affects all OECD countries in much the same way, labour union strength is to a large degree influenced by contextual factors within each country. Heery and Adler (2004) argue that different institutional frameworks create different incentives for unions to seek more members. For example, in Britain and the United States, unions require a certificate to be acknowledged as a bargaining agent in industrial relations. One of the requirements to get this certificate is to demonstrate majority support among the relevant workers, a practice which incentivizes expansion of membership base and concentrated organizing campaigns. In Germany, Spain and Italy, on the other hand, the state has allowed for an extension of collective agreements to non-organized firms and ensures a strong obligation for employers to participate in union bargains (Ebbinghaus & Visser, 1999). High union density in countries such as Sweden, Finland, Denmark and Belgium, moreover, is often attributed to unions' role in administering unemployment insurance, so-called Ghent-systems (Pontusson, 2013). Clearly, these institutional differences affect how unions demonstrate power, and to account for this, it is important to measure aspects of union strength that correspond to their actual ability to exert power, in accordance with Adcock (2001, p. 534) stressing of contextual validity.

Table 2: Labor union variables

Variable	Coding	Coverage	Source
Union density	The ratio of wage and salary earners that are trade union members, divided by the total number of wage and salary earners.	N = 1266	OECD Labor Force Statistics
Centralized bargaining	1: Fragmented wage bargaining, mostly confined to individual firms. 2: Mixed industry and firm level bargaining, some government involvement minimum wage and wage indexation. 3: Negotiation guidelines based on centralized bargaining. 4: Peak associations establish norms of centralized bargaining, with or without government involvement. 5: Maximum or minimum wage rates based on centralized bargaining.	N = 1218	ICTWSS Database
Existence of work councils	0: Works council or other forms of employee representation confronting managements do not exist or are exceptional. 1: Works councils are voluntary, no legal sanctions for not complying, even when they are mandated by law. 2: Existence and rights for works councils or other employee representation within firms or establishments.	N = 1161	ICTWSS Database
Mandatory extension of collective agreements	0: No legal provisions for mandatory extension, nor functional equivalent. 1: Extension is used in some industries, but with very high threshold. 2: Extension is used in many industries, but some thresholds and Ministers can decide to not extend agreements. 3: Extension is virtually automatic and largely general.	N = 1258	ICTWSS Database
Bargaining power index	Weighted index of bargaining power. Includes variables: union density, centralized bargaining, existence of work councils and mandatory extension of collective agreements.	N = 1680	Own calculation

My first main indicator of union strength is the conventional union density. I gather this measure from OECD Labour Statistics, which couples OECD data with data from the ICTWSS database, allowing for both comparable cases and high coverage. The ICTWSS database provides a comprehensive source of comparable labour market institutions in different states (Visser, 2016). I gather the remaining three variables from this database, but for reasons of space, I employ only the first variable – centralized bargaining – as a main variable. I use the remaining two in the creation of a bargaining index, which serves as the third main variable to measure union strength.

The second main indicator is thus how centralized bargaining is. Negotiations can happen at the national level, such as in the Nordic countries and Australia, branch level, such as in most European countries, or firm level, such as in Britain and the United States. When bargaining is decentralized, firms bargain directly with their workforce, possibly making the size and composition of the labor unions more important (Heery & Adler, 2004). The more centralized bargaining allows unions to internalize wage spillovers generated from bargaining, and it creates larger union organizations which are better equipped to bargain with employer organizations and the state (Aidt & Tzannatos, 2008). Thus, this indicator may well also capture some of the observed union decline, since there are some indications that with labor market deregulations, bargaining has become more decentralized in OECD countries. European countries such as France and Germany have for example acquired opt-out clauses, now rather widespread, which allow firms to negotiate wages that depart from collective agreements signed at a higher level (Darcillon, 2015).

The third indicator, the existence of a work councils, taps into the degree to which employees are granted access to decision-making in the enterprise without union coverage. One effect of having a work council may be that workers feel less inclined to organize. Yet another effect is that the method for exerting influence may differ for labor unions as well, since in for example Germany, Spain and Italy, unions can capture work councils by having unionized delegates who win elections to the council, perhaps incentivizing more targeted campaigns to capture members (Heery & Adler, 2004). Countries which generally have an established work council are therefore assumed to have more union strength.

The fourth indicator measures whether there is a mandatory extension of collective agreements to national law. Where there is a strong legal extension of collective agreements to non-unionized firms, union density does not fully capture bargaining coverage. France, for example has a falling density rate, but high coverage for collective agreements (Darcillon, 2015). Where collective agreements are extended by law, unions' ability to promote redistribution should be more evident.

A summary table of the union strength variables is given in table 2. I choose not to include some of the other common variables that have been used to measure labor union strength such as strike intensity (e.g. Kristal (2010); Dühaupt (2016)) and percentage of workers covered by collective bargaining provisions (Aidt & Tzannatos, 2008). Strike intensity might be a poor indicator of union strength because it measures conflict rather than bargaining. Another argument is that strikes are highly context sensitive. For example, systems

with a decentralized level of bargaining are susceptible to imperfect information that unleashes strikes, while centralized levels of bargaining are more associated with large, general strikes (Aidt & Tzannatos, 2008). Meanwhile, the variable on extensions of collective bargaining provisions has fewer data points than the other variables, and it is highly correlated with union density, possibly making it superfluous (Darcillon, 2015).

Because bargaining power might be influenced by a number of variables that play out together (Oskarsson, 2003), I also create an index with union density, bargaining coordination, the existence of work councils and whether there is a rule for extension of collective agreements in place. Formative concepts are particularly decent for such indexes. These concepts differ from reflective concepts in that they are not designed to represent underlying concepts that only materialize through the measurable variables. Rather, formative concepts are defined by the causality that flows from the measured variables to the construct. In formative indices, lack of high inter-correlation among the measures is not a problem since the variables are not assumed to stem from one common latent variable. Yet, the index depends on its variables, so that excluding a variable may alter its meaning (Jarvis, MacKenzie & Podsakoff, 2003).

I have drawn the components of the index from Darcillon (2015, p. 484), who uses union density, wage bargaining coordination and extension of collective agreements to create his index. However, where he uses a principal component approach to construct his index, I use PLS path modelling. I thus assume that bargaining power is a latent variable that can only be observed through its components. The PLS path model anticipates a cause-effect relationship, meaning that union density, coordination of bargaining, extension of collective agreements and the existence of work councils together determine bargaining power. I wrap coordinated bargaining, extension of collective agreements and existence of work councils up in one reflective latent variable called institutional factors (Sanchez, 2013), standardize the variable to obtain comparable scores, and create one formative concept. The factor scores are given in figure 12 in the appendix section A.

The bargaining concept is defined as:

$$barg = 0.4059colext + 0.5805wc + 0.704coord + 0.7856density$$

4.3 The Gini, top income shares and the adjusted wage share

The validity of the income inequality measure is largely determined by which part of the income distribution one would like to assess. In this analysis, I employ three different indicators; the Gini coefficient, top income shares and wage share. These variables capture different aspects of the income distribution.

The Gini coefficient reflects how income is distributed in the economy as a whole. A score of zero indicates that each unit in the distribution receives exactly the same in terms of income. A Gini coefficient

Table 3: Income inequality variables

Variable	Definition	Coverage	Source
The Gini	The Gini coefficient measured pre-tax and pre-transfer.	N = 1173	Standardized World Income Inequality Database
Top ten percent income share	Share of income going to the top ten percent earners of the population.	N = 756	World Wealth and Income Database
Top one percent income share	Share of income going to the top one percent earners of the population.	N = 775	World Wealth and Income Database
Adjusted wage share	Compensation per employee as a percentage of GDP at factor cost per person employed.	N = 1329	Macro-Economic Database AMECO

of 1 means that one unit receives all the income. I gather my data on Gini coefficients from the SWIID database (Solt, 2016). Where previous studies on inequality have been challenged by data limitations and lack of comparability across nations, the SWIID database uses several sources and the comparable and quality-rich data on household income from the LIS database to standardize and, where necessary, impute Gini coefficients across nations (Solt, 2016). Imputations of data may well compromise the reliability of this data. As explained by Jenkins (2015, p.29), SWIID uses relatively large groups of country-years in order to find donor observations to create imputations of Gini coefficients. However, given the extensive work to standardize, the multiple sources that SWIID draw on, and the more homogenous group of OECD-countries in my sample, it is reasonable to believe that the SWIID dataset gives a relatively representative view of the Gini scores in different country-years.

The Gini coefficient is an often used indicator, but it does have some drawbacks. Since the Gini coefficient is relative, a doubling of the income gap from e.g. a (10, 40) distribution to a (20, 80) distribution would not affect the coefficient – it would remain constant (Ravenhill, 2014, p. 337). Thus, although the Gini says something about the absolute inequality, it does not reflect the shape of the distribution.

The shape of the distribution is better accounted for by looking at specific fractions within the distribution. One pattern in the increasing inequality that has defined many OECD-countries since post-war years, is that the bulk of income accruing to the top percentages has increased, while the middle class has fallen behind (Keeley, 2015). I get data on top percentage incomes from the WID database (Alvaredo, Atkinson, Piketty, Saez & Zucman, 2016). This dataset uses national accounts, survey data, fiscal data and wealth rankings rather than household surveys to collect data, which makes it more comparable to the SWIID data and minimizes the risks involved in self-reporting. Measuring taxable income, the numbers are most consistent with the market-generated inequality from SWIID. Unfortunately, not all countries are covered in the WID dataset, making the observations fewer.

Data on wage share is gathered from the AMECO database. It is defined as the compensation of employees over GDP at market prices per person employed, with capital taken as the residual. Compensation as such

includes wages, salaries and employer’s social contributions. Market prices do not encompass taxes and transfers on production and imports, and as such, this measure corresponds most to the Gini on market income inequality (EU-Commission et al., 2017). In short, the wage share reflects how gross domestic income is distributed between labor and capital. A falling wage share along with increasing productivity means that more of the income goes to capital. Such a trend is referred to as a ”compensation gap”, which has been an especially clear phenomenon in the U.S. (Institute, 2017). I use the adjusted wage share also includes self-employed people to avoid the problem of having self-employed compensation be assessed as part of the capital share. Notably, the wage share includes all salary-earners, so that high-income groups such as CEOs and celebrities are also included (Timmons, 2010). The four variables on income inequality are summarized in table 3.

4.4 Control variables

The control variables used in this study are divided into three possible channels through which other factors than financialization and union strength may influence income inequality and correlate with the independent variables; economic cycles, political and institutional characteristics and technological change. First, I use three variables as proxies for changes in the macroeconomic trends and business cycles; GDP per capita, unemployment rate and trade openness. Second, to proxy political and institutional characteristics, I use left government power, welfare state generosity, unemployment benefit replacement rate and government employment. Third, technological change may create increased inequality in that skilled labor earns more than unskilled labor, a factor that is reflected in the average years of education for a given country at given year. Moreover, economic growth can be an indication of technological development. The theory of endogenous growth argues that growth mainly stems from investments in human capital, because human capital harnesses the technological process (Romer, 1994). Thus, high growth rates should be consistent with high technological development. I have also made a summary table for the control variables, which can be found in the appendix, section A.

Controlling for these variables is important due to the assumption of unbiasedness. This assumption says that the estimated parameter has to be consistent with the population parameter for us to be able to draw sound inferences from the study to a larger population. For this to be the case, there should be no confounding variables that may bias the estimated effect of financialization and union strength on income inequality (Angrist & Pischke, 2014, p. 35) and (Field, 2015, p. 15).

Yet, there is also a risk that by including control variables, some of the effect of financialization and union strength on income inequality is controlled away, a problem known as post-treatment bias (King, 2010). Especially when there is reverse causality or reinforcing mechanisms between two variables, post-treatment bias can be an issue. For example, Hung and Cothren (2002) argue that credit market development is related to economic growth, while Aghion, Caroli and Garcia-Penalosa (1999) show that economic growth is strongly related to income inequality. There might thus be close interrelation among these variables that

unfortunately cannot be statistically assessed. Another reason to be careful in the use of control variables is that if the variables are strongly linearly related to each other, it might create multicollinearity, which in turn biases the variance calculations and thus also the standard errors (Christophersen, 2013, p. 77). Considering these possible inter-consistencies, I use control variables with care. My baseline model includes only one proxy for each dimension of controls, namely unemployment rate for economic cycles, left government power for institutional factors and GDP per capita growth for technological change. These variables are chosen in order to limit multicollinearity and due to their large coverage. However, I also employ several robustness checks (which can be found in the appendix under section D) where I test for other control variables. Moreover, the fixed effects approach, as discussed below, also provides a strong control for possible confounding variables.

4.5 Fixed effects model

Omitting bias from unobserved variables is often a challenge in political science. A researcher is seldom able to include all confounders in one model in order to rule out spurious relationships. Fortunately, there are model specifications that can adjust for the possible bias exhibited by unobserved confounders. In my thesis, I use one of these approaches – a fixed effects approach – to rule out time-invariant cross-sectional variation, and variation that happens within years. Below, I elaborate on fixed effects models can control for unobserved confounders.

Typically, models pertaining to time-series cross section data are specified as follows (Greene, 2003):

$$Y_{it} = \alpha + \beta X_{it} + \mu_i + \varepsilon_{it}$$

Where α is the intercept, β symbolizes parameter values for variables X , μ is an individual error component and ε is an idiosyncratic error component.

I explained above how the standard errors will not be correctly estimated with an OLS model. Meanwhile, the degree to which OLS parameter estimates are biased depends on assumptions made on unobservable variables. If all variables that affect Y are included in the model, a pooled OLS model gives unbiased and efficient estimates. However, the more complex the anticipated relationship between the variables becomes, the harder it is to specify the model correctly. Income inequality, for example, is likely influenced by financialization, union strength, economic cycles, institutional characteristics and technological change, as explained above. However, other unobserved confounders might bias the estimates up or down (Greene, 2003; Green, Kim & Yoon, 2001; Angrist & Pischke, 2014). These error components are denoted μ in the model.

The fixed effects model corrects for this anticipated bias. It eliminates variation between countries from

the estimation by adding a series of indicator variables to the model specification, so that the unobserved variables μ is set to 1 if an observation is in that unit, and 0 otherwise (Clark & Linzer, 2015). This corresponds to adding an intercept for each country, which helps ruling out bias in estimates generated from intercepts that are influenced by unobserved variables, and that correlate with independent variables in the model (Green et al., 2001)¹⁸. Time-invariant and between-country effects such as those stemming from geographical size or work ethics are ruled out - the effect of these variables are not measured in my model. The model uses only within-country variation to estimate the dependent variable. In the alternative random effects model, the presence of unobserved and time-invariant variables that vary considerably across countries would alter the mean value of income inequality (the intercept) and bias the estimates (Clark & Linzer, 2015).

A Hausman test supports the contention that a fixed effects model is better suited for my data than a random effects model¹⁹. The same does the literature review on studies that investigate the connection between financialization, labour unions and income inequality, where fixed effects models are used frequently (e.g. Kristal (2010); Dore (2008); Darcillon (2015)).

Using time-fixed effects is also a possibility. This specification takes into account that there might be time-specific effects that affect all countries the same way, typically related to temporal shocks that affect the independent variables similarly. For example, income inequality in OECD countries may be affected by an oil price shock. Methodologically, time fixed effects differ from country fixed effects in that country dummies receive their own intercepts, while time fixed effects are estimated as comparisons to a base period (one that is excluded from the model, $t - 1$) (Greene, 2003).

Since the Hausman test ruled out random effects models, I use fixed effects and compare models with only country-fixed effects and country- and year-fixed effects interchangeably in section 5. The reason for using both model specifications is that using fixed effects might be a source of post-treatment bias, the same way as discussed with regard to control variables in section 4.4. Including country-dummies or year-dummies effectively rules out within-unit variation, and if the independent variable of interest operates through any of these channels, the effect is controlled away when the relationship is modelled with fixed effects.

Two cautionary notes with the fixed effects approach are in order. First, the fixed effects estimator does not necessarily model purely causal effects. Ruling out time-invariant cross-sectional variance gives a more unbiased estimate of the effect that the independent variables have on the dependent variable, but it does not ensure that the observed effect signifies a causal relationship between financialization and income inequality. What remains in the random, idiosyncratic error, ε . This error is assumed to be independent from the individual error component μ and the parameter values for the independent variables (Greene,

¹⁸This is the method for least square dummy variable (LSDV), but another method through which the averages are subtracted from the estimates is also possible. Never the less, the estimates are closely similar.

¹⁹See appendix section B and C for model differences between OLS, fixed effects and random effects and Hausman test statistics

2003). If the last assumption does not hold sway, then the estimates of β might well be biased (Angrist & Pischke, 2014). Second, fixed effects estimators are particularly vulnerable to data that contains significant measurement errors. This is because the fixed effects estimators remove a lot of variation, so that if the data varies considerably due to measurement issues, this irregular variation will more easily be picked up by the fixed effects estimator.

4.6 Standard error adjustments

For time-series cross section data, OLS will rarely give an unbiased estimate of the population parameters and standard errors. This is because OLS assumes spherical errors, an assumption that is often violated in time-series cross section data because error terms frequently vary consistently within countries and over time. This exposes the model to problems of heteroskedasticity and autocorrelation (both serial and contemporaneous correlation) (Beck & Katz, 1995). In my model, for example, a large part of the variable market income inequality for country i at time t could probably be explained by the degree of inequality in year $t - 1$. Moreover, OECD economies are often linked in international trade and more or less exposed to the same shocks in the world economy, a dependency that would influence the error terms and cause them to become non-spherical. A Breusch-Pagan test (Breusch & Pagan, 1979) on the baseline model does indeed indicate a clear heteroskedastic trend in the data²⁰. An autocorrelation function, meanwhile, indicates that residuals do vary consistently over time²¹.

To account for the non-spherical standard errors of the data, I test a series of error adjustments. The PCSE adjustment was recommended by Beck and Katz (1995). This error adjustment is robust to heteroscedasticity and contemporaneous correlation, and has been shown to work well in samples where T is relatively low compared to N - as is typical for panel data. The second method I use is to cluster the standard errors by country and by year. In this case, the errors are assumed to be correlated within countries and within time periods respectively. Abadie, Athey, Imbens and Wooldridge (2017) recommend that one uses clustered standard errors when the sampling process or treatment process is clustered, a recommendation that includes fixed effects as long as the treatment effect has some variation. Assessing sampling and treatment properties of my data is not straight-forward, but it is reasonable to believe that the errors vary in consistent patterns within country or time units. As shown in section D in the appendix, the choice of SE correction makes little difference. The country clustered standard errors are largest, followed by the PCSE correction. The year clustered standard errors, meanwhile, are almost similar to the classical standard errors.

For the remains of this thesis, I will employ country-clustered standard errors to the models. The reason for this choice of standard error adjustment is twofold. First, clustering the standard errors on countries adjusts for the fact that observations within each country, presumably, are strongly dependent. This is a common assumption in political science, and is no different in my case. Observations pertaining to for example

²⁰An estimate of 148 and a p-value at $< 2.2\text{e-}16$, well below 0.05, which is the conventional significance level used in social sciences.

²¹See appendix section B for visual illustration.

unemployment levels and wage shares are likely affected by the country in which they are observed. Second, the test of different SE adjustments, as mentioned above, showed that country-clustered standard errors exhibited the most conservative adjustment. In order to avoid the risk of falsely rejecting a null hypothesis from my statistical significance tests, I therefore employ the most conservative adjustment. However, as should be noted, Esarey and Menger (2018) have newly pointed out that when the number of clusters is small, the normal SE-clustering method (CRSE) might yield too low standard errors. Some say that the number of clusters ought to be above 40, in which case my 26 countries scores below that limit. Therefore, I also employ their proposed cluster-adjusted t-statistic (CAT) in section C in the appendix, an SE-estimate that adjusts for small numbers of clusters.

4.7 Interaction effect

Hypothesis 3 say that there is a conditional effect of union strength on the relationship between financialization and income inequality. Models with an interaction effect are written:

$$Y = \alpha_0 + \beta_1 X + \beta_2 Z + \beta_3 XZ + \varepsilon$$

Brambor, Clark and Golder (2005) emphasize that in creating a conditional effect model, one should specify the model with all constitutive terms, because omitting for example Z from the model would yield biased estimates whenever β_2 is not zero. This is because when Z is correlated with either X or XZ , we get a case of omitted variable bias if Z is not included in the model. They also state that interpreting the unconditional marginal effect of X is meaningless, since given the model specification, this effect necessarily depends on the distribution of Z , which we know nothing about. This is why studying hypothesis 1 and 2 alone is in order before embarking on hypothesis 3.

5 Analysis

In this section, I show the regression results pertaining to hypothesis 1, 2 and 3. First, I present results for the results for hypothesis 1. My main variable for financialization as a regime of accumulation is credit expansion. For reasons such as coverage, limiting multicollinearity and including relevant variables, I rely on the baseline model as explained in section 4.4. However, I have run several robustness checks to the model with different control variables, different time specifications and different operationalizations of financialization, which I will discuss throughout. These models are available in the appendix. Second, I turn to the link between shareholder value and income inequality, using the same procedure as explained above. Here, log stocks traded and stock capitalization are the main variables of interest. Third, I investigate the conditional effect of labour union strength on the link between financialization and income inequality.

5.1 Financialization and income inequality

5.1.1 Financialization as a regime of accumulation and income inequality

I referred to financialization attributed to the economy as a whole as a regime of accumulation. Table 4 and 5 show regression coefficients in respectively a country-fixed effects and a country-and year-fixed effects model on the four dependent variables, market income inequality, top one percent income share, top ten percent income share and the adjusted wage share. The models are screened for influential cases that might exert a disproportionate effect on the estimates.

Table 4: Finance-led accumulation (credit expansion) and income inequality. Country fixed effects.

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top one percent income share	Top ten percent income share	Adjusted wage share
	(1)	(2)	(3)	(4)
Credit expansion	0.043*** (0.006)	0.041*** (0.009)	0.040*** (0.014)	-0.011 (0.016)
Union density	-0.188*** (0.029)	-0.052* (0.028)	-0.177*** (0.064)	0.171** (0.076)
Unemployment rate	0.324*** (0.080)	-0.123** (0.057)	-0.032 (0.090)	-0.174 (0.123)
GDP per capita growth	0.0003 (0.003)	-0.004 (0.003)	-0.005 (0.003)	0.007 (0.006)
Left government power	0.032 (0.037)	0.066** (0.026)	0.043 (0.065)	-0.028 (0.066)
Constant	45.765*** (1.255)	6.495*** (1.347)	31.230*** (2.827)	53.195*** (3.062)
Observations	604	460	460	636
R ²	0.917	0.823	0.869	0.780
Adjusted R ²	0.912	0.814	0.862	0.768
Residual Std. Error	1.525 (df = 572)	1.357 (df = 435)	1.950 (df = 435)	2.653 (df = 602)
F Statistic	202.983*** (df = 31; 572)	84.469*** (df = 24; 435)	120.301*** (df = 24; 435)	64.772*** (df = 33; 602)

Significance : *p<0.1; **p<0.05; ***p<0.01

Year: 1975-2014.

Countries: Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Poland, Luxembourg, Netherlands, Norway, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, United Kingdom, United States.

Fixed effects on country.

Standard errors clustered by country.

Table 4 controls for between-country variation, but includes year-wise variation. Model 1 shows that credit expansion has a significant and strong effect on the Gini, raising the it with 0.43 points when credit expansion increases by 10 percent of GDP. Union density, meanwhile, works in the opposite direction, pushing income inequality down 1.8 points when ten percent more of the labour force gains union membership. More unemployment is associated with more income inequality, but GDP per capita growth and left government power appears not to have any significant effect on the Gini when country fixed effects are used. Model 2 shows coefficients for the top one percent income share. Credit expansion and union density operates as in model 1, but here, higher unemployment correlates negatively with the share of income going to top earners. Counter-intuitively, more executive power to left governments coalesces with higher top one percent income shares. In model 3, neither the unemployment rate, GDP per capita growth, nor left government power

Table 5: Finance-led accumulation (credit expansion) and income inequality. Country and year fixed effects.

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top one percent income share	Top ten percent income share	Adjusted wage share
	(1)	(2)	(3)	(4)
Credit expansion	0.029*** (0.008)	0.018*** (0.006)	0.019 (0.018)	0.036*** (0.010)
Union density	-0.146*** (0.028)	0.026 (0.026)	-0.106 (0.069)	0.061 (0.083)
Unemployment rate	0.261*** (0.083)	-0.151*** (0.057)	-0.021 (0.109)	-0.129 (0.121)
GDP per capita growth	0.002 (0.003)	-0.003 (0.003)	-0.004 (0.004)	0.005 (0.005)
Left government power	0.043 (0.040)	0.123 (0.079)	0.091 (0.068)	-0.043 (0.052)
Constant	42.717*** (1.302)	3.691*** (1.112)	28.801*** (3.194)	58.508*** (3.653)
Observations	604	460	460	636
R ²	0.933	0.877	0.889	0.862
Adjusted R ²	0.923	0.855	0.870	0.843
Residual Std. Error	1.425 (df = 528)	1.196 (df = 391)	1.890 (df = 391)	2.181 (df = 558)
F Statistic	97.723*** (df = 75; 528)	40.866*** (df = 68; 391)	46.259*** (df = 68; 391)	45.425*** (df = 77; 558)

Significance* p<0.1; ** p<0.05; *** p<0.01

Year: 1975-2014.

Countries: Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Poland, Luxembourg, Netherlands, Norway, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, United Kingdom, United States.

Fixed effects on year and country

Standard errors clustered by country

came out significant. However, credit expansion and top ten percent income shares correlate positively, and union density correlates negatively with income going to the top ten percent earners. The last model, model 4, looks at the adjusted wage share, and in this model, only union density is significant. An increase in membership of 10 percent of the labour force goes together with an increase in employee compensation amounting to 1.7 percent of the country's GDP. Credit expansion correlates negatively, pushing the adjusted wage share down, but this coefficient is not significant.

The results in table 4 changes somewhat when I include year-fixed effects along with country-fixed effects, as shown in table 5. The most notable change is that the estimated effect of credit expansion on the Gini in model 1 and the top one percent income share in model 2 is reduced, while it is rendered insignificant for the top ten percent income share in model 3. For the adjusted wage share in model 4, it shifts sign, actually correlating positively with compensation going to employees. Below, I summarize conclusions that can be drawn from table 4 and 5, together with a series of robustness tests that can be found in the appendix under section D. The summary is focused on which inferences can be drawn with regard to hypothesis 1. Hypothesis 1 held that finance-led accumulation ought to increase income inequality.

One of the most robust result is that credit expansion is indeed associated with increased market income inequality. This result held true in both table 4 and 5, and it remains significant through different specifications of the standard errors, as shown in the appendix in section D. It is also positive and significant

when I use five-year averages, ten-year averages, and add a polynomial to the regression. The fact that the positive relation is reduced when year-fixed effects are included, implies that factors such as globally driven technological advancement or financial shocks might mitigate some of the effect. Yet, even with year-dummies and country-dummies, the effect is significant. An increase in credit expanded equal to ten percent of the country's GDP is associated with a 0.29 points increase in the pre-tax, pre-transfer Gini coefficient.

This effect is also robust through different uses of control variables. One exception to the robust relationship between credit expansion and market income inequality pertains to table 11 in section D the appendix, where five-year averages have been used to include the education variable. In this table, credit expansion does not affect market income inequality significantly. The variable that changes the effect in this table is unemployment replacement rate, which evens out the effect of credit expansion on both market income inequality and the share of income going to the top ten percent of earners. This indicates that the state's role in securing the income of those who lose their jobs may help reduce the effect of financialization on income inequality. Notably, however, this welfare measure does not affect the top one percent income share²², where credit expansion continues to have a significantly positive effect.

The relationship between credit expansion and top income shares is less straight forward, as shown in model 2 and 3 in table 4 and 5. Credit expansion is associated with an increased share of income going to the top *one* percent earners, as shown in model 2 in table 4 and 5. Contrary to model 1, which looks at the Gini, union density does not exert any significant influence on the top one percent income share when I control for between-country and between-year variation. This implies that unions may be less influential in determining the share of income going to the top one percent. Once again, the effect holds true through different SE specifications and control variables used. However, the same cannot be said for the share of income going to top *ten* percent earners. From model 3 in table 5, we can see that controlling for year-wise variation reduces and renders the link between credit expansion and the top ten percent income share insignificant at a 10 % level. This implies that large, time-variant trends such as technological change and global trade might stand for most of the variation in the income for the top ten percent earners. On the other hand, variables such as education and trade openness affects the share of income going to top earners positively, while a high unemployment replacement rate and government employment reduces the share going to top ten percent earners. One might speculate if financialization benefits the top one percent earners regardless of education and welfare measures, as financial entrepreneurship might make wealthy individuals less dependent on these systems. Studies looking at the characteristics behind the extreme top earners show that they mostly consist of financial professionals and executive managers (Bakija, Cole, Heim et al., 2012; Keeley, 2015) who might benefit from financialization by capitalizing on bonuses and stock option grants from the financial sector (Jung, 2014). Meanwhile the top ten percent earners might not primarily earn their share from financial ventures, but rather from attaining a high education, working in an open economy and benefiting from low taxes.

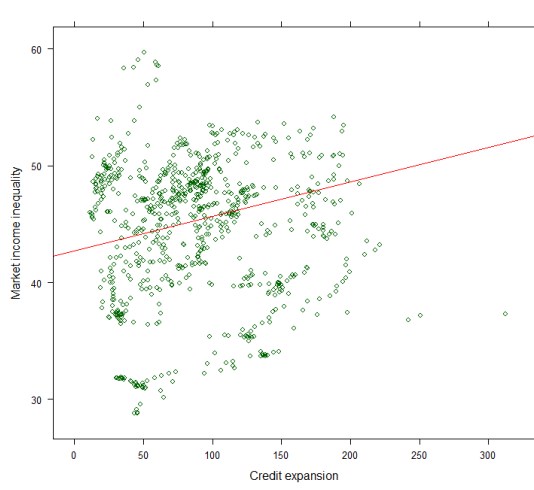
²²It is also worthwhile to mention that when variables are taken in five-year averages, the number of observations is reduced significantly.

For the control variables, trade openness and education benefits the top ten percent earners, but it does not affect the adjusted wage share positively, as can be seen from model 4. On the contrary, left government power has a positive impact on the wage share, while unemployment has a clear negative effect. Welfare measures link with an increased wage share, while GDP per capita and GDP per capita growth is associated with a lower adjusted wage share. Interestingly, credit expansion appears to increase the adjusted wage share when year- and country-fixed effects are included. The sign actually turns from being negative to positive. The positive correlation might imply that given cultural differences, economic policy, technological change, digitalization, and other year-changing, country-specific variables, a stable increase in credit will facilitate growth in the economy. One possible mechanism is that credit availability might increase the revenue of firms, allowing them to pay higher wages. Alternatively, more credit might create a beneficial cycle in which firms pay more taxes, increasing public sector welfare, which again increases access to education and human capital, boosting wages. Yet, notably, the significant relationship between credit expansion and the adjusted wage share vanishes when I exclude union density from the model (see appendix table 12 (control set 3)). This could be because of multicollinearity problems, but the adjusted GVIF score does not exceed 4, indicating that the measure does not correlate critically with the other variables. It is also possible that for credit expansion to have a significantly positive impact on the wage share, union density must be taken into account.

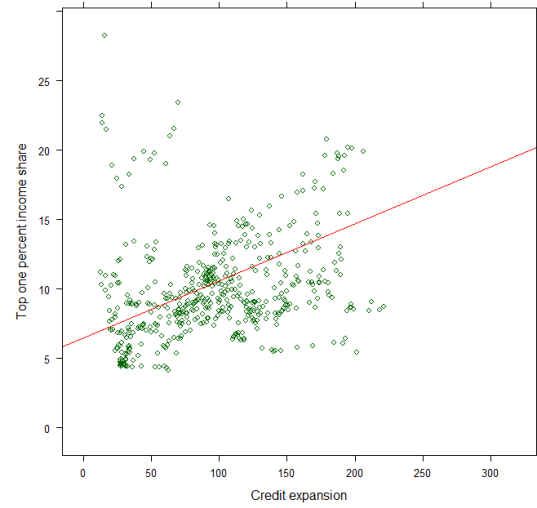
Contrary to Hyde et al. (2017) and Assa (2012), I do not find any significant positive link between FIRE employment or value added in finance and income inequality, as shown in table 13 and 14 in the appendix section D. These indicators actually correlate negatively with the share of income going to top earners, while the coefficients for the adjusted wage share and pre-tax, pre-transfer Gini remain insignificant. This might be explained by data choices. The FIRE employment indicator, for one, has been measured through several categorization templates²³. Where I have consistently used ISIC Rev. 4 (in order to increase comparability although it reduces coverage) other authors may have chosen differently. Value added in finance, meanwhile, is limited to finance in my sample, while some scholars include value added in real estate activities to this measure. To get a clean measure of the financial aspect, I have used only value added in finance. My findings reduce the robustness of the link previously found between these indicators and income inequality. Yet, financial globalization, bank profit and securities under bank assets do follow the anticipated paths. While these indicators link positively with the pre-tax, pre-transfer Gini and top income shares, they correlate negatively with the adjusted wage share.

Figure 9 visualizes the relationship between credit expansion and different indicators of income inequality. It is easy to see that when credit expansion (on the x-axis) increases, income inequality (on the y-axis) increases as well. Yet, although the link is clear, the relationships are not straightforward. Below, I elaborate on the findings in this section. In short hypothesis 1 – that finance-led accumulation increases income inequality – receives partial support. While, the pre-tax, pre-transfer Gini and top one percent income shares are particularly affected by the financialization indicators, the relationship between financialization

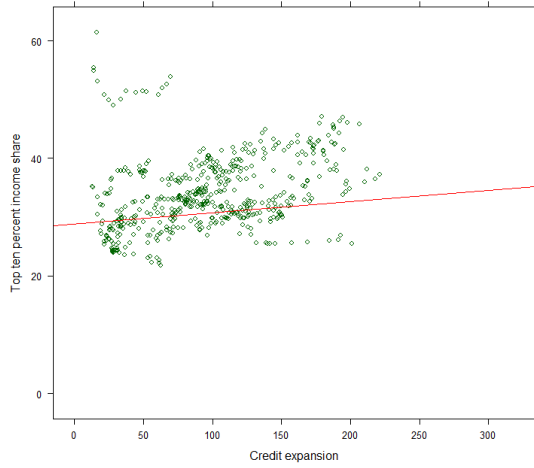
²³Namely ISIC Rev. 2, ISIC Rev. 3 and ISIC Rev. 4



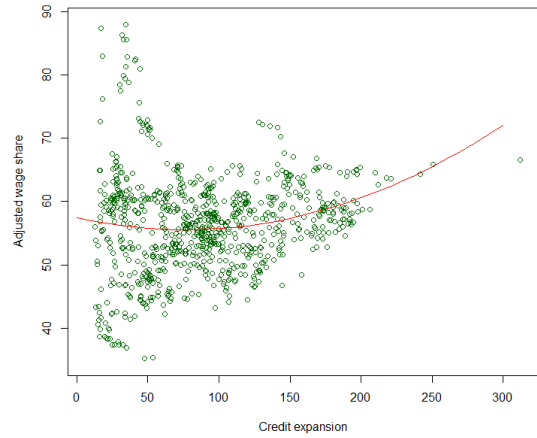
(a) Predicted pre-tax, pre-transfer Gini.
Fitted regression line from model 1 in table 5.



(b) Predicted top one percent income share.
Fitted regression line from model 2 in table 4.



(c) Predicted top ten percent income share.
Fitted regression line from model 3 in table 5.



(d) Predicted adjusted wage share.
Quadratic trend fitted from model 4 in table A18.

Figure 9: Predicted effect of credit expansion on income inequality.

and top ten percent income shares and the adjusted wage share is less clear-cut.

Summing up, this section has shown that when credit is extended to the private sector, income inequality increases in terms of pre-tax, pre-transfer distribution between high-earners and low-earners (the Gini), and in terms of income going to the top one percent earners. As the correlation persisted when I used year- and country-fixed effects, as well as when I controlled for cyclical, institutional and technological factors, this effect is possibly causal²⁴. This means that increased income inequality could possibly, partly, be attributed to increased circulation of credit.

²⁴Yet, establishing causal effects is a complex procedure requiring comprehensive research designs. For the purpose of this thesis, I have attempted to use an instrumental variable approach, but the instrument – legal practices facilitating financial globalization – was unfortunately rather weak when relevant control variables were used. Using a GMM model was also an option, but the data had a large-N, low-T structure, causing a bad fit to the GMM model.

Exactly *how* the covariation between the variables in tables 4 and 5 come about should be left to more qualitative, in-depth studies, but the results above give suggestive evidence to the anticipated links in section 3.2. In brief, increased access to credit may lead to an overheating of the economy, create instability through excessive borrowing and expand the market for unstable financial instruments. The positive correlation between income inequality and the number of securities under bank assets indicates that the number of financial instruments in the economy might play a significant role. Meanwhile the positive correlation between bank profitability and income inequality indicates that the practice of leveraging might indeed be important in generating income inequality, as banks might profit significantly from lending out capital to businesses as well as households. The link between the financial globalization index and income inequality means, first, that these mechanisms might be rather broad across different financial measures²⁵, and second, that when a large number of countries and years are included, the effect remains²⁶. Seeing that credit expansion benefits the top one percent earners more consistently than the top ten percent also lends support to the assumed link in section 3.2, where very wealthy individuals have more to win on investment, property and capital market gains as these ventures become increasingly lucrative. Recapping from section 3.2, this is presumably because wealthy individuals (1) are able to invest more and therefore gain more, and (2) are less vulnerable to losses.

Finally, my analysis has shown that the circulation of credit in the economy also might have a positive impact on creating income equality. There appears to be a U-shaped relationship between credit extended to the private sector and the adjusted wage share, in which the wage share first drops with more credit in circulation, and then increases steadily. This positive covariation becomes clear when issues such as global trade (captured by using year-fixed effects) is controlled for. These results speak against the expectations presented in section 3.2 that too much credit leads to an overheating of the economy, creating bubbles that will eventually burst and lead many firms to go bankrupt, turn to downsizing and cut labour costs. On the contrary, the results in this section indicates that credit extended as a percentage of GDP actually has to meet a critical quantity before it becomes beneficial to labour. Yet, there are two things to note about this covariation. First, high union density was necessary for the positive link to become significant, meaning that union strength might be a necessary condition for credit to benefit the wage share (more on this in section 5.2). Second, it is worthwhile to reflect upon the fact that using year-fixed effects means controlling away common year-wise variation among all countries in the sample. If a financial crisis hits all countries in much the same way, then using year-fixed effects might mean controlling away an OECD wide economic downturn that impacts wages, and possibly is inflicted by financialization. This cautionary note becomes particularly important in the next section, where I analyse the relationship between shareholder value orientation and income inequality.

²⁵Recall that the financial globalization index included measures such as FDI, which are not directly linked to financialization (see section 2.1.2)

²⁶This strengthens the robustness of the results against sample sensitivity.

5.1.2 Shareholder value and income inequality

Shareholder value refers to the practice within firms to focus on maximizing returns on shares, diminish costs to boost the firm's market value and put pressure on enhancing work productivity. Below, I show regression tables for the two measures chosen to operationalize shareholder value - the logged number of stocks traded for listed firms, and stock capitalization as a share of GDP.

Table 6: Shareholder value (log stocks traded) and income inequality. Country fixed effects.

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top ten percent income	Top ten percent income	Adjusted wage share
	(1)	(2)	(3)	(4)
Log stocks traded	0.854*** (0.172)	0.661*** (0.156)	0.597*** (0.202)	-1.213*** (0.198)
Union density	-0.175*** (0.046)	-0.099*** (0.033)	-0.214*** (0.057)	0.124*** (0.042)
Unemployment rate	0.346*** (0.069)	-0.045 (0.045)	0.051 (0.087)	-0.183** (0.084)
GDP per capita growth	-0.079* (0.043)	0.044 (0.046)	-0.007 (0.053)	-0.060 (0.044)
Left government power	-0.002 (0.003)	0.0001 (0.003)	0.00001 (0.003)	-0.002 (0.006)
Constant	46.111*** (1.697)	8.299*** (1.352)	32.616*** (2.158)	57.889*** (1.585)
Observations	789	573	565	839
R ²	0.839	0.813	0.873	0.852
Adjusted R ²	0.833	0.804	0.867	0.846
Residual Std. Error	1.881 (df = 757)	1.311 (df = 548)	1.864 (df = 540)	2.254 (df = 805)
F Statistic	127.569*** (df = 31; 757)	99.045*** (df = 24; 548)	154.816*** (df = 24; 540)	140.949*** (df = 33; 805)

Significance: * p<0.1; ** p<0.05; *** p<0.01

Log stocks traded have been trimmed for bottom 1 % and top 1 % influential observations.

Year: 1975-2014.

Countries: Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Poland, Luxembourg, Netherlands, Norway, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, United Kingdom, United States.

Fixed effects on country.

Standard errors clustered by country.

Tables 6 and 7 use only country-fixed effects, while table 8 and 9 include year-fixed effects as well. There are some striking differences between these two sets of models. I will discuss this difference in more depth below. First, however, I briefly explain the results given in the models. Model 1 in table 6 shows that a one percent increase in the value of stocks traded as a percentage of GDP leads to a 0.85 jump in the Gini coefficient. This is a rather large jump, considering the fluidity of the stocks. Equally notable jumps are seen for the top income shares in model 2 and 3. Meanwhile, model 4 shows that compensation to employees as a percentage of GDP is reduced by 1.2 percent when the value of traded stocks increases by one percent. Union density reduces inequality and increases the adjusted wage share as anticipated. Among the control variables, the unemployment rate significantly increases the Gini and reduces the wage share. GDP per capita growth appears to have a negative impact on the Gini.

The remaining control variables did not come out significant. Table 7 uses the same model specification,

Table 7: Shareholder value (stock capitalization) and income inequality. Country fixed effects.

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top ten percent income	Top ten percent income	Adjusted wage share
	(1)	(2)	(3)	(4)
Stock capitalization	0.030*** (0.010)	0.031*** (0.007)	0.030*** (0.009)	-0.039*** (0.011)
Union density	-0.186*** (0.053)	-0.107*** (0.023)	-0.217*** (0.046)	0.133*** (0.052)
Unemployment rate	0.395*** (0.066)	0.011 (0.050)	0.105 (0.098)	-0.208** (0.088)
GDP per capita growth	-0.124*** (0.042)	-0.013 (0.041)	-0.061 (0.055)	-0.012 (0.043)
Left government power	-0.001 (0.003)	0.001 (0.003)	0.001 (0.004)	0.002 (0.007)
Constant	46.820*** (2.160)	7.925*** (1.136)	31.837*** (1.849)	56.170*** (1.952)
Observations	754	550	542	800
R ²	0.830	0.840	0.886	0.830
Adjusted R ²	0.823	0.833	0.881	0.823
Residual Std. Error	1.924 (df = 722)	1.314 (df = 525)	1.835 (df = 517)	2.434 (df = 766)
F Statistic	114.045*** (df = 31; 722)	114.758*** (df = 24; 525)	167.945*** (df = 24; 517)	113.541*** (df = 33; 766)

Significance: *p<0.1; **p<0.05; ***p<0.01

Stock capitalization has been trimmed for bottom 1 % and top 1 % influential observations.

Year: 1975-2014.

Countries: Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Poland, Luxembourg, Netherlands, Norway, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, United Kingdom, United States.

Fixed effects on country.

Standard errors clustered by country.

but shifts log stocks traded out with stock capitalization. Here, the exact same relationships are repeated with regard to direction and significance. The most interesting change happens when year-fixed effects are included, as shown in table 8 and 9. In these models, most of the effects are rendered insignificant. The shareholder value variables no longer exert any significant influence on income inequality, and union density appears only to reduce the Gini and top ten percent income shares, not having any effect on the top one percent income share or the adjusted wage share. The unemployment rate is still associated with a higher Gini coefficient, and GDP growth links with a lower wage share.

Comparing tables 6 and 7 with table 8 and 9 shows that when I control for year-wise variation, none of the coefficients are significant at even the lowest 10 % level. Including year-dummies also cause the effects to become low and irregular compared to the anticipated relationships, as shown in table 8 and 9. For example, in model 1 in table 7 (without year-fixed effects), when the value of the shares for listed firms increase by 10 %, the Gini coefficient increases with a significant 0.3 points. Compare this to model 1 in table 9, where there is an insignificant reduction in the Gini coefficient at 0.05 points with a 10 % increase in share value when within-year variation is controlled for. The fact that including year-fixed effects renders the effect of shareholder value on income inequality insignificant is interesting, given that the literature on the field has not discussed this finding. Flaherty (2015), Dünhaupt (2014) and Kus (2013) find a positive link between stock capitalization and income inequality using country-fixed effects and GMM models, but none of them discuss the implication of including year dummies.

Table 8: Shareholder value (log stocks traded) and income inequality. Country and year fixed effects.

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top ten percent income	Top ten percent income	Adjusted wage share
	(1)	(2)	(3)	(4)
Log stocks traded	0.235 (0.291)	0.107 (0.246)	-0.134 (0.377)	-0.272 (0.351)
Union density	-0.089** (0.040)	-0.024 (0.028)	-0.117*** (0.044)	0.028 (0.046)
Unemployment rate	0.271*** (0.071)	-0.068 (0.063)	0.032 (0.097)	-0.119 (0.089)
GDP per capita growth	-0.013 (0.047)	0.110 (0.070)	0.059 (0.077)	-0.118** (0.055)
Left government power	-0.001 (0.003)	-0.0003 (0.003)	-0.001 (0.004)	0.0003 (0.005)
Constant	42.873*** (1.687)	5.792*** (1.174)	29.722*** (1.843)	62.896*** (2.191)
Observations	789	573	565	839
R ²	0.871	0.856	0.898	0.881
Adjusted R ²	0.859	0.838	0.885	0.869
Residual Std. Error	1.729 (df = 718)	1.192 (df = 509)	1.734 (df = 501)	2.078 (df = 766)
F Statistic	69.431*** (df = 70; 718)	48.115*** (df = 63; 509)	70.158*** (df = 63; 501)	78.471*** (df = 72; 766)

Significance: *p<0.1; **p<0.05; ***p<0.01

Log stocks traded has been trimmed for bottom 1 % and top 1 % influential observations.

Year: 1975-2014.

Countries: Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Poland, Luxembourg, Netherlands, Norway, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, United Kingdom, United States.

Fixed effects on country and year.

Standard errors clustered by country.

Why is it that controlling for between-year variation distinctly erases the relationship between the shareholder value indicators and income inequality? One possible explanation is that what we are observing when year-dummies are not included is covariation, not causality. As explained in section 4.5, what year fixed effects essentially do, is to rule out variation that is common to all countries in the sample within a given year, by comparing that variation to a base year. In other words, the increase in income inequality that appears to be caused by shareholder value, would in reality be caused by factors such as technological boosts, global macroeconomic cycles and general optimism or negativism in the market over a given year. However, if the effect that the magnitude of traded stocks and stock capitalization has on income inequality works through one of these cyclical measures, then what we are observing is an instance of post-treatment bias. The true effect that shareholder value has on income inequality is, in that instance, controlled away.

A Lagrange test suggests that one should employ year-fixed effects given the data structure. Yet, the substantial question remains on whether there might be a mediating variable operating between shareholder value and income inequality. The set of models using different control variables as reported in the appendix (section D) do not give any clear indications. GDP per capita might be important, but this measure was highly correlated with the shareholder value variables, so the estimates might be biased by multicollinearity. Other than that, trade openness and unemployment replacement rate came out significant in some models,

Table 9: Shareholder value (stock capitalization) and income inequality. Country and year fixed effects.

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top ten percent income	Top ten percent income	Adjusted wage share
	(1)	(2)	(3)	(4)
Stock capitalization	-0.005 (0.012)	0.014 (0.009)	0.012 (0.011)	0.009 (0.011)
Union density	-0.087* (0.045)	-0.037 (0.032)	-0.137** (0.058)	-0.002 (0.041)
Unemployment rate	0.290*** (0.067)	-0.033 (0.059)	0.073 (0.103)	-0.085 (0.081)
GDP per capita growth	-0.030 (0.041)	0.100 (0.065)	0.034 (0.068)	-0.166*** (0.048)
Left government power	-0.001 (0.003)	0.001 (0.003)	0.001 (0.005)	0.003 (0.006)
Constant	42.267*** (1.780)	5.797*** (1.300)	29.716*** (2.176)	62.523*** (1.998)
Observations	754	550	542	800
R ²	0.882	0.871	0.901	0.888
Adjusted R ²	0.870	0.854	0.888	0.876
Residual Std. Error	1.648 (df = 683)	1.226 (df = 486)	1.784 (df = 478)	2.033 (df = 727)
F Statistic	73.114*** (df = 70; 683)	52.132*** (df = 63; 486)	68.789*** (df = 63; 478)	79.750*** (df = 72; 727)

Significance: *p<0.1; **p<0.05; ***p<0.01

Stock capitalization has been trimmed for bottom 1 % and top 1 % influential observations.

Year: 1975-2014.

Countries: Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Poland, Luxembourg, Netherlands, Norway, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, United Kingdom, United States.

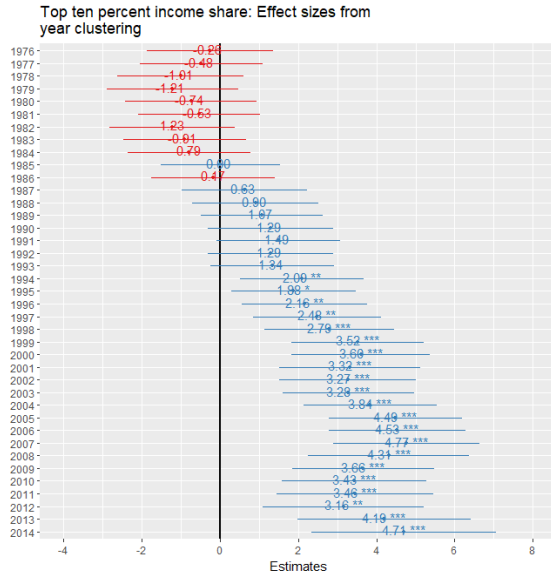
Fixed effects on country and year.

Standard errors clustered by country.

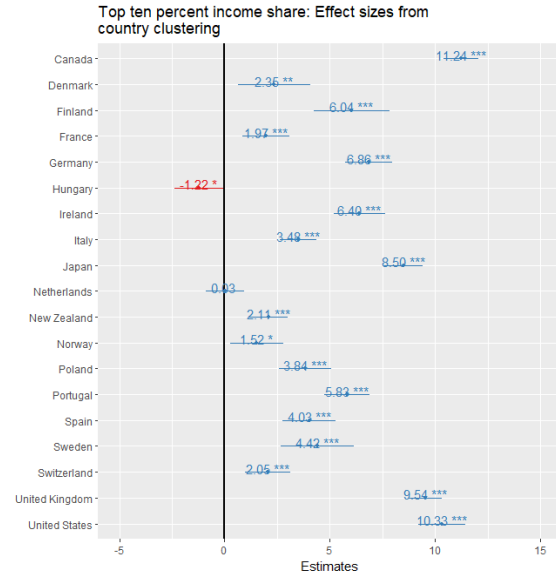
but these results are also uneven.

The significance of including year fixed effects is illustrated in figure 10 below. I use the share of income going to the top ten percent as dependent variable and log stocks traded as independent variable in these figures. This is because the coefficient stood at a significant and positive 0.597 in the model with only country fixed effects, while R^2 was estimated to 0.867, indicating a quite accurate fit to the data. However, once year-fixed effects are included, the estimate drops to -0.134 and R^2 increases to 0.885, thus making this model the clearest instance of how the inclusion of year-fixed effects alters the estimated relationship between shareholder value and income inequality.

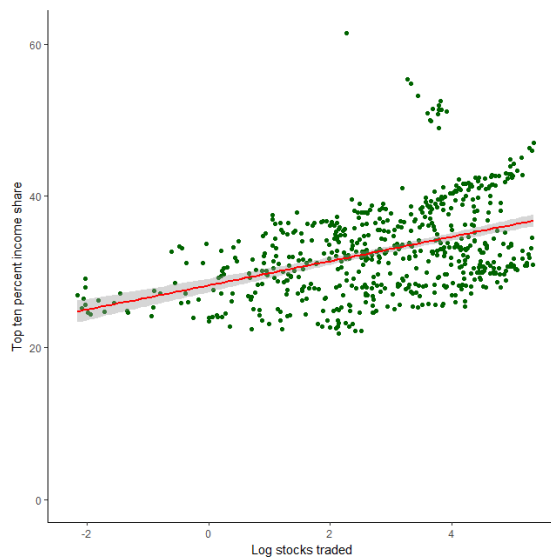
Notice how the country-fixed effects are almost exclusively positive. This indicates that time-invariant variation between countries, for example economic structure or cultural norms, increases the share of income going to top ten percent earners for most countries. Yet, most interesting are the year-fixed effects, which shifted from having a negative (though insignificant) impact on top income shares in the 1970s, to grow considerably from the mid-1980s onwards in both effect size and significance. In 2014, the effect emerging from cyclical, year-wise variation stood at 4.71 compared to the cyclical occurrences in 1975. This could be driven by a number of different factors, for example a shift in family structures where there are more single-parent households, as explained in section 3.2. It could also be a result of routinization of work pro-



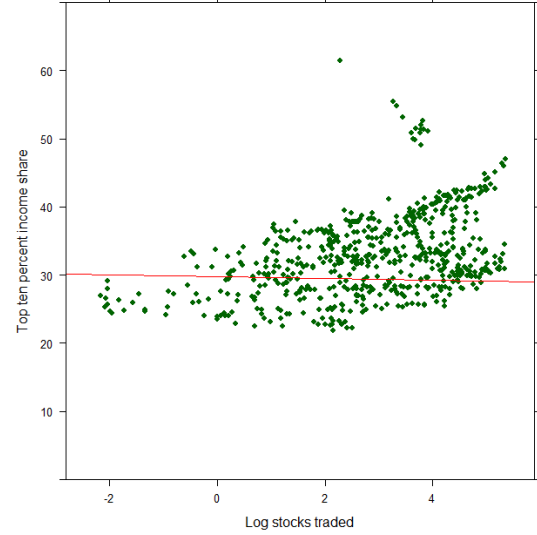
(a) Effect sizes from year fixed effects.



(b) Effect sizes from country fixed effects.



(c) Observations and regression line using no fixed effects.



(d) Observations and regression line using fixed effects on year and country.

Figure 10: The relationship between log stocks traded and top ten percent income share.

cesses and an increase white collar occupations, increasing income going to the top ten percent. However, it might also partly be driven by depoliticization and the shift to neoliberalism, which promoted market-based solutions to economic issues, as explained in section 1.1. Without strong taxation and less strict employment regulation, incomes among the top ten percent could possibly grow larger in light of these developments. Yet, having only year-effects to study, one can only speculate on what variables that drive the result.

In section 2.3, figure 5 shows a jump in income inequality since the 1990s. This jump in average income inequality is probably largely driven by the introduction of Eastern European countries into the sample (see figure 6). These post-communist countries experiences profound economic and political changes in the given period, leading to sharp increases in income inequality. Meanwhile, as shown in figure 4, union density

has fallen considerably in these countries in the same period. Since including these countries in the sample might drive the estimates, I also run models on samples divided between countries that have been continuously democratic since 1945, and countries that have had more erratic democracy. The results indicate that post-communist and other non-continuously democratic countries are not affected by credit expansion to the same degree. However, the shareholder value indicators came out more significant for these countries. Notably, though, when the sample is split in two, the number of observations are reduced. Thus, since I use a fixed effects approach with many parameters to estimate, the models are vulnerable to overfitting.

In sum then, this section does not lend support to hypothesis 2 that shareholder value impacts income inequality. Although the results might be caused by post-treatment bias, it is also likely that unobserved confounders drive the perceived link. Thus, it is clear that more stock turnover and capitalization has increased along with the Gini and top income shares, while the adjusted wage share has decreased - and this has happened regardless of country-specific characteristics. However, my results suggest that over time, this correlation might merely be covariation. In that case, increased income inequality would actually be driven by different global trends, such as for example technological development. These developments may affect both financialization and income inequality. Still, in the case that this lack of effect is a result of post-treatment bias, I will employ models without year-fixed effects in the next section to look at whether labour unions are able to modify the effect of financialization on income inequality.

5.2 The modifying effect of union strength

Can labour unions and bargaining institutions modify the effect that financialization has on income inequality? Hypotheses 3 states that under conditions of high union strength, the effect that financialization has on income inequality will be reduced. This hypothesis is what I turn to in this section. As mentioned in section 4.2, I will employ three main variables as indicators of union strength; union density, centralization of bargaining and the bargaining index.

Figure 11 is intended to give an overview of the data on financialization and union strength. It shows the distribution of units sorted after union density on the x-axis, credit expansion on the y-axis, and with different colours for different degrees of centralized bargaining. Most units have union density below 50 %, and higher union density often goes together with more centralized bargaining. The Pearson's r correlation between union density and centralization of bargaining is at 0.47. On the other hand, the correlations between credit expansion and the two union strength variables are much lower and in opposite directions. Credit expansion correlates 0.12 with centralized bargaining, meaning that these seem to coexist, while the estimate is -0.17 for union density, meaning that more credit expanded to the private sector goes together with less union density.

Table 10 shows effects for the three main union strength indicators – trade union density, centralization of bargaining and the union strength index – as they are interacted with the three main financialization

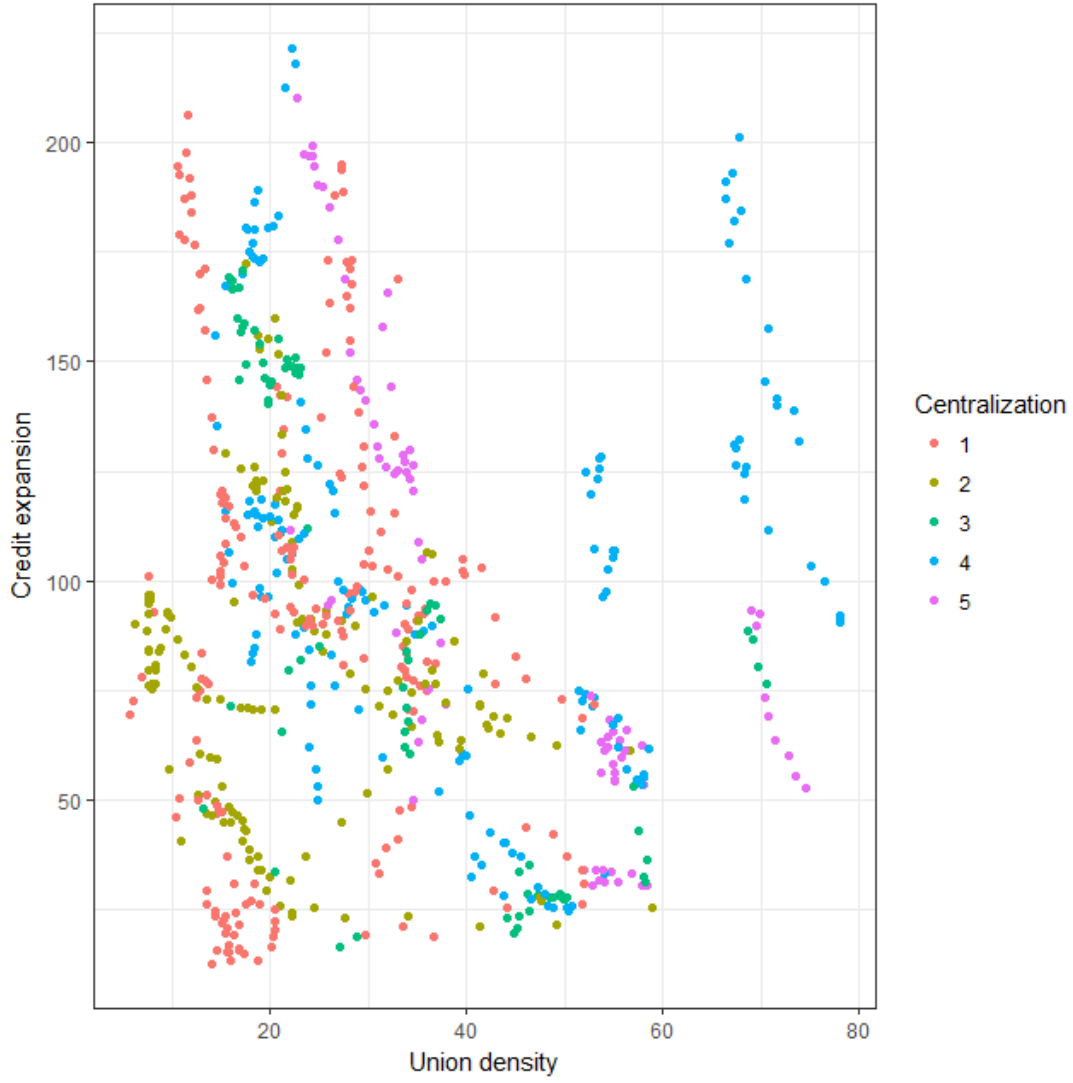


Figure 11: Scatterplot of union density, credit expansion and degree of centralized of bargaining

indicators – credit expansion, log stocks traded and stock capitalization. In order to limit multicollinearity while including relevant variables, the models are specified:

$$INC = \alpha + \beta_1 FIN + \beta_2 UNION + \beta_3 FIN * UNION + \beta_4 LEFTPOWER + \beta_5 GDDPC_GROWTH$$

When credit expansion is used as the financialization variable, fixed effects on country and years are used. As explained in section 5.1.2, due to the disappearance of the effect when I include year-dummies to the shareholder value models, I employ only country-fixed effects when looking at models that estimate the effect of log stocks traded and stock capitalization on income inequality. This means that the results may suffer from omitted variable bias, which is important to keep in mind. Yet, as noted, if some of the effect that log stocks traded and stock capitalization has on income inequality is channelled through common year-wise variation, then estimating the modifying effect of union strength will be relevant.

Table 10 shows the effect of financialization on income inequality under high and low union strength specific-

Table 10: Interaction effects: Financialization coefficients with high and low union strength variables

Union strength indicator	Financialization indicator	Income inequality indicator			
		Pre-tax, pre-transfer Gini	Top one percent income share	Top ten percent income share	Adjusted wage share
Trade union density	Credit expansion	High: 0.03875 Low: 0.01203	High: 0.01704 Low: 0.02093	High: -0.01862 Low: 0.03388	High: 0.03664 Low: 0.03538
	Log stocks traded	High: 1.1293 Low: 0.5787	High: 0.4626 Low: 0.8120	High: 0.2499 Low: 0.9462	High: -0.7338 Low: -1.6328
	Stock capitalization	High: 0.05137 Low: 0.00956	High: 0.03578 Low: 0.02367	High: 0.02946 Low: 0.02611	High: -0.03581 Low: -0.03707
Centralization of bargaining	Credit expansion	High: 0.02288 Low: 0.02596	High: -0.002451 Low: 0.029547	High: -0.0008426 Low: 0.0348579	High: -0.007534 Low: 0.04315
	Log stocks traded	High: 0.7886 Low: 1.6310	High: 0.3955 Low: 1.4301	High: 0.3201 Low: 2.0397	High: -1.509 Low: -1.620
	Stock capitalization	High: 0.04084 Low: 0.03523	High: 0.02374 Low: 0.04634	High: 0.02320 Low: 0.06001	High: -0.08078 Low: -0.03068
Union strength index	Credit expansion	High: 0.03219 Low: 0.01324	High: -0.007401 Low: 0.032156	High: -0.02056 Low: 0.03620	High: 0.02802 Low: 0.04588
	Log stocks traded	High: 0.8848 Low: 0.8214	High: 0.2646 Low: 1.3803	High: -0.09246 Low: 1.99898	High: -1.174 Low: -1.415
	Stock capitalization	High: 0.04362 Low: 0.01374	High: 0.02196 Low: 0.04019	High: 0.01313 Low: 0.05335	High: -0.06176 Low: -0.02147

ations. For union density, the estimate shows financialization's effect when union density is at 5.65 % ("low") and 92.47 % ("high"). For centralized bargaining, "low" refers to fragmented wage bargaining which mostly happens within individual firms, while "high" refers to instances where maximum and minimum wage rates are set with centralized bargaining. The bargaining index is a standardized index of the four variables union density, centralized bargaining, existence of work councils, and whether there is a mandatory extension of collective agreements to public law, ranging from -2.02 to 2.64. In the table, the shaded boxes represent models that were in line with hypothesis 3 – that labour unions reduce the effect that financialization has on income inequality – while the white boxes give estimates that diverge from the hypotheses. Many of these effects are more easily interpreted in an interaction plot, but the multitude of effects would require 36 such plots. Therefore, I put the plots for each interaction effect in the appendix under section E, and invite the reader to look at the plots to get a clearer view of the effect sizes. I will also use these plots when discussing the effects, since the confidence intervals are of importance when determining whether the estimates are statistically significant²⁷ (Brambor et al., 2005).

23 out of 36 models are shaded, meaning that approximately 64 % of the models are in line with hypothesis 3, that higher union strength will lead to a decreased effect of financialization on income inequality. About 36 % of the models show the opposite effect, that under conditions of high union strength, financialization's effect on income inequality is larger. The latter effect is particularly prevalent when the pre-tax, pre-transfer Gini is used as an indicator of income inequality. Of all union strength indicators, only centralized bargaining reduces the effect of financialization on the Gini, and this effect is rather low when credit expansion is used as financialization indicator. These findings suggest that under conditions of higher union strength, financialization asserts a larger effect on the Gini. Throughout the models, this effect is rather significant, a finding that proves against hypothesis 3.

When we turn to look at the top income shares, however, union strength asserts a strong and very consistent negative modifying effect on financialization's effect. In 13 out of 15 models, financialization has a less pronounced effect on income inequality when union strength is higher. Yet, this effect is hardly significant when credit expansion is used as financialization indicator, as the confidence intervals are large and often cross zero. The modifying effect of union strength is more pronounced when looking at shareholder value, operationalized as log stocks traded and stock capitalization. Here, the confidence intervals are narrower, more seldom crossing zero, and the effect estimates are generally larger. Illustratively, when centralized bargaining is "low" – that is, fragmented and relying on wage bargaining to happen within individual firms – financialization's effect on the top one percent income share is estimated to 1.43²⁸. In circumstances when the wage level is determined through centralized bargaining – when centralized bargaining is "high" – financialization's effect on the top one percent income share is reduced to 0.4.

²⁷This is determined by looking at whether the confidence intervals cross zero, in which case we cannot be sure if the effect is positive or negative.

²⁸Recall that it is meaningless to interpret marginal effects when interaction effects are included, when we do not know the distribution of each variable within the population. The effect estimate is thus only suggestive to the actual effect.

At last, higher union strength is anticipated to reduce the downward pressure on the adjusted wage share emitting from increased financialization, as discussed in section 3.3. This anticipated relationship is challenged by the fact that credit expansion usually *increases* the wage share. In section 5.1.1, the results indicated that credit expansion can be beneficial to increasing the wage share, and that this relationship depended on whether I controlled for union density. However, in this section, union strength does not seem to boost this relationship between credit expansion and higher wages. Thus, the exact relationship between union strength and finance-led accumulation remains somewhat mysterious. One possible reason might be that there is a mediating relationship between financialization and union strength when the wage share is used as dependent variable. Thus, union strength might affect financialization, which in turn affects the wage share. In my analysis, 5 out of 9 models show that when union strength is high, financialization has a more beneficial effect on the wage share. This effect is more consistent when log stocks traded is used as financialization indicator and when union density is used as union strength indicator.

Oskarsson (2003)'s suggestion that labour market institutions need to work in unison to have an effect does not receive support in my analysis. The bargaining index did not perform significantly different from the other indicators in decreasing the effect of financialization on income inequality. Yet, the traditional measure of union strength – union density – is still able to modify the effect. This suggests that despite falling membership numbers, fewer social pacts and looser political ties, labour unions are still able to play an influential role in promoting redistribution. This finding contradicts the ideas presented in section 3.1 on power resources theory, where labour unions were assumed to have become too weak to modify the effect of financialization. It is not unreasonable to assume that the modifying effect of union density might work through some of the mechanisms shown in figure 8 in section 3.3, such as industrial action. However, generally, more centralized bargaining pushed the effect of financialization on income inequality down, indicating that firm-specific action is often less effective than polity-oriented action when unions promote redistribution in the face of financialization. At last, the dualization hypothesis does not receive support in my analysis. Labour unions are not able to modify the effect of the adjusted wage share significantly differently from the other income inequality indicators. Actually, union strength seems to have more to say with regard to lowering the beneficial relationship between financialization and top income shares, than cushioning against the downward pressure from financialization on wages.

Because 64 % of the models in this section were in line with hypothesis 3, I conclude that this hypothesis receives partial support. To sum up, table 11 show the support provided to each of the hypotheses through the analysis.

Table 11: Findings.

	Hypothesis	Support
1	Finance-led accumulation increases income inequality.	Partial.
2	Shareholder value orientation increases income inequality.	Rejected.
3	Under conditions of more union strength, financialization's effect on income inequality will be less pronounced.	Partial.

6 Conclusion

In this thesis, I have looked at two links. First, I analysed the relationship between financialization and income inequality. Second, I looked at whether the relationship is modified by labour union strength. The thesis was motivated by the observation that many OECD economies have become more financialized in the post-war years. Based on this, my assumption was that income inequality would correlate positively with increasing financialization. This is because finance-led accumulation and a shift to shareholder value corporate strategies leads to a more exclusive growth, a type of growth that mainly benefits an economic elite. In power resources theory jargon, I termed this elite a "rentier class". Meanwhile, financialization also creates economic instability and harsh competitiveness. This compromises income gains for the rest of the population.

From power resources theory, I assumed that labour unions work to promote wage growth and redistributive policies. This led me to argue that strong labour unions should be able to modify the link between financialization and income inequality. Specifically, in countries where labour unions are strong, financialization ought to exert a smaller effect on income inequality. Yet, I also observed how labour unions have lost power over the last years. The decline in power is reflected in lower membership rates, a reduction in the number of social pacts and looser political ties with social democratic parties. Thus, I assumed that labour unions might not be able to influence the relationship between financialization and income inequality.

My research question sounded: *To what degree does financialization affect income inequality, and does this effect decrease under conditions of higher labour union strength?* This is a comprehensive question and the answer must be equally tentative. To answer the question, I set up three hypotheses. The first two hypotheses look at financialization at two levels – financialization as a regime of accumulation and financialization as shareholder value – arguing that they should increase income inequality. My findings suggest that finance-led accumulation has a more decisive effect on income inequality than shareholder value corporate strategies. Finance-led accumulation does indeed increase the pre-tax, pre-transfer Gini index. It is also fair to say that it raises the amount of income going to the top one percent of earners. With the shareholder value indicators, however, the effect disappears when I control for sample-wide variation from year to year. This result might stem from omitted variable bias. If the model corrects for omitted variable bias, this means that when scholars observe increased income inequality and a more financialized economy for many

OECD countries in the same post-war period, this is merely covariation. The two trends do not drive one another. However, there might also be a significant amount of post-treatment bias involved in controlling for year-wise variation. If the results are driven by post-treatment bias, then the shareholder value variables do actually exert an effect on income inequality. However, this effect would operate through some sample-wide, time-variant mediating variable that is controlled away when year dummies are included. Determining what this variable could be would need a fair amount of detective work, but some suggestions could for example be technological change, global trade, ideological drive, or general positivity or negativity in the market. A possible starting point taken from my analysis, is that compared to 1975, these year-varying factors began to exert a notable effect on the income distribution in the late 1980s and early 1990s.

Since the first part of the research question cannot be answered decisively in my thesis, the answer to the second part of the question must be equally tentative. The second part of the research question was studied in the third hypothesis. This hypothesis stated that higher labour union strength should decrease the effect that financialization has on income inequality. My findings give partial support to this finding. They indicate that when labour unions are strong, financialization generally exerts a weaker effect on income inequality. This finding contradicts the assumption that labour unions have lost power to promote redistribution and wage growth in the face of a strong rentier class. Generally, while centralization of bargaining is important, so is the more traditional measure of union strength, labour union density. My findings do not offer any clear support to the presumption that several union characteristics must work in unison to be able to significantly modify the income distribution.

6.1 Limitations and further research

Due to the multitude of proposed indicators for the three concepts in question – financialization, labour unions and income inequality – my analysis has been rather broad. To study the mechanisms at a more fundamental level, future studies should consider limiting the number of indicators. This means answering such questions as "at what level am I studying financialization?"²⁹, "which institutional characteristics are important to determine labour union strength?", and "which part of the income distribution am I interested in?" Looking more closely at a select set of indicators makes it easier to see how they vary with different global developments. This might help singling out the effect that financialization has on income inequality by incorporating possible confounders. It should also make it easier to study how labour unions respond to this development. Another approach could be to limit the sample in order to more easily identify time-variant trends. Although the time-variant trends in my analysis appear to be OECD-wide, it might be easier to locate relevant variables through a more in-depth study of a few countries.

The interrelation between the three variables is also unclear. In my analysis, I have assumed that financialization affects the income distribution, and that this effect should be conditioned upon labour union

²⁹Financialization as a regime of accumulation, financialization as shareholder value, or financialization of the daily life (Van der Zwan, 2014)

strength. However, it is not clear whether this is the most accurate model of the link between the three variables. Another proposal could be to analyse whether labour unions operate as a mediating variable. My analysis give some plausibility to this assumption, especially with regard to the wage share. Specifically, finance-led accumulation appears to only increase wages when labour union density is controlled for. This means that labour unions might play a pivotal role for financial expansion to have a positive effect on wages. When labour unions are strong, they channel the effect of financialization on wages so that it goes from being negative to becoming positive. It is, of course, also possible to hypothesize that labour unions might decrease financialization, which in turn leads to less income inequality. This would put financialization as the mediating variable, possibly assuming that labour unions decrease either finance-led accumulation or shareholder value corporate strategies, before financialization exerts an effect on income inequality.

My thesis is a contribution to the large and growing literature on the causes behind the increasing income gap in OECD countries since the Second World War. The thesis suggests that financialization and labour union strength are important determinants of income inequality. Yet, it also highlights that this relationship is complex and intertwined. Using several control variables and a fixed effects approach, I have tried to identify these variables' independent effect upon income inequality. However, when looking at the growing income gap, we should not forget that inequality is driven by multiple factors. While financialization and labour union strength exerts an indecisive effect on income inequality, other factors, such as migration, female work participation, taxation, welfare state provisions and household trends, are also important.

There is still a lot of research to be done on the driving forces behind income inequality. The topic has become popular in recent decades, and it will probably continue to spur debate over the coming years. My thesis shows that financialization of the economy has grown along with income inequality. Meanwhile, labour unions have lost power. This covariation is significant, and the thesis indicates that financialization might actually increase income inequality. However, declining labour union strength has not rendered labour unions irrelevant. In countries with stronger labour unions, the effect of financialization on income inequality is generally lower. This indicates that while financialization acts as a covarying – perhaps also driving – force to income inequality, strong labour unions still act as important buffers to this effect.

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Appendices

A Operationalizations

Financialization

Bivariate correlations for the financialization variables are given below, using Pearson's r . Pearson's r is a measure for continuous variables, indicating how co-linear two variables are.

Table A1: Financialization variables: Correlations (Pearson's r)

	FIRE	Value finance	Credit expansion	Finance global	Stocks traded	Stock capitalization	Bank profit	Securities
FIRE	1	0.748	0.276	0.081	-0.117	0.421	0.225	0.142
Value finance	0.748	1	0.274	0.212	-0.224	0.347	0.145	0.112
Credit expansion	0.276	0.274	1	-0.021	0.463	0.389	0.226	0.504
Finance global	0.081	0.212	-0.021	1	0.151	0.355	-0.0002	-0.559
Stocks traded	-0.117	-0.224	0.463	0.151	1	0.549	0.336	0.247
Stock capitalization	0.421	0.347	0.389	0.355	0.549	1	0.374	0.127
Bank profit	0.225	0.145	0.226	-0.0002	0.336	0.374	1	-0.037
Securities	0.142	0.112	0.504	-0.559	0.247	0.127	-0.037	1

Factor loadings for the financialization variables are given below. The eigenvalues below is an indication of the degree to which different variables contribute to explain variance within a given factor - assuming that the variables are indeed manifestations of a latent factor.

Table A2: Financialization variables: Loadings

	Comp.1	Comp.2	Comp.3	Comp.4	Comp.5	Comp.6	Comp.7	Comp.8
FIRE employment	-0.20	0.65	-0.27	0.20	0.57	0.06	-0.29	0.11
Value added in finance	-0.17	0.52	0.49	-0.47	-0.19	0.37	0.22	0.11
Credit expansion	-0.42	0.25	0.17	0.24	-0.13	-0.68	0.34	-0.28
Financial globalization	-0.41	-0.18	0.42	0.07	-0.17	-0.08	-0.75	0.14
Log stocks traded	-0.46	-0.32	-0.09	-0.04	0.22	-0.02	0.37	0.70
Stock capitalization	-0.43	-0.33	0.08	-0.15	0.45	0.32	0.10	-0.61
Bank profit	-0.24	0.04	-0.57	-0.68	-0.23	-0.24	-0.20	-0.08
Securities (z-value)	-0.36	0.07	-0.37	0.44	-0.54	0.48	0.07	-0.07

Bargaining index

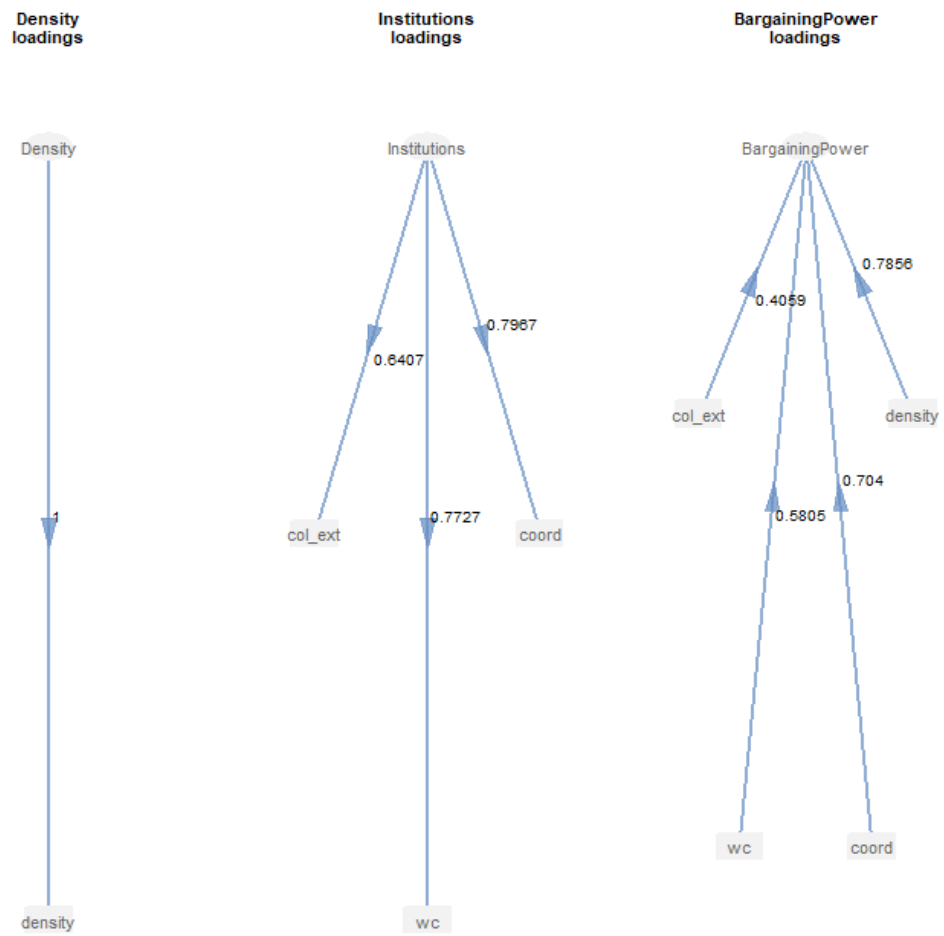


Figure 12: Bargaining index. Path modelling: Factor loadings

Control variables

Table A3: Control variables

	Variable	Definition	Coverage	Source
Business cycle	Log GDP per capita	Gross domestic product divided by midyear population.	N = 1449	OECD National Accounts
	Unemployment rate	Number of unemployed people as a percentage of the labor force.	N = 1346	OECD Labour Force Statistics
	Trade openness	The sum of imports and exports of goods and services as a percentage of gross domestic product.	N = 1478	World Bank National Accounts Data and OECD National Accounts
Institutional and political characteristics	Left government power	Cabinet posts of of social democratic and other left parties as a percentage of total cabinet posts. Weighted by number of days in office in the given year.	N = 1214	Comparative Political Dataset
	Welfare generosity	Index of state generosity in unemployment benefits, sickness benefits and pension benefits.	N = 715	Comparative Welfare States Dataset
	Unemployment benefit replacement rate	Net replacement rate of the unemployment insurance for an average production-worker in a single-person household.	N = 757	Comparative Welfare States Dataset
	Government employment	Civillian government employment as a percentage of the working age population.	N = 798	Comparative Welfare States Dataset
Technological change	Education	Average years of education for population aged 25 and over.	N = 318 (5-year intervals)	Barro-Lee Educational Attainment Dataset
	GDP per capita growth	Annual percentage growth rate of GDP per capita based on constant local currency.	N = 1460	World Bank and OECD National Accounts

B Descriptive statistics

Table A4: Descriptive statistics

Statistic	N	Mean	St. Dev.	Min	Max
FIRE employment	758	4.01	1.81	0.81	12.59
Log value added in finance	949	1.63	0.40	0.68	3.39
Credit expansion	996	83.35	49.42	6.06	312.12
Financial globalization index	1,461	61.49	23.46	7.56	99.99
Stock capitalization	1,097	51.34	44.70	0.18	265.13
Log stocks traded	1,154	2.33	1.82	−8.05	5.75
Bank profit	538	0.33	1.66	−1.95	36.32
Securities (z-value)	608	0.00	1.00	−0.25	6.48
Union density	1,266	36.97	20.49	5.65	92.47
Collective agreement extension	1,258	1.44	1.22	0	3
Centralization of bargaining	1,218	2.91	1.40	1	5
Work councils	1,161	1.31	0.85	0	2
Bargaining index	1,680	0.00	1.00	−2.02	2.64
Market income inequality	1,173	44.20	5.30	28.79	59.71
Top ten percent income share	756	32.25	6.31	0.00	61.45
Top one percent income share	775	8.82	3.56	0.00	28.26
Adjusted wage share	1,329	57.04	7.39	34.69	88.42
Unemployment replacement rate	1,346	6.83	4.00	0.08	27.49
GDP per capita growth	1,460	2.28	3.17	−14.56	24.76
Trade openness	1,478	73.95	47.04	9.10	410.17
Left government power	1,214	33.71	36.33	0.00	100.00
Welfare state generosity	715	31.75	6.75	10.80	46.60
Unemployment replacement rate	757	0.58	0.19	0.02	0.99
Government employment	798	10.58	5.23	1.08	24.97
Education	1,578	9.08	2.31	2.02	13.42
Log GDP per capita	1,449	9.70	0.79	6.41	11.54

Serial correlation (AR1)

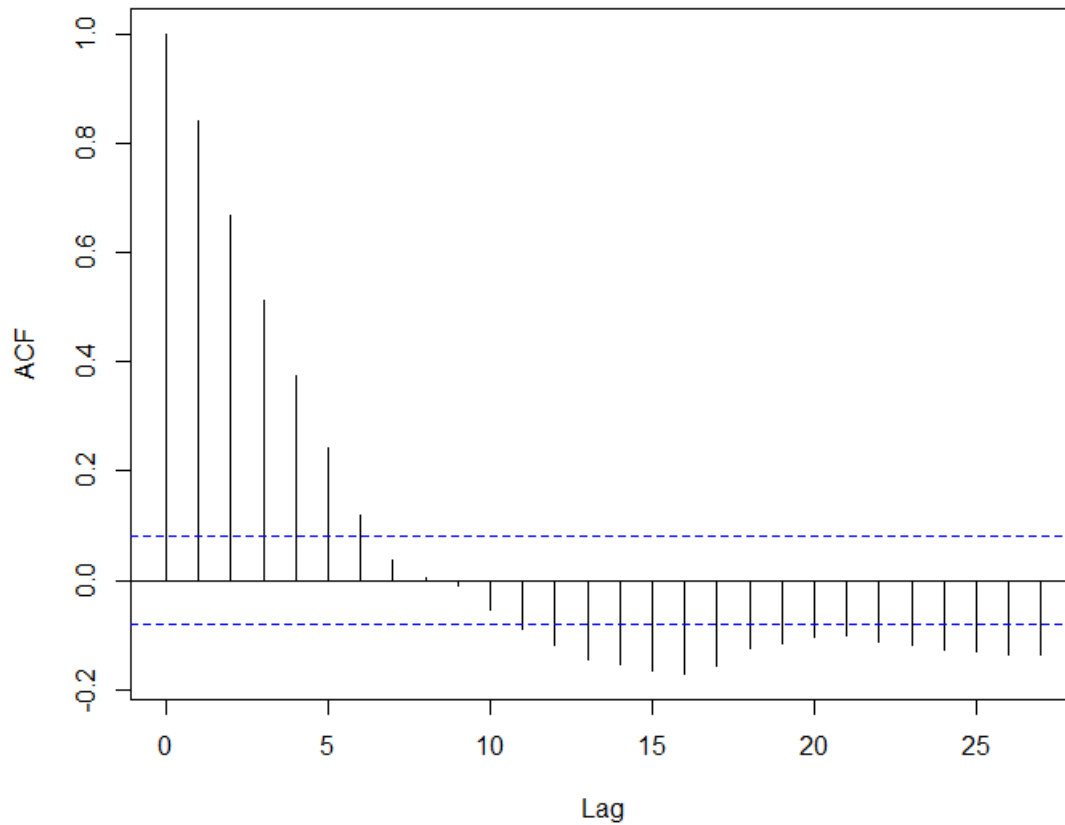


Figure 13: Autocorrelation Function on Benchmark model

Heteroscedasticity

Studentized Breusch-Pagan test.

BP = 148.08, df = 31, p-value < 2.2e-16

Durbin Watson test

Durbin-Watson test for serial correlation in panel models.

DW = 0.3166, p-value < 2.2e-16

alternative hypothesis: serial correlation in idiosyncratic errors

C Model specifications

Table A5: Model specifications

<i>Dependent variable:</i>				
	Pre-tax, pre-transfer Gini			
	Pooled OLS	Fixed effects: Country and time	Fixed effects: Country	Random effects
	(1)	(2)	(3)	(4)
Credit expansion	0.012*** (0.004)	0.029*** (0.003)	0.043*** (0.002)	0.044*** (0.002)
Union density	-0.083*** (0.009)	-0.146*** (0.015)	-0.188*** (0.013)	-0.175*** (0.012)
Unemployment rate	0.673*** (0.048)	0.261*** (0.031)	0.324*** (0.028)	0.326*** (0.028)
GDP per capita growth	-0.126** (0.058)	0.043 (0.030)	0.032 (0.024)	0.031 (0.024)
Left government power	0.010** (0.005)	0.002 (0.002)	0.0003 (0.002)	0.0004 (0.002)
Constant	41.915*** (0.728)			45.047*** (0.924)
Observations	604	604	604	604
R ²	0.408	0.770	0.715	0.744
Adjusted R ²	0.403	0.738	0.700	0.742
F Statistic	82.473*** (df = 5; 598)	36.124*** (df = 49; 528)	287.139*** (df = 5; 572)	346.870*** (df = 5; 598)

Note:

*p<0.1; **p<0.05; ***p<0.01
Naïve SEs

D Robustness

Standard error adjustments (credit expansion and income inequality)

Table A6: Benchmark model: Standard error adjustments.

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini			PCSE
	Classical SEs	Country clustered SEs	Year clustered SEs	
	(1)	(2)	(3)	
Credit expansion	0.043*** (0.002)	0.043*** (0.006)	0.043*** (0.004)	0.043*** (0.006)
Union density	−0.188*** (0.013)	−0.188*** (0.029)	−0.188*** (0.017)	−0.188*** (0.035)
Unemployment rate	0.324*** (0.028)	0.324*** (0.080)	0.324*** (0.030)	0.324*** (0.057)
GDP per capita growth	0.032 (0.024)	0.032 (0.037)	0.032 (0.023)	0.032 (0.028)
Left government power	0.0003 (0.002)	0.0003 (0.003)	0.0003 (0.002)	0.0003 (0.003)
Constant	45.765*** (0.634)	45.765*** (1.255)	45.765*** (0.813)	
Observations	604	604	604	604
R ²	0.917	0.917	0.917	0.715
Adjusted R ²	0.912	0.912	0.912	0.700
Residual Std. Error (df = 572)	1.525	1.525	1.525	
F Statistic	202.983*** (df = 31; 572)	202.983*** (df = 31; 572)	202.983*** (df = 31; 572)	287.139*** (df = 5; 572)

Note:

* p<0.1; ** p<0.05; *** p<0.01
Fixed effects on country.

Table A7: Financialization and income inequality: SE clustered by year.

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top one percent income	Top ten percent income	Adjusted wage share
	(1)	(2)	(3)	(4)
Credit expansion	0.029*** (0.004)	0.018*** (0.005)	0.019** (0.008)	0.036*** (0.005)
Union density	-0.146*** (0.016)	0.026* (0.014)	-0.106*** (0.023)	0.061** (0.027)
Unemployment rate	0.261*** (0.028)	-0.151*** (0.030)	-0.021 (0.047)	-0.129*** (0.040)
GDP per capita growth	0.043* (0.024)	0.123** (0.049)	0.091 (0.090)	-0.043 (0.049)
Left government power	0.002 (0.002)	-0.003** (0.002)	-0.004 (0.003)	0.005 (0.004)
Constant	42.717*** (0.743)	3.691*** (0.640)	28.801*** (1.007)	58.508*** (0.987)
Observations	604	460	460	636
R ²	0.933	0.877	0.889	0.862
Adjusted R ²	0.923	0.855	0.870	0.843
Residual Std. Error	1.425 (df = 528)	1.196 (df = 391)	1.890 (df = 391)	2.181 (df = 558)
F Statistic	97.723*** (df = 75; 528)	40.866*** (df = 68; 391)	46.259*** (df = 68; 391)	45.425*** (df = 77; 558)

Note:

*p<0.1; **p<0.05; ***p<0.01
Country and year fixed effects. Standard errors clustered by year.

Table A8: Financialization and income inequality: PCSE.

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top one percent income	Top ten percent income	Adjusted wage share
	(1)	(2)	(3)	(4)
Credit expansion	0.029*** (0.006)	0.018** (0.008)	0.019 (0.015)	0.036*** (0.011)
Union density	-0.146*** (0.042)	0.026 (0.043)	-0.106 (0.069)	0.061 (0.057)
Unemployment rate	0.261*** (0.062)	-0.151** (0.061)	-0.021 (0.103)	-0.129 (0.082)
GDP per capita growth	0.043 (0.032)	0.123** (0.048)	0.091 (0.065)	-0.043 (0.049)
Left government power	0.002 (0.003)	-0.003 (0.003)	-0.004 (0.004)	0.005 (0.004)
Observations	604	460	460	636
R ²	0.770	0.703	0.642	0.505
Adjusted R ²	0.738	0.652	0.579	0.437
F Statistic	36.124*** (df = 49; 528)	18.932*** (df = 49; 391)	14.296*** (df = 49; 391)	11.621*** (df = 49; 558)

Note:

*p<0.1; **p<0.05; ***p<0.01
Country and year fixed effects. Panel corrected standard errors.

Table A9: Financialization and income inequality: CAT

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top one percent income	Top ten percent income	Adjusted wage share
	(1)	(2)	(3)	(4)
Credit expansion	0.029*** (0.000)	0.018 (0.060)	0.019 (0.440)	0.036*** (0.000)
Union density	-0.146*** (0.000)	0.026 (0.250)	-0.106 (0.160)	0.061 (0.520)
Unemployment rate	0.261*** (0.000)	-0.151*** (0.010)	-0.021 (0.880)	-0.129 (0.400)
GDP per capita growth	0.043 (0.350)	0.123 (0.220)	0.091 (0.270)	-0.043 (0.460)
Left government power	0.002 (0.580)	-0.003 (0.430)	-0.004 (0.360)	0.005 (0.380)
Observations	604	460	460	636
R ²	0.327	0.127	0.110	0.141
Adjusted R ²	0.232	-0.024	-0.045	0.022
F Statistic	51.364*** (df = 5; 528)	11.413*** (df = 5; 391)	9.678*** (df = 5; 391)	18.297*** (df = 5; 558)

Note:

*p<0.1; **p<0.05; ***p<0.01
Country and year fixed effects. Cluster-adjusted t-statistics (CATs).

Financialization as a regime of accumulation

Different control variables

Union density is left out of these models although it is a substantially interesting variable. The reason is that it showed large correlations with other control variables, and to best estimate a clean link between financialization and income inequality, I have left the density variable out of these regressions. All the models below have been screened for multicollinearity.

These models do not have year fixed effects. One reason is to keep degrees of freedom in order to better estimate F-statistics. Another is that year-fixed effects can be substantially interesting in that they indicate whether the effects are robust to time-related shocks in the variables. However, time-related shocks might be of interest to estimate too, since financial variables are often subject to bumps and irregularities that might be interesting to estimate the effect of as well.

Credit expansion

Table A10: Control variables: Set 1. Country fixed effects.

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top ten percent income	Top ten percent income	Adjusted wage share
	(1)	(2)	(3)	(4)
Credit expansion	0.023*** (0.009)	0.017** (0.008)	0.026 (0.016)	0.045*** (0.015)
Log GDP per capita	2.855*** (0.763)	2.092*** (0.535)	1.826 (1.695)	-7.201*** (1.049)
Welfare state generosity	0.032 (0.090)	-0.167** (0.083)	-0.063 (0.192)	0.130 (0.138)
Trade openness	0.014 (0.019)	0.049*** (0.016)	0.068* (0.041)	0.024 (0.020)
Constant	13.299* (7.468)	-11.557*** (3.701)	7.087 (13.633)	120.573*** (11.154)
Observations	370	370	370	400
R ²	0.923	0.864	0.877	0.860
Adjusted R ²	0.919	0.855	0.870	0.851
Residual Std. Error	1.251 (df = 348)	1.194 (df = 348)	1.924 (df = 348)	1.983 (df = 376)
F Statistic	199.090*** (df = 21; 348)	105.027*** (df = 21; 348)	118.129*** (df = 21; 348)	100.368*** (df = 23; 376)

Note:

*p<0.1; **p<0.05; ***p<0.01

Fixed effects on country.

Standard errors clustered by country.

Table A11: Control variables: Set 2. Country fixed effects.

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top one percent income	Top ten percent income	Adjusted wage share
	(1)	(2)	(3)	(4)
Credit expansion	0.017 (0.011)	0.026* (0.016)	0.033 (0.023)	0.015 (0.024)
Log GDP per capita	3.507** (1.395)	0.623 (1.317)	-0.909 (1.619)	-4.140 (2.938)
Unemployment replacement rate	-20.420*** (2.949)	-5.579 (5.049)	-26.107*** (8.374)	-1.031 (5.991)
Left government power	-0.005 (0.007)	-0.001 (0.009)	-0.004 (0.011)	0.032*** (0.012)
Education	-0.291 (1.077)	0.712 (0.640)	1.368* (0.822)	-0.365 (1.138)
Constant	24.521*** (6.597)	-6.124 (5.639)	33.965*** (11.874)	100.008*** (16.901)
Observations	60	56	56	61
R ²	0.954	0.904	0.939	0.919
Adjusted R ²	0.925	0.840	0.899	0.861
Residual Std. Error	1.239 (df = 36)	1.159 (df = 33)	1.604 (df = 33)	1.872 (df = 35)
F Statistic	32.612*** (df = 23; 36)	14.091*** (df = 22; 33)	23.260*** (df = 22; 33)	15.826*** (df = 25; 35)

Note:

*p<0.1; **p<0.05; ***p<0.01

All variables are given in five-year averages. Standard errors clustered by country.

Table A12: Control variables: Set 3. Country and year fixed effects.

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top ten percent income	Top ten percent income	Adjusted wage share
	(1)	(2)	(3)	(4)
Credit expansion	0.030** (0.013)	0.010** (0.005)	0.011 (0.011)	0.019 (0.014)
Government employment	-0.034 (0.144)	0.115 (0.140)	-0.391*** (0.082)	-0.312 (0.264)
Unemployment rate	0.124 (0.128)	-0.178** (0.085)	-0.008 (0.127)	-0.387** (0.191)
GDP per capita growth	0.115** (0.054)	0.071 (0.091)	0.035 (0.075)	-0.140** (0.056)
Left government power	-0.00004 (0.003)	-0.002 (0.003)	-0.001 (0.004)	0.009* (0.005)
Unemployment replacement rate	-11.531*** (3.900)	-5.538*** (1.926)	-12.308*** (3.017)	-1.295 (3.840)
Constant	44.580*** (2.141)	7.588*** (1.081)	35.548*** (1.992)	66.015*** (2.528)
Observations	369	352	352	376
R ²	0.938	0.889	0.926	0.895
Adjusted R ²	0.925	0.865	0.910	0.873
Residual Std. Error	1.218 (df = 305)	1.171 (df = 289)	1.585 (df = 289)	1.835 (df = 310)
F Statistic	72.644*** (df = 63; 305)	37.332*** (df = 62; 289)	58.200*** (df = 62; 289)	40.750*** (df = 65; 310)

Note:

*p<0.1; **p<0.05; ***p<0.01
Standard errors clustered by country

Different specifications of financialization variables

Table A13: FIRE employment as financialization indicator. Country and & year fixed effects.

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top one percent income share	Top ten percent income share	Adjusted wage share
	(1)	(2)	(3)	(4)
FIRE employment	-0.152 (0.623)	-1.155 (0.862)	-1.843** (0.757)	1.263 (1.078)
Union density	-0.031 (0.039)	-0.019 (0.031)	-0.113** (0.045)	-0.034 (0.037)
Unemployment rate	0.328*** (0.038)	-0.022 (0.056)	0.031 (0.097)	0.022 (0.095)
GDP per capita growth	-0.001 (0.002)	0.001 (0.003)	0.002 (0.003)	-0.0001 (0.004)
Left government power	-0.031 (0.030)	0.055 (0.073)	0.040 (0.071)	-0.169*** (0.058)
Constant	44.863*** (3.251)	12.818*** (4.775)	43.202*** (4.207)	57.498*** (4.974)
Observations	598	419	404	628
R ²	0.901	0.926	0.958	0.902
Adjusted R ²	0.887	0.912	0.949	0.889
Residual Std. Error	1.391 (df = 523)	0.999 (df = 350)	1.226 (df = 335)	1.774 (df = 551)
F Statistic	64.436*** (df = 74; 523)	64.663*** (df = 68; 350)	112.316*** (df = 68; 335)	66.795*** (df = 76; 551)

Note:

*p<0.1; **p<0.05; ***p<0.01
Standard errors clustered by country.

Table A14: Value added in finance (log) as financialization indicator. Country and & year fixed effects.

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top one percent income share	Top ten percent income share	Adjusted wage share
	(1)	(2)	(3)	(4)
Value added in finance (log)	-0.799 (1.617)	-1.134* (0.639)	-1.567* (0.851)	1.628* (0.892)
Union density	-0.045 (0.064)	-0.013 (0.022)	-0.074* (0.039)	-0.051 (0.036)
Unemployment rate	0.347*** (0.054)	0.046 (0.071)	0.124 (0.104)	-0.013 (0.076)
GDP per capita growth	-0.001 (0.003)	-0.001 (0.003)	-0.002 (0.003)	-0.003 (0.005)
Left government power	-0.047 (0.038)	0.050 (0.073)	0.047 (0.083)	-0.149** (0.059)
Constant	46.203*** (3.627)	10.363*** (1.825)	36.735*** (2.380)	60.066*** (2.186)
Observations	654	478	464	720
R ²	0.904	0.905	0.935	0.903
Adjusted R ²	0.892	0.889	0.923	0.891
Residual Std. Error	1.512 (df = 578)	1.085 (df = 409)	1.451 (df = 395)	1.904 (df = 642)
F Statistic	72.947*** (df = 75; 578)	57.076*** (df = 68; 409)	83.055*** (df = 68; 395)	77.267*** (df = 77; 642)

Note:

*p<0.1; **p<0.05; ***p<0.01
Standard errors clustered by country.

Table A15: Financial globalization index as financialization indicator. Country & year fixed effects.

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top one percent income share	Top ten percent income share	Adjusted wage share
	(1)	(2)	(3)	(4)
Financialization globalization index	0.009 (0.036)	0.003 (0.031)	0.009 (0.056)	-0.050* (0.030)
Union density	-0.091** (0.044)	-0.033* (0.020)	-0.148* (0.081)	0.074* (0.045)
Unemployment rate	0.240*** (0.081)	-0.091 (0.056)	-0.045 (0.104)	-0.025 (0.097)
GDP per capita growth	-0.001 (0.002)	0.001 (0.003)	0.002 (0.004)	0.002 (0.005)
Left government power	0.011 (0.042)	0.107 (0.066)	0.029 (0.095)	-0.138** (0.061)
Constant	44.034*** (1.266)	7.445*** (1.244)	32.652*** (3.341)	59.225*** (2.239)
Observations	876	674	655	971
R ²	0.854	0.833	0.817	0.853
Adjusted R ²	0.840	0.814	0.795	0.840
Residual Std. Error	1.885 (df = 800)	1.356 (df = 605)	2.435 (df = 586)	2.309 (df = 893)
F Statistic	62.341*** (df = 75; 800)	44.261*** (df = 68; 605)	38.406*** (df = 68; 586)	67.334*** (df = 77; 893)

Note:

*p<0.1; **p<0.05; ***p<0.01
Standard errors clustered by country.

Table A16: Bank profit as financialization indicator. Country & year fixed effects.

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top one percent income share	Top ten percent income share	Adjusted wage share
	(1)	(2)	(3)	(4)
Bank profit	-0.235 (0.191)	0.642*** (0.202)	0.836*** (0.257)	0.617 (0.453)
Union density	-0.062 (0.063)	0.034 (0.035)	-0.059 (0.063)	-0.043 (0.080)
Unemployment rate	0.364*** (0.091)	0.019 (0.058)	0.202** (0.090)	0.046 (0.091)
GDP per capita growth	0.002 (0.003)	-0.004 (0.004)	-0.007 (0.006)	0.001 (0.005)
Left government power	0.005 (0.064)	0.146 (0.110)	0.095 (0.087)	-0.217*** (0.079)
Constant	40.152*** (2.655)	9.413*** (1.046)	38.589*** (3.112)	65.796*** (3.279)
Observations	447	342	331	466
R ²	0.891	0.892	0.935	0.901
Adjusted R ²	0.876	0.874	0.924	0.888
Residual Std. Error	1.228 (df = 392)	1.241 (df = 292)	1.554 (df = 281)	1.764 (df = 410)
F Statistic	59.161*** (df = 54; 392)	49.367*** (df = 49; 292)	82.752*** (df = 49; 281)	67.774*** (df = 55; 410)

Note:

*p<0.1; **p<0.05; ***p<0.01
Standard errors clustered by country

Table A17: Securities under bank assets (z-value) as financialization indicator. Country & year fixed effects.

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top one percent income share	Top ten percent income share	Adjusted wage share
	(1)	(2)	(3)	(4)
Securities under bank assets (z-value)	0.115 (0.327)	-0.648*** (0.220)	1.656*** (0.274)	-1.291*** (0.386)
Union density	-0.023 (0.060)	0.018 (0.042)	-0.094 (0.087)	-0.028 (0.052)
Unemployment rate	0.299*** (0.086)	0.023 (0.052)	0.158* (0.087)	0.027 (0.081)
GDP per capita growth	0.001 (0.003)	-0.003 (0.004)	-0.004 (0.006)	0.0004 (0.004)
Left government power	-0.024 (0.056)	0.141 (0.103)	0.105 (0.079)	-0.216*** (0.062)
Constant	38.840*** (2.483)	9.717*** (1.253)	41.023*** (3.088)	65.250*** (2.242)
Observations	499	376	365	508
R ²	0.868	0.880	0.925	0.919
Adjusted R ²	0.852	0.861	0.913	0.909
Residual Std. Error	1.368 (df = 442)	1.239 (df = 325)	1.582 (df = 314)	1.725 (df = 450)
F Statistic	52.069*** (df = 56; 442)	47.551*** (df = 50; 325)	77.677*** (df = 50; 314)	89.365*** (df = 57; 450)

Note:

*p<0.1; **p<0.05; ***p<0.01
Standard errors clustered by country

Polynomial

Table A18: Quadratic trend: Credit expansion and income inequality. Country & year fixed effects.

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top ten percent income	Top ten percent income	Adjusted wage share
	(1)	(2)	(3)	(4)
Credit expansion	0.061** (0.029)	0.031 (0.039)	0.011 (0.053)	−0.006 (0.039)
Credit expansion2	−0.0001 (0.0001)	−0.0001 (0.0002)	0.00003 (0.0002)	0.0002 (0.0001)
Union density	−0.135*** (0.027)	0.031 (0.031)	−0.109* (0.061)	0.051 (0.087)
Unemployment rate	0.271*** (0.088)	−0.146** (0.064)	−0.024 (0.119)	−0.135 (0.111)
GDP per capita growth	0.055 (0.047)	0.120* (0.069)	0.092 (0.066)	−0.058 (0.063)
Left government power	0.002 (0.003)	−0.003 (0.003)	−0.004 (0.004)	0.005 (0.004)
Constant	41.088*** (2.096)	3.061* (1.670)	29.193*** (3.549)	60.022*** (4.404)
Observations	604	460	460	636
R ²	0.936	0.878	0.890	0.866
Adjusted R ²	0.926	0.856	0.870	0.847
Residual Std. Error	1.396 (df = 527)	1.192 (df = 390)	1.891 (df = 390)	2.153 (df = 557)
F Statistic	100.778*** (df = 76; 527)	40.564*** (df = 69; 390)	45.540*** (df = 69; 390)	46.227*** (df = 78; 557)

Note:

*p<0.1; **p<0.05; ***p<0.01
Standard errors clustered by country.

5-year averages

Table A19: Credit expansion. Variables given in five year averages. Country & year fixed effects.

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top one percent income	Top ten percent income	Adjusted wage share
	(1)	(2)	(3)	(4)
Credit expansion	0.041** (0.018)	0.018*** (0.007)	0.027 (0.029)	0.030** (0.014)
Union density	−0.200*** (0.058)	0.072 (0.053)	−0.120 (0.161)	0.105 (0.145)
Unemployment rate	0.377 (0.231)	−0.081 (0.108)	0.250 (0.279)	−0.196 (0.298)
GDP per capita growth	0.089 (0.311)	0.643** (0.265)	0.858** (0.368)	0.020 (0.340)
Left government power	0.002 (0.008)	−0.002 (0.007)	−0.004 (0.010)	0.014* (0.008)
Constant	44.319*** (3.495)	−0.258 (2.540)	25.871*** (6.559)	56.562*** (6.121)
Observations	100	82	82	107
R ²	0.945	0.912	0.915	0.898
Adjusted R ²	0.909	0.854	0.860	0.833
Residual Std. Error	1.502 (df = 60)	1.130 (df = 49)	1.913 (df = 49)	2.145 (df = 65)
F Statistic	26.504*** (df = 39; 60)	15.847*** (df = 32; 49)	16.573*** (df = 32; 49)	13.934*** (df = 41; 65)

Note:

*p<0.1; **p<0.05; ***p<0.01
Standard errors clustered by country

10-year averages

Table A20: Credit expansion. Variables given in ten year averages. Country & year fixed effects.

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top one percent income	Top ten percent income	Adjusted wage share
	(1)	(2)	(3)	(4)
Credit expansion	0.073* (0.039)	0.048 (0.030)	0.040 (0.051)	0.006 (0.015)
Union density	−0.135 (0.146)	−0.023 (0.063)	−0.215 (0.211)	0.290*** (0.092)
Unemployment rate	0.787* (0.472)	−0.070 (0.175)	0.171 (0.262)	−0.650*** (0.204)
GDP per capita growth	0.547 (0.714)	0.306 (0.283)	0.530 (0.779)	1.078 (0.990)
Left government power	0.011 (0.008)	−0.009 (0.016)	−0.025 (0.017)	0.049*** (0.011)
Constant	37.317*** (7.943)	4.435 (4.194)	31.470*** (10.608)	46.185*** (3.172)
Observations	47	38	38	52
R ²	0.961	0.877	0.915	0.932
Adjusted R ²	0.901	0.746	0.825	0.836
Residual Std. Error	1.565 (df = 18)	1.500 (df = 18)	2.135 (df = 18)	2.010 (df = 21)
F Statistic	15.925*** (df = 28; 18)	6.730*** (df = 19; 18)	10.168*** (df = 19; 18)	9.658*** (df = 30; 21)

Note:

*p<0.1; **p<0.05; ***p<0.01
Standard errors clustered by country.

Shareholder value

Without trimmed variables for bottom and top 1 %

Table A21: Shareholder value and income inequality (log stocks traded). Country & year fixed effects.

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top ten percent income	Top ten percent income	Adjusted wage share
	(1)	(2)	(3)	(4)
Log stocks traded	0.229 (0.278)	0.011 (0.281)	-0.250 (0.402)	-0.216 (0.328)
Union density	-0.089** (0.041)	-0.019 (0.028)	-0.111** (0.045)	0.029 (0.046)
Unemployment rate	0.273*** (0.070)	-0.054 (0.062)	0.047 (0.096)	-0.122 (0.089)
GDP per capita growth	-0.013 (0.046)	0.121* (0.071)	0.074 (0.081)	-0.124** (0.054)
Left government power	-0.001 (0.003)	0.001 (0.003)	0.0001 (0.004)	-0.0001 (0.005)
Constant	42.833*** (1.703)	5.388*** (1.291)	29.260*** (1.991)	62.864*** (2.164)
Observations	807	589	581	857
R ²	0.873	0.865	0.901	0.881
Adjusted R ²	0.860	0.849	0.889	0.870
Residual Std. Error	1.715 (df = 736)	1.237 (df = 525)	1.768 (df = 517)	2.073 (df = 784)
F Statistic	72.000*** (df = 70; 736)	53.454*** (df = 63; 525)	74.805*** (df = 63; 517)	80.817*** (df = 72; 784)

Note:

*p<0.1; **p<0.05; ***p<0.01
Standard errors clustered by country.

Table A22: Shareholder value and income inequality (stock capitalization). Country & year fixed effects.

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top ten percent income	Top ten percent income	Adjusted wage share
	(1)	(2)	(3)	(4)
Stock capitalization	-0.006 (0.012)	0.012 (0.009)	0.009 (0.010)	0.007 (0.010)
Union density	-0.089* (0.045)	-0.037 (0.032)	-0.139** (0.058)	-0.001 (0.041)
Unemployment rate	0.287*** (0.067)	-0.039 (0.061)	0.068 (0.101)	-0.090 (0.081)
GDP per capita growth	-0.028 (0.040)	0.099 (0.064)	0.035 (0.066)	-0.169*** (0.048)
Left government power	-0.0004 (0.003)	0.001 (0.003)	0.001 (0.005)	0.003 (0.006)
Constant	42.366*** (1.777)	5.863*** (1.312)	29.870*** (2.180)	62.549*** (1.997)
Observations	765	558	550	811
R ²	0.881	0.868	0.898	0.888
Adjusted R ²	0.869	0.852	0.885	0.877
Residual Std. Error	1.655 (df = 694)	1.230 (df = 494)	1.790 (df = 486)	2.031 (df = 738)
F Statistic	73.257*** (df = 70; 694)	51.738*** (df = 63; 494)	68.247*** (df = 63; 486)	81.093*** (df = 72; 738)

Note:

*p<0.1; **p<0.05; ***p<0.01
Standard errors clustered by country.

Different control variables

Table A23: Control variables (log stocks traded): Set 1. Country & year fixed effects.

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top ten percent income	Top ten percent income	Adjusted wage share
	(1)	(2)	(3)	(4)
Log stocks traded	−0.271 (0.428)	0.609 (0.456)	0.348 (0.372)	−0.428 (0.617)
Trade openness	0.017 (0.019)	−0.015 (0.055)	−0.101** (0.041)	0.046** (0.020)
Unemployment replacement rate	−5.377 (5.182)	−3.562* (2.062)	−1.386 (3.712)	−7.363*** (2.281)
Education	−0.597 (1.143)	−0.655 (0.585)	−1.194 (0.891)	−0.144 (0.607)
Constant	49.889*** (11.860)	12.495** (5.900)	39.550*** (9.123)	66.853*** (5.211)
Observations	88	73	72	94
R ²	0.877	0.907	0.959	0.931
Adjusted R ²	0.818	0.855	0.935	0.898
Residual Std. Error	1.603 (df = 59)	0.983 (df = 46)	1.277 (df = 45)	1.689 (df = 63)
F Statistic	14.980*** (df = 28; 59)	17.286*** (df = 26; 46)	40.197*** (df = 26; 45)	28.361*** (df = 30; 63)

Note:

* p<0.1; ** p<0.05; *** p<0.01

Variables given in 5-year averages. Standard errors clustered by country.

Table A24: Control variables (stock capitalization): Set 1. Country & year fixed effects.

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top ten percent income	Top ten percent income	Adjusted wage share
	(1)	(2)	(3)	(4)
Stock capitalization	−0.005 (0.017)	0.022 (0.014)	0.017 (0.011)	−0.009 (0.019)
Trade openness	0.014 (0.024)	−0.029 (0.057)	−0.117*** (0.037)	0.046* (0.028)
Unemployment replacement rate	−6.619 (8.054)	−0.994 (2.771)	−1.162 (4.911)	−5.449 (3.585)
Education	−0.637 (0.913)	−0.586 (0.429)	−1.209* (0.689)	−0.654 (0.786)
Constant	50.476*** (11.582)	10.649*** (4.077)	39.784*** (6.926)	70.142*** (7.574)
Observations	83	69	68	88
R ²	0.902	0.933	0.964	0.925
Adjusted R ²	0.851	0.893	0.943	0.885
Residual Std. Error	1.474 (df = 54)	0.984 (df = 43)	1.283 (df = 42)	1.785 (df = 57)
F Statistic	17.788*** (df = 28; 54)	23.803*** (df = 25; 43)	45.554*** (df = 25; 42)	23.281*** (df = 30; 57)

Note:

* p<0.1; ** p<0.05; *** p<0.01

Variables given in 5-year averages. Standard errors clustered by country.

Table A25: Control variables (log stocks traded): Set 2. Country & year fixed effects.

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top ten percent income	Top ten percent income	Adjusted wage share
	(1)	(2)	(3)	(4)
Log stocks traded	-0.201 (0.257)	0.059 (0.320)	-0.126 (0.308)	-0.657* (0.360)
Log GDP per capita	-0.751 (4.107)	3.041 (2.604)	3.956 (3.495)	-9.504*** (3.448)
Welfare generosity	-0.022 (0.069)	-0.017 (0.097)	0.061 (0.122)	-0.160 (0.154)
Government employment	-0.183 (0.212)	-0.180 (0.130)	-0.554*** (0.174)	0.261 (0.191)
Constant	50.292 (36.135)	-19.377 (23.623)	-5.385 (32.277)	148.690*** (30.501)
Observations	530	471	463	570
R ²	0.861	0.861	0.927	0.889
Adjusted R ²	0.844	0.842	0.917	0.877
Residual Std. Error	1.461 (df = 473)	1.210 (df = 414)	1.507 (df = 406)	1.900 (df = 511)
F Statistic	52.244*** (df = 56; 473)	45.721*** (df = 56; 414)	91.715*** (df = 56; 406)	70.863*** (df = 58; 511)

Note:

*p<0.1; **p<0.05; ***p<0.01
Standard errors clustered by country.

Table A26: Control variables (stock capitalization): Set 2. Country & year fixed effects

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top ten percent income	Top ten percent income	Adjusted wage share
	(1)	(2)	(3)	(4)
Stock capitalization	-0.006 (0.143)	0.014 (0.011)	0.002 (0.010)	-0.009 (0.011)
Log GDP per capita	0.274 (-146.437)	1.535 (2.664)	4.067 (3.822)	-8.639** (3.446)
Welfare generosity	0.036 (-0.365)	-0.028 (0.118)	-0.007 (0.170)	-0.084 (0.137)
Government employment	-0.249 (3.256)	-0.131 (0.130)	-0.623*** (0.200)	0.107 (0.161)
Constant	40.343 (1,263.313)	-6.298 (24.504)	-3.328 (35.441)	139.062*** (29.105)
Observations	507	457	449	548
R ²	0.888	0.871	0.923	0.890
Adjusted R ²	0.874	0.853	0.913	0.877
Residual Std. Error	1.325 (df = 450)	1.248 (df = 400)	1.589 (df = 392)	1.894 (df = 489)
F Statistic	63.651*** (df = 56; 450)	48.339*** (df = 56; 400)	84.455*** (df = 56; 392)	68.220*** (df = 58; 489)

Note:

*p<0.1; **p<0.05; ***p<0.01
Standard errors clustered by country.

Table A27: Control variables (log stocks traded): Set 3. Country & year fixed effects.

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top ten percent income	Top ten percent income	Adjusted wage share
	(1)	(2)	(3)	(4)
Log stocks traded	−0.324 (0.261)	0.054 (0.251)	−0.304 (0.346)	−0.409 (0.349)
GDP per capita growth	0.009 (0.060)	0.118* (0.071)	0.105 (0.089)	−0.139* (0.072)
Welfare generosity	0.024 (0.047)	−0.023 (0.092)	0.104 (0.111)	−0.179 (0.111)
Unemployment replacement rate	0.190* (0.104)	−0.057 (0.075)	0.075 (0.110)	−0.182 (0.111)
Trade openness	0.009 (0.029)	−0.0005 (0.020)	−0.029 (0.025)	−0.001 (0.038)
Left government power	−0.0005 (0.004)	0.0005 (0.004)	−0.001 (0.005)	0.003 (0.006)
Constant	39.059*** (1.811)	5.634** (2.674)	22.468*** (3.256)	68.974*** (4.064)
Observations	526	497	489	574
R ²	0.875	0.859	0.917	0.886
Adjusted R ²	0.859	0.840	0.905	0.873
Residual Std. Error	1.422 (df = 466)	1.195 (df = 437)	1.610 (df = 429)	1.917 (df = 512)
F Statistic	55.402*** (df = 59; 466)	45.149*** (df = 59; 437)	80.245*** (df = 59; 429)	65.382*** (df = 61; 512)

Note:

*p<0.1; **p<0.05; ***p<0.01
Standard errors clustered by country.

Table A28: Control variables (stock capitalization): Set 3. Country & year fixed effects.

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top ten percent income	Top ten percent income	Adjusted wage share
	(1)	(2)	(3)	(4)
Stock capitalization	−0.003 (0.008)	0.016 (0.010)	0.012 (0.011)	−0.009 (0.011)
GDP per capita growth	−0.061 (0.050)	0.108* (0.065)	0.071 (0.083)	−0.157*** (0.059)
Welfare generosity	0.073 (0.058)	−0.044 (0.106)	0.050 (0.151)	−0.123 (0.107)
Unemployment replacement rate	0.225** (0.092)	−0.016 (0.067)	0.118 (0.116)	−0.196* (0.110)
Trade openness	−0.0001 (0.029)	−0.020 (0.026)	−0.058 (0.038)	−0.013 (0.042)
Left government power	0.0005 (0.004)	0.002 (0.004)	0.001 (0.005)	0.003 (0.006)
Constant	37.331*** (1.519)	6.379** (2.849)	24.570*** (4.040)	66.176*** (3.775)
Observations	505	479	471	554
R ²	0.899	0.872	0.914	0.889
Adjusted R ²	0.886	0.854	0.901	0.875
Residual Std. Error	1.281 (df = 445)	1.224 (df = 419)	1.696 (df = 411)	1.886 (df = 492)
F Statistic	67.133*** (df = 59; 445)	48.244*** (df = 59; 419)	73.581*** (df = 59; 411)	64.545*** (df = 61; 492)

Note:

*p<0.1; **p<0.05; ***p<0.01
Standard errors clustered by country.

Polynomial

Table A29: Quadratic trend: Log stocks traded and income inequality. Country & year fixed effects.

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top ten percent income	Top ten percent income	Adjusted wage share
	(1)	(2)	(3)	(4)
Log stocks traded	0.194 (0.303)	-0.402* (0.225)	-0.822*** (0.298)	-0.175 (0.335)
Log stocks traded 2	0.015 (0.063)	0.171*** (0.055)	0.238*** (0.076)	-0.018 (0.064)
Union density	-0.089** (0.041)	-0.034 (0.029)	-0.132*** (0.047)	0.030 (0.046)
Unemployment rate	0.278*** (0.067)	-0.014 (0.048)	0.107 (0.085)	-0.127 (0.089)
GDP per capita growth	-0.016 (0.047)	0.089 (0.066)	0.027 (0.076)	-0.121** (0.052)
Left government power	-0.001 (0.003)	0.001 (0.003)	-0.0001 (0.003)	0.0001 (0.005)
Constant	42.837*** (1.717)	5.999*** (1.280)	30.077*** (2.001)	62.853*** (2.154)
Observations	807	589	581	857
R ²	0.873	0.887	0.916	0.881
Adjusted R ²	0.860	0.873	0.906	0.870
Residual Std. Error	1.716 (df = 735)	1.133 (df = 524)	1.628 (df = 516)	2.074 (df = 783)
F Statistic	70.947*** (df = 71; 735)	64.322*** (df = 64; 524)	88.392*** (df = 64; 516)	79.671*** (df = 73; 783)

Note:

* p<0.1; ** p<0.05; *** p<0.01

Table A30: Quadratic trend: Stock capitalization and income inequality. Country & year fixed effects.

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top ten percent income	Top ten percent income	Adjusted wage share
	(1)	(2)	(3)	(4)
Stock capitalization	0.057*** (0.013)	0.039*** (0.007)	0.040*** (0.011)	-0.076*** (0.016)
Stock capitalization 2	-0.0002*** (0.0001)	-0.0001** (0.00003)	-0.0001 (0.00004)	0.0003*** (0.0001)
Union density	-0.167*** (0.050)	-0.094*** (0.025)	-0.198*** (0.046)	0.133*** (0.049)
Unemployment rate	0.410*** (0.062)	0.044 (0.040)	0.146* (0.082)	-0.271*** (0.095)
GDP per capita growth	-0.077** (0.034)	0.059 (0.046)	0.009 (0.048)	-0.048 (0.045)
Left government power	-0.002 (0.004)	0.002 (0.003)	0.002 (0.004)	-0.0004 (0.006)
Constant	46.194*** (1.900)	8.034*** (1.068)	31.670*** (1.864)	56.787*** (1.814)
Observations	807	589	581	857
R ²	0.837	0.861	0.898	0.835
Adjusted R ²	0.830	0.855	0.893	0.828
Residual Std. Error	1.894 (df = 774)	1.213 (df = 563)	1.734 (df = 555)	2.388 (df = 822)
F Statistic	123.861*** (df = 32; 774)	139.448*** (df = 25; 563)	195.265*** (df = 25; 555)	122.187*** (df = 34; 822)

Note:

*p<0.1; **p<0.05; ***p<0.01
Standard errors clustered by country

5-year averages

Table A31: Log stocks traded and income inequality. Variables given in five year averages. Country fixed effects.

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top one percent income	Top ten percent income	Adjusted wage share
	(1)	(2)	(3)	(4)
Log stocks traded	0.824*** (0.233)	0.665** (0.279)	0.574 (0.356)	-1.276*** (0.205)
Union density	-0.210*** (0.066)	-0.105*** (0.039)	-0.224*** (0.075)	0.151*** (0.048)
Unemployment rate	0.352** (0.140)	-0.051 (0.081)	0.099 (0.166)	-0.217* (0.126)
GDP per capita growth	-0.173 (0.119)	0.093 (0.103)	-0.041 (0.138)	-0.136 (0.113)
Left government power	0.001 (0.006)	0.002 (0.006)	0.002 (0.008)	0.001 (0.009)
Constant	47.480*** (2.254)	8.367*** (1.763)	32.647*** (3.131)	57.405*** (2.028)
Observations	135	99	98	146
R ²	0.863	0.873	0.917	0.914
Adjusted R ²	0.822	0.832	0.890	0.889
Residual Std. Error	1.795 (df = 103)	1.248 (df = 74)	1.772 (df = 73)	1.860 (df = 112)
F Statistic	21.014*** (df = 31; 103)	21.243*** (df = 24; 74)	33.547*** (df = 24; 73)	36.052*** (df = 33; 112)

Note:

*p<0.1; **p<0.05; ***p<0.01
Fixed effects on country, standard errors clustered by country

Table A32: Log stocks traded and income inequality. Variables given in five year averages. Country & year fixed effects.

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top one percent income	Top ten percent income	Adjusted wage share
	(1)	(2)	(3)	(4)
Log stocks traded	0.071 (0.397)	-0.261 (0.437)	-0.626 (0.625)	-0.551 (0.420)
Union density	-0.108 (0.067)	0.013 (0.038)	-0.070 (0.060)	0.059 (0.054)
Unemployment rate	0.295** (0.142)	-0.069 (0.094)	0.149 (0.182)	-0.182 (0.156)
GDP per capita growth	-0.059 (0.146)	0.421*** (0.152)	0.386** (0.174)	-0.282* (0.162)
Left government power	0.001 (0.006)	0.002 (0.005)	0.001 (0.008)	0.003 (0.009)
Constant	43.933*** (2.251)	3.604** (1.676)	26.349*** (2.742)	61.203*** (1.999)
Observations	135	99	98	146
R ²	0.887	0.916	0.943	0.923
Adjusted R ²	0.844	0.879	0.917	0.894
Residual Std. Error	1.682 (df = 97)	1.059 (df = 68)	1.535 (df = 67)	1.814 (df = 106)
F Statistic	20.600*** (df = 37; 97)	24.771*** (df = 30; 68)	36.766*** (df = 30; 67)	32.376*** (df = 39; 106)

Note: *p<0.1; **p<0.05; ***p<0.01
Fixed effects on country, standard errors clustered by country

Table A33: Stock capitalization and income inequality. Variables given in five year averages. Country fixed effects.

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top one percent income	Top ten percent income	Adjusted wage share
	(1)	(2)	(3)	(4)
Stock capitalization	0.027 (0.016)	0.038*** (0.008)	0.038*** (0.012)	-0.041*** (0.012)
Union density	-0.221*** (0.083)	-0.099*** (0.030)	-0.211*** (0.067)	0.157*** (0.060)
Unemployment rate	0.365*** (0.136)	0.017 (0.061)	0.207 (0.168)	-0.214 (0.157)
GDP per capita growth	-0.246* (0.134)	-0.014 (0.105)	-0.111 (0.155)	-0.067 (0.146)
Left government power	0.003 (0.006)	0.003 (0.005)	0.004 (0.008)	0.007 (0.010)
Constant	48.547*** (3.467)	6.958*** (1.402)	30.261*** (2.644)	55.359*** (2.342)
Observations	125	92	91	135
R ²	0.863	0.902	0.928	0.888
Adjusted R ²	0.817	0.866	0.901	0.852
Residual Std. Error	1.863 (df = 93)	1.106 (df = 67)	1.660 (df = 66)	2.169 (df = 101)
F Statistic	18.860*** (df = 31; 93)	25.607*** (df = 24; 67)	35.204*** (df = 24; 66)	24.318*** (df = 33; 101)

Note: *p<0.1; **p<0.05; ***p<0.01
Fixed effects on country, standard errors clustered by country

Table A34: Stock capitalization and income inequality. Variables given in five year averages. Country & year fixed effects.

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top one percent income	Top ten percent income	Adjusted wage share
	(1)	(2)	(3)	(4)
Stock capitalization	−0.007 (0.019)	0.020 (0.015)	0.015 (0.020)	0.008 (0.013)
Union density	−0.132* (0.068)	−0.031 (0.047)	−0.131 (0.084)	−0.006 (0.052)
Unemployment rate	0.313** (0.124)	−0.028 (0.083)	0.214 (0.210)	−0.163 (0.144)
GDP per capita growth	−0.084 (0.155)	0.233* (0.132)	0.183 (0.197)	−0.448*** (0.155)
Left government power	0.003 (0.006)	0.003 (0.006)	0.004 (0.009)	0.008 (0.008)
Constant	44.421*** (2.282)	4.657*** (1.781)	27.802*** (3.033)	62.351*** (1.928)
Observations	125	92	91	135
R ²	0.901	0.917	0.937	0.927
Adjusted R ²	0.859	0.877	0.905	0.897
Residual Std. Error	1.635 (df = 87)	1.063 (df = 61)	1.627 (df = 60)	1.810 (df = 95)
F Statistic	21.433*** (df = 37; 87)	22.569*** (df = 30; 61)	29.575*** (df = 30; 60)	30.853*** (df = 39; 95)

Note:

*p<0.1; **p<0.05; ***p<0.01
Standard errors clustered by country.

10-year averages

Table A35: Log stocks traded. Variables given in ten year averages. Country & year fixed effects.

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top one percent income	Top ten percent income	Adjusted wage share
	(1)	(2)	(3)	(4)
Log stocks traded	−0.241 (0.614)	−0.164 (0.912)	−0.439 (1.176)	−0.546 (0.629)
Union density	−0.086 (0.082)	0.027 (0.116)	−0.104 (0.177)	0.073 (0.108)
Unemployment rate	0.375 (0.297)	0.014 (0.158)	0.530* (0.277)	−0.087 (0.294)
GDP per capita growth	−0.212 (0.428)	0.732* (0.378)	0.493 (0.503)	0.637 (0.424)
Left government power	0.015 (0.020)	−0.003 (0.022)	0.003 (0.036)	0.030 (0.031)
Constant	43.772*** (2.981)	2.778 (3.377)	24.773*** (5.561)	54.563*** (3.180)
Observations	57	39	39	62
R ²	0.952	0.957	0.970	0.962
Adjusted R ²	0.883	0.882	0.918	0.911
Residual Std. Error	1.318 (df = 23)	1.072 (df = 14)	1.570 (df = 14)	1.554 (df = 26)
F Statistic	13.759*** (df = 33; 23)	12.841*** (df = 24; 14)	18.766*** (df = 24; 14)	18.793*** (df = 35; 26)

Note:

*p<0.1; **p<0.05; ***p<0.01
Standard errors clustered by country.

Table A36: Stock capitalization. Variables given in ten year averages. Country & year fixed effects.

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top one percent income	Top ten percent income	Adjusted wage share
	(1)	(2)	(3)	(4)
Stock capitalization	−0.029 (0.023)	0.024 (0.047)	0.026 (0.055)	0.043* (0.023)
Union density	−0.078 (0.086)	−0.007 (0.075)	−0.170 (0.126)	0.014 (0.074)
Unemployment rate	0.170 (0.312)	0.151 (0.175)	0.732** (0.292)	0.066 (0.289)
GDP per capita growth	0.142 (0.498)	0.374 (0.505)	0.035 (0.654)	0.039 (0.456)
Left government power	0.010 (0.022)	0.009 (0.028)	0.021 (0.047)	0.047* (0.025)
Constant	45.371*** (3.573)	1.823 (4.385)	23.820*** (5.940)	52.858*** (3.859)
Observations	51	35	35	55
R ²	0.959	0.956	0.969	0.975
Adjusted R ²	0.878	0.863	0.904	0.929
Residual Std. Error	1.404 (df = 17)	1.147 (df = 11)	1.703 (df = 11)	1.427 (df = 19)
F Statistic	11.921*** (df = 33; 17)	10.298*** (df = 23; 11)	14.849*** (df = 23; 11)	21.087*** (df = 35; 19)

Note:

*p<0.1; **p<0.05; ***p<0.01
Standard errors clustered by country.

Sample variation: Continuously democratic and non-democratic countries since 1945

Countries with continuous democracy since 1945: Australia, Austria, Belgium, Canada, Denmark, France, Finland, Germany, Ireland, Italy, Japan, Luxembourg, Netherlands, Norway, Sweden, Switzerland, United Kingdom, United States.

Countries without continuous democracy since 1945: Czech Republic, Estonia, Greece, Hungary, Poland, Portugal, Slovak Republic, Slovenia, Spain.

Table A37: Countries with continuous democracy since 1945 (Polity IV): Credit expansion.

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top one percent income share	Top ten percent income share	Adjusted wage share
	(1)	(2)	(3)	(4)
Credit expansion	0.025* (0.015)	0.020*** (0.006)	0.024 (0.019)	0.040*** (0.014)
Union density	-0.168*** (0.042)	0.045 (0.029)	-0.112 (0.097)	0.057 (0.113)
Unemployment rate	0.162 (0.162)	-0.209** (0.089)	0.091 (0.190)	-0.310 (0.200)
Left government power	0.0002 (0.005)	-0.004 (0.004)	-0.003 (0.004)	0.007 (0.005)
GDP per capita growth	0.062 (0.067)	0.139 (0.090)	0.088 (0.071)	0.010 (0.049)
Constant	44.112*** (2.090)	3.063** (1.254)	28.549*** (4.104)	58.998*** (5.178)
Observations	463	408	408	471
R ²	0.919	0.879	0.892	0.888
Adjusted R ²	0.906	0.856	0.872	0.869
Residual Std. Error	1.382 (df = 396)	1.248 (df = 343)	1.936 (df = 343)	1.873 (df = 403)
F Statistic	68.414*** (df = 66; 396)	38.756*** (df = 64; 343)	44.273*** (df = 64; 343)	47.571*** (df = 67; 403)

Note:

*p<0.1; **p<0.05; ***p<0.01
Standard errors clustered by country

Table A38: Countries with constant democracy since 1945 (Polity IV): Log stocks traded.

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top one percent income share	Top ten percent income share	Adjusted wage share
	(1)	(2)	(3)	(4)
Log stocks traded	−0.022 (0.355)	0.157 (0.277)	−0.112 (0.415)	−0.645* (0.348)
Union density	−0.122 (−0.176)	−0.012 (0.037)	−0.083* (0.050)	0.090 (0.056)
Unemployment rate	0.203*** (0.017)	−0.089 (0.105)	0.058 (0.154)	−0.241* (0.132)
Left government power	−0.003 (−0.004)	−0.002 (0.003)	−0.003 (0.004)	0.001 (0.007)
GDP per capita growth	0.029* (−0.016)	0.114 (0.086)	0.040 (0.081)	−0.030 (0.067)
Constant	44.667*** (7.771)	5.402*** (1.451)	28.300*** (1.961)	60.742*** (2.573)
Observations	611	490	482	639
R ²	0.835	0.858	0.906	0.888
Adjusted R ²	0.817	0.838	0.893	0.875
Residual Std. Error	1.757 (df = 549)	1.259 (df = 430)	1.749 (df = 422)	1.898 (df = 576)
F Statistic	45.619*** (df = 61; 549)	43.989*** (df = 59; 430)	69.128*** (df = 59; 422)	73.333*** (df = 62; 576)

Note:

*p<0.1; **p<0.05; ***p<0.01
Standard errors clustered by country

Table A39: Countries with constant democracy since 1945 (Polity IV): Stock capitalization.

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top one percent income share	Top ten percent income share	Adjusted wage share
	(1)	(2)	(3)	(4)
Stock capitalization	−0.017 (0.013)	0.017 (0.011)	0.015 (0.014)	0.001 (0.011)
Union density	−0.147** (0.073)	−0.026 (0.047)	−0.115 (0.078)	0.045 (0.055)
Unemployment rate	0.270** (0.119)	−0.029 (0.106)	0.141 (0.171)	−0.210 (0.129)
Left government power	−0.0003 (0.004)	0.0001 (0.004)	−0.0004 (0.006)	0.004 (0.007)
GDP per capita growth	0.005 (0.053)	0.092 (0.082)	−0.006 (0.077)	−0.099* (0.057)
Constant	44.764*** (2.585)	5.402*** (1.667)	28.711*** (2.682)	61.126*** (2.428)
Observations	577	467	459	601
R ²	0.862	0.875	0.908	0.886
Adjusted R ²	0.845	0.857	0.895	0.873
Residual Std. Error	1.628 (df = 515)	1.295 (df = 407)	1.818 (df = 399)	1.911 (df = 538)
F Statistic	52.569*** (df = 61; 515)	48.207*** (df = 59; 407)	66.960*** (df = 59; 399)	67.293*** (df = 62; 538)

Note:

*p<0.1; **p<0.05; ***p<0.01
Standard errors clustered by country

Table A40: Countries with non-continuous democracy since 1945 (Polity IV): Credit expansion.

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top one percent income share	Top ten percent income share	Adjusted wage share
	(1)	(2)	(3)	(4)
Credit expansion	0.002 (0.028)	-0.005 (0.007)	-0.051*** (0.007)	-0.022 (0.041)
Union density	-0.116** (0.053)	0.006*** (0.002)	0.021** (0.011)	-0.282*** (0.108)
Unemployment rate	0.350*** (0.086)	-0.098*** (0.022)	-0.174*** (0.030)	0.177** (0.075)
Left government power	0.004 (0.004)	0.003*** (0.001)	0.006*** (0.002)	-0.002 (0.010)
GDP per capita growth	0.008 (0.028)	0.087*** (0.029)	-0.050** (0.022)	-0.280*** (0.062)
Constant	40.025*** (2.048)	6.230*** (0.152)	23.472*** (0.583)	63.728*** (3.976)
Observations	118	52	52	129
R ²	0.936	0.958	0.979	0.916
Adjusted R ²	0.912	0.910	0.955	0.887
Residual Std. Error	1.449 (df = 85)	0.462 (df = 24)	0.804 (df = 24)	1.843 (df = 95)
F Statistic	38.855*** (df = 32; 85)	20.133*** (df = 27; 24)	40.669*** (df = 27; 24)	31.331*** (df = 33; 95)

Note:

*p<0.1; **p<0.05; ***p<0.01
Standard errors clustered by country

Table A41: Countries with non-constant democracy since 1945 (Polity IV): Log stocks traded.

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top one percent income share	Top ten percent income share	Adjusted wage share
	(1)	(2)	(3)	(4)
Log stocks traded	0.880*** (0.247)	-0.380** (0.165)	-2.711*** (0.346)	-0.585 (0.512)
Union density	-0.065*** (0.022)	-0.048** (0.023)	-0.317*** (0.083)	-0.129* (0.077)
Unemployment rate	0.423*** (0.071)	-0.111*** (0.027)	-0.214*** (0.041)	0.066 (0.064)
Left government power	0.005 (0.005)	0.002*** (0.001)	0.001 (0.007)	-0.003 (0.009)
GDP per capita growth	0.007 (0.056)	0.087 (0.053)	0.092 (0.254)	-0.344*** (0.080)
Constant	42.525*** (0.995)	7.173*** (0.315)	27.349*** (1.156)	56.117*** (2.418)
Observations	158	83	83	180
R ²	0.934	0.955	0.893	0.928
Adjusted R ²	0.908	0.914	0.797	0.902
Residual Std. Error	1.376 (df = 112)	0.448 (df = 43)	1.413 (df = 43)	1.912 (df = 133)
F Statistic	35.275*** (df = 45; 112)	23.295*** (df = 39; 43)	9.235*** (df = 39; 43)	36.995*** (df = 46; 133)

Note:

*p<0.1; **p<0.05; ***p<0.01
Standard errors clustered by country

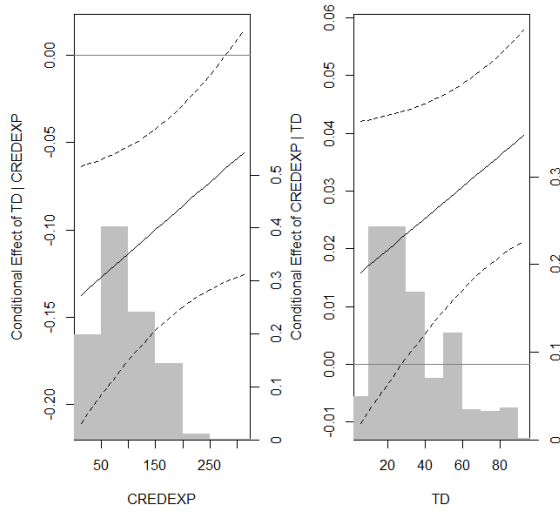
Table A42: Countries with non-constant democracy since 1945 (Polity IV): Stock capitalization.

	<i>Dependent variable:</i>			
	Pre-tax, pre-transfer Gini	Top one percent income share	Top ten percent income share	Adjusted wage share
	(1)	(2)	(3)	(4)
Stock capitalization	0.008 (0.006)	0.001 (0.003)	0.020*** (0.005)	−0.009 (0.023)
Union density	−0.044 (0.059)	−0.022 (0.020)	−0.145 (0.109)	−0.150* (0.080)
Unemployment rate	0.380*** (0.058)	−0.094*** (0.022)	−0.122*** (0.035)	0.101 (0.073)
Left government power	0.001 (0.006)	0.003*** (0.001)	0.005 (0.008)	−0.002 (0.010)
GDP per capita growth	−0.017 (0.057)	0.068 (0.043)	−0.134 (0.192)	−0.323*** (0.071)
Constant	40.060*** (1.527)	7.690*** (0.613)	32.287*** (2.538)	57.397*** (1.143)
Observations	159	83	83	181
R ²	0.919	0.957	0.865	0.929
Adjusted R ²	0.886	0.919	0.743	0.905
Residual Std. Error	1.533 (df = 113)	0.433 (df = 43)	1.552 (df = 43)	1.917 (df = 134)
F Statistic	28.323*** (df = 45; 113)	24.807*** (df = 39; 43)	7.075*** (df = 39; 43)	38.148*** (df = 46; 134)

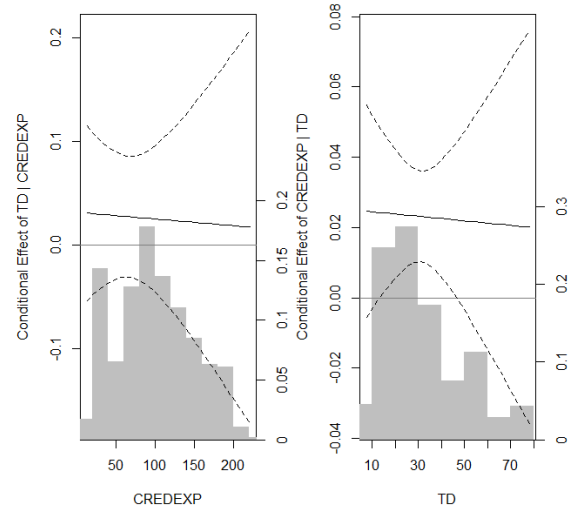
Note:

*p<0.1; **p<0.05; ***p<0.01
Standard errors clustered by country

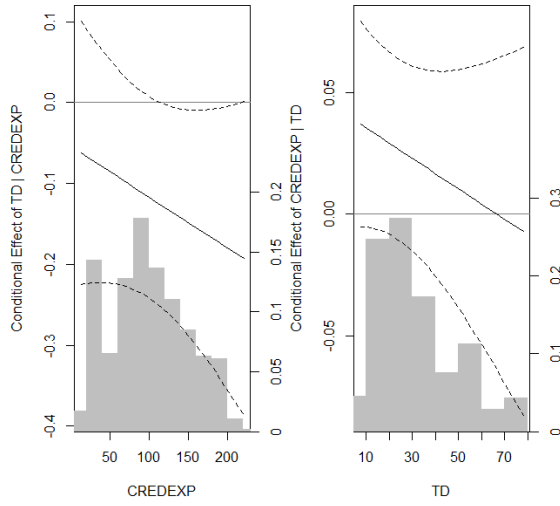
E Interaction effects



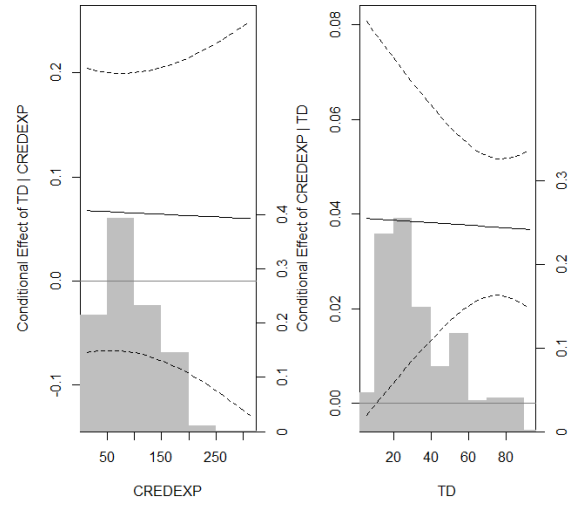
(a) The pre-tax, pre-transfer Gini



(b) Top one percent income share

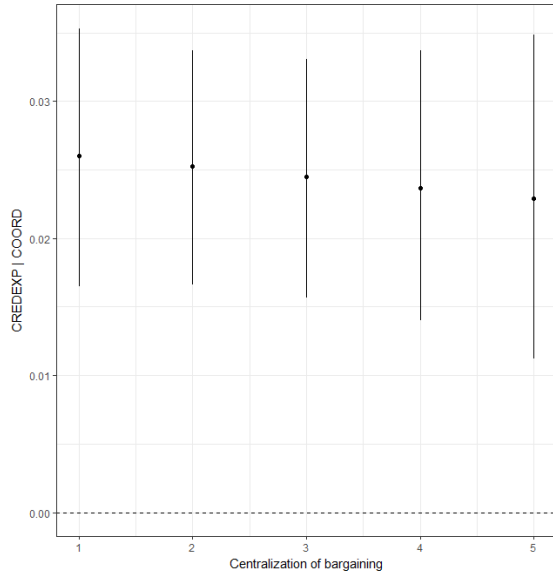


(c) Top ten percent income share

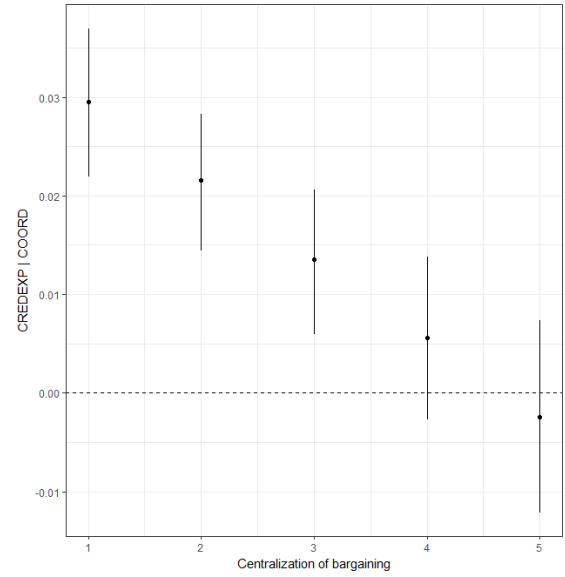


(d) The adjusted wage share

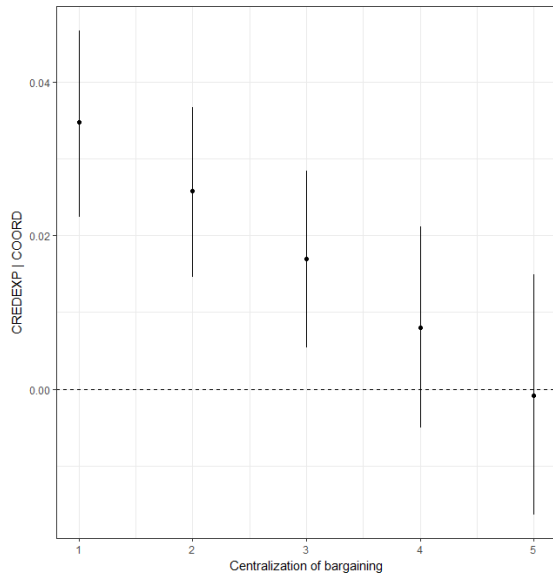
Figure 14: Interaction effects: Credit expansion and trade union density



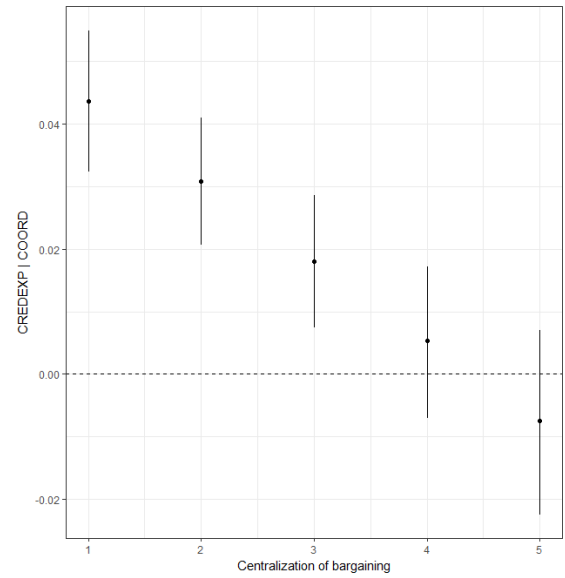
(a) The pre-tax, pre-transfer Gini



(b) Top one percent income share

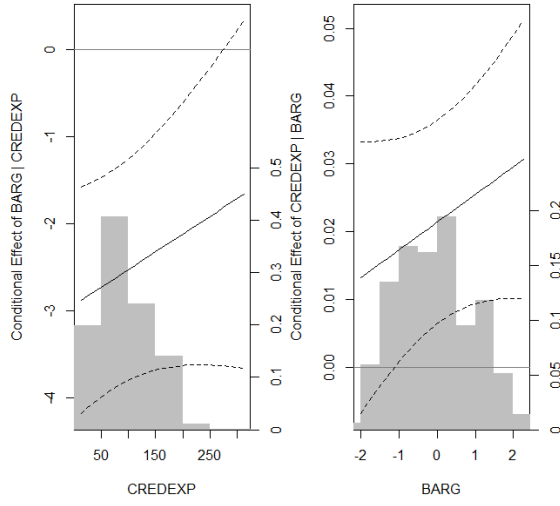


(c) Top ten percent income share

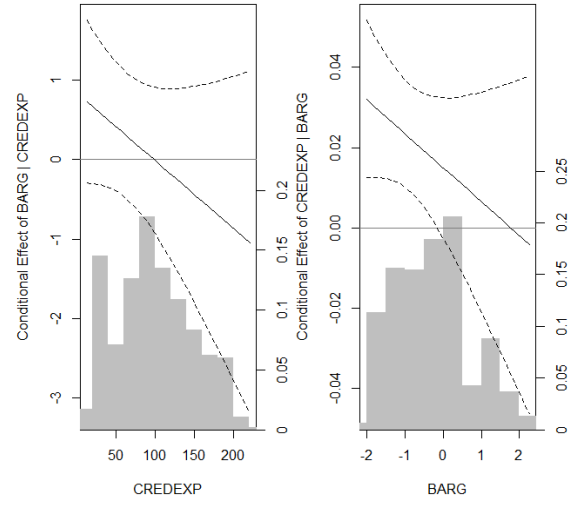


(d) The adjusted wage share

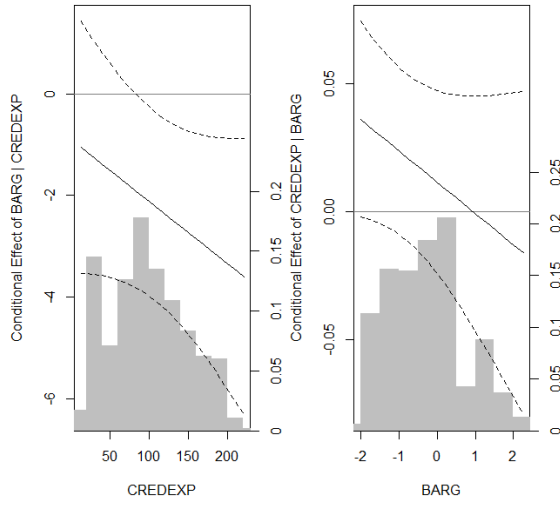
Figure 15: Interaction effects: Credit expansion and centralization of bargaining



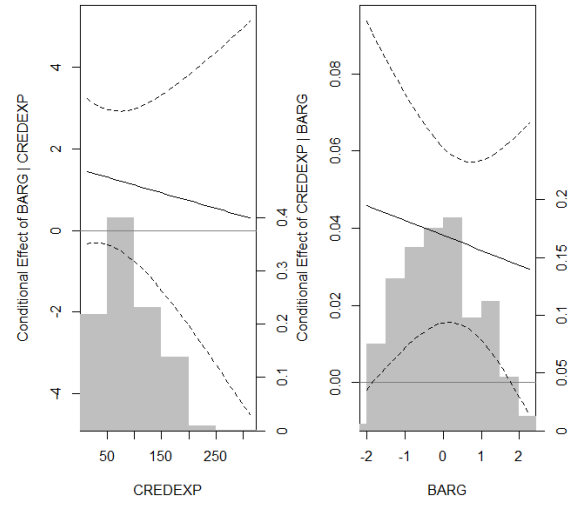
(a) The pre-tax, pre-transfer Gini



(b) Top one percent income share

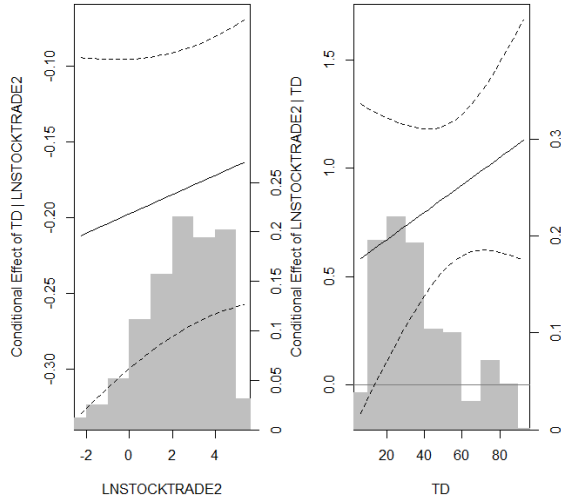


(c) Top ten percent income share

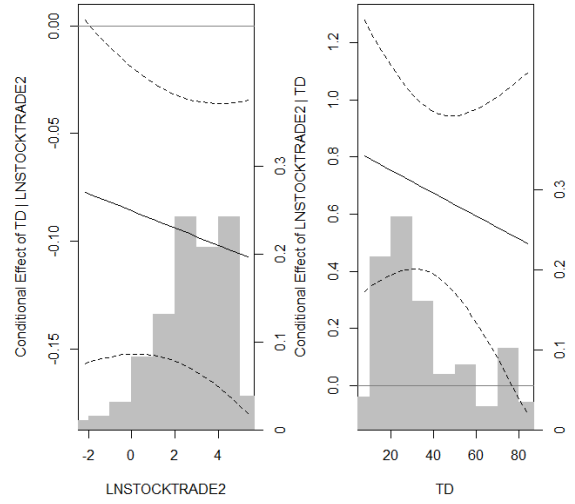


(d) The adjusted wage share

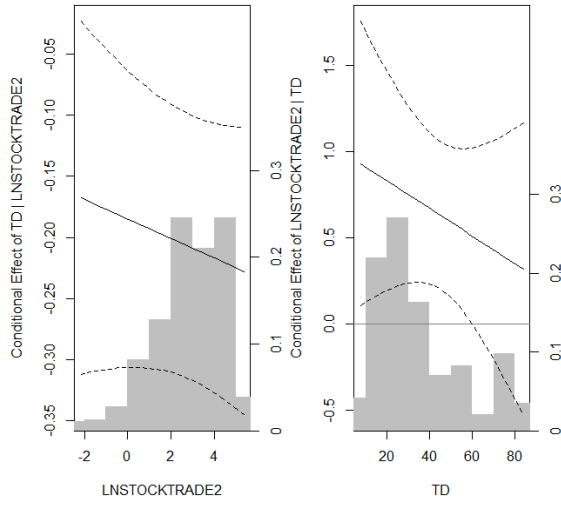
Figure 16: Interaction effects: Credit expansion and the bargaining index



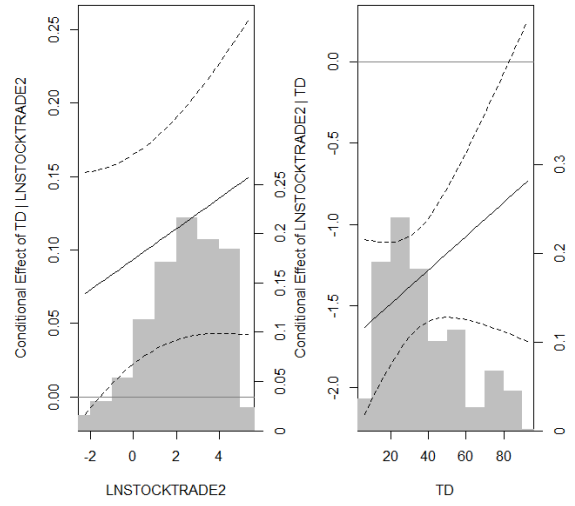
(a) The pre-tax, pre-transfer Gini



(b) Top one percent income share

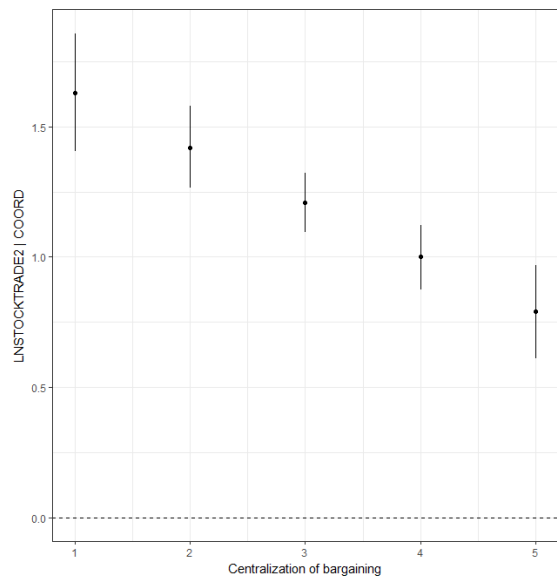


(c) Top ten percent income share

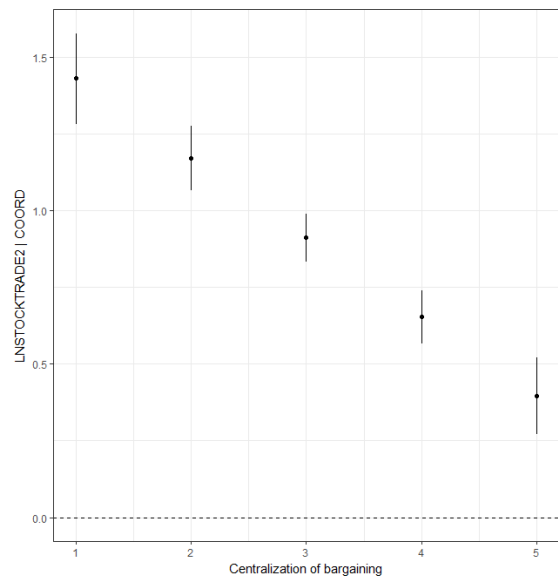


(d) The adjusted wage share

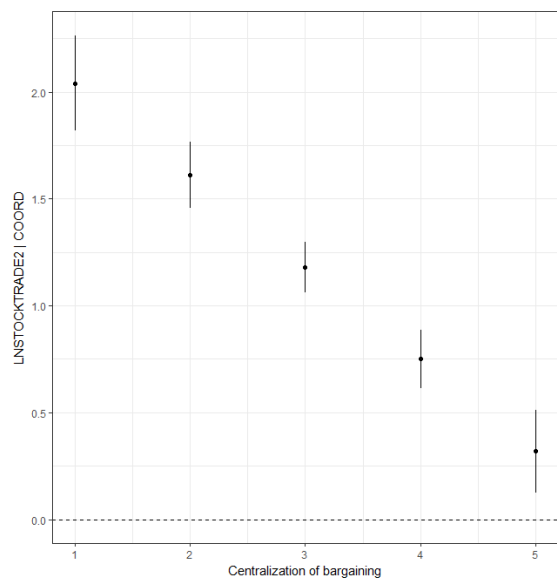
Figure 17: Interaction effects: Log stocks traded and union density



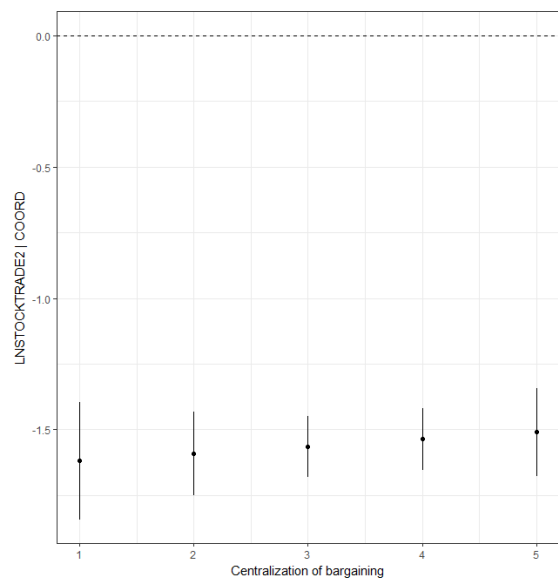
(a) The pre-tax, pre-transfer Gini



(b) Top one percent income share

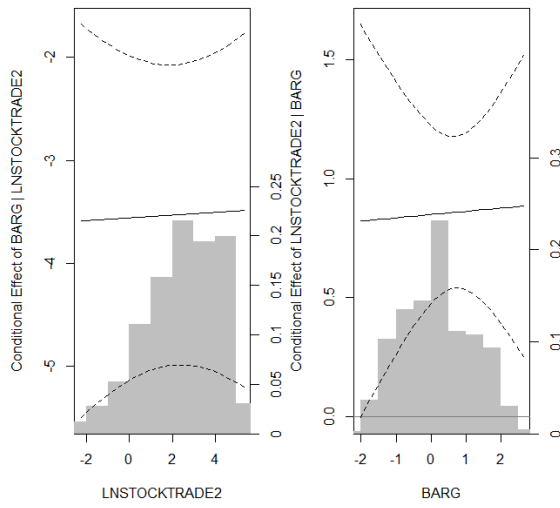


(c) Top ten percent income share

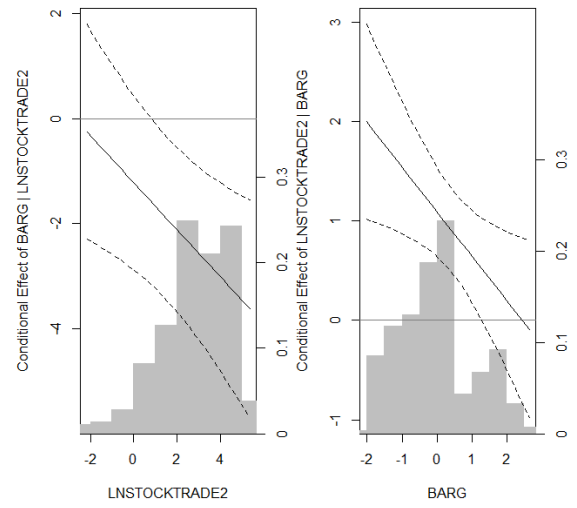


(d) The adjusted wage share

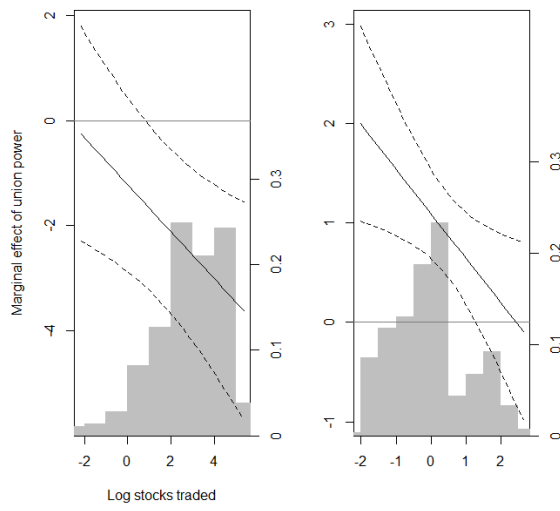
Figure 18: Interaction effects: Log stocks traded and centralization of bargaining



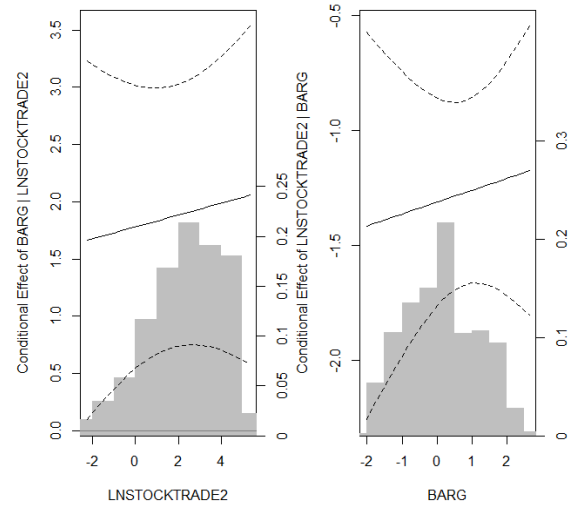
(a) The pre-tax, pre-transfer Gini



(b) Top one percent income share

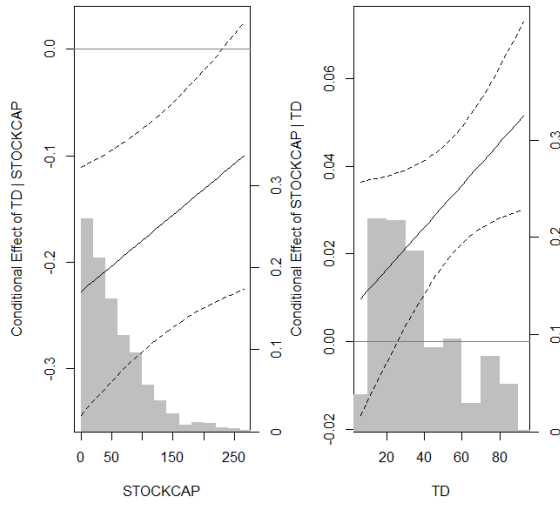


(c) Top ten percent income share

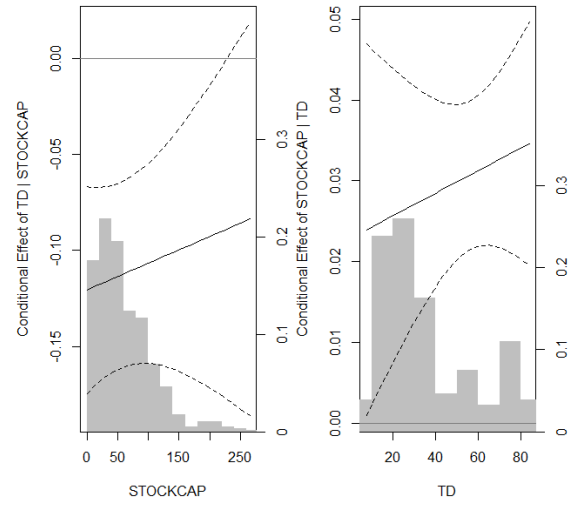


(d) The adjusted wage share

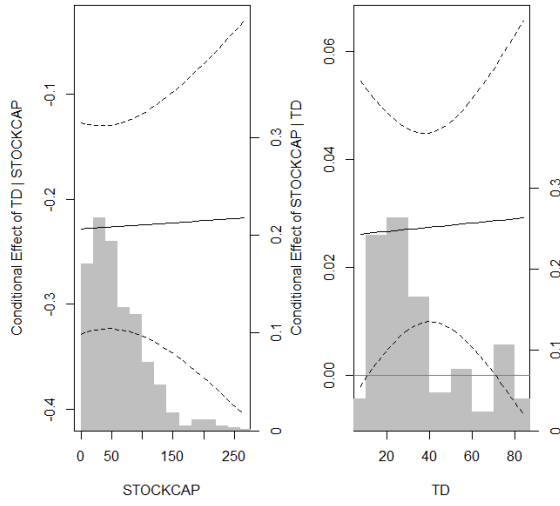
Figure 19: Interaction effects: Log stocks traded and bargaining index



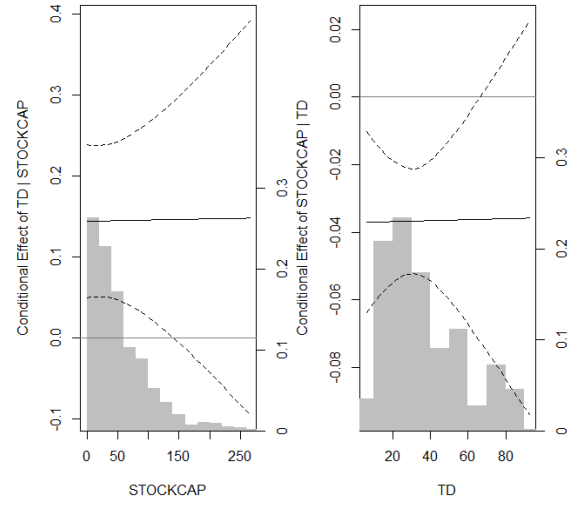
(a) The pre-tax, pre-transfer Gini



(b) Top one percent income share

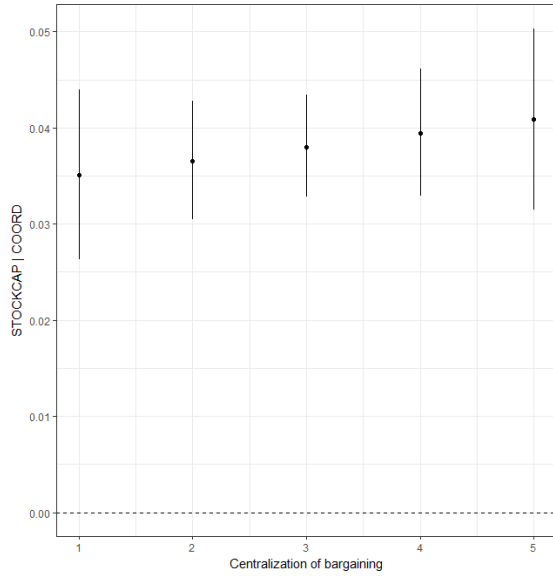


(c) Top ten percent income share

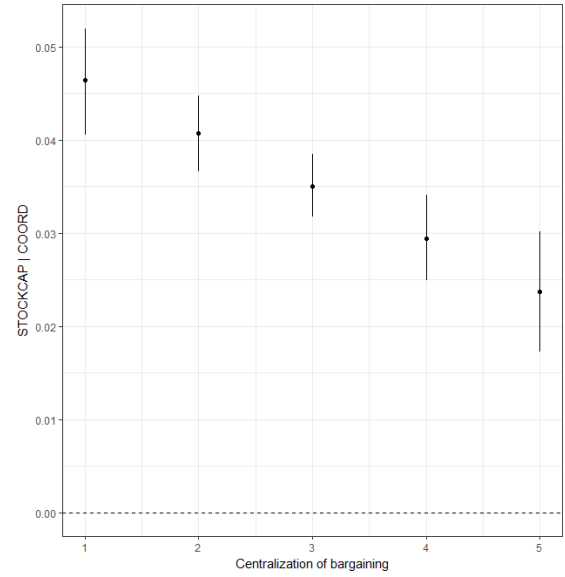


(d) The adjusted wage share

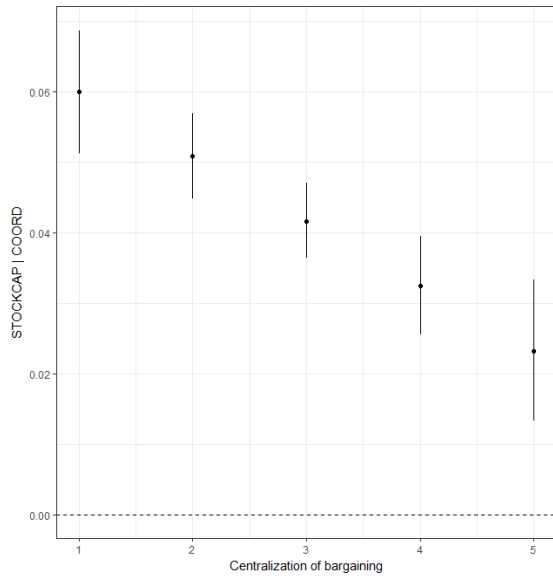
Figure 20: Interaction effects: Stock capitalization and trade union density



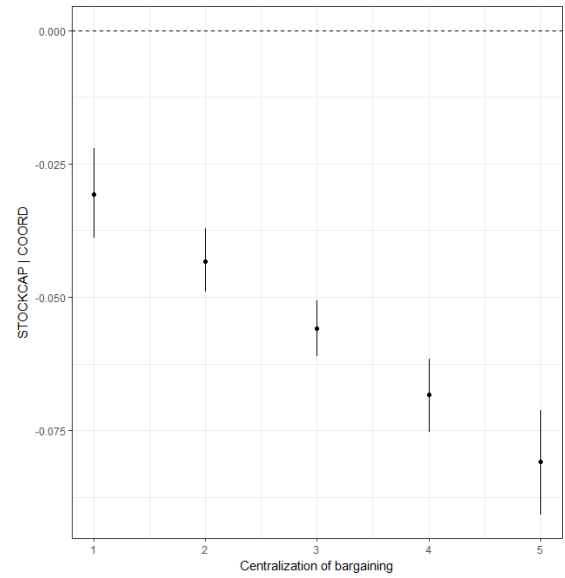
(a) The pre-tax, pre-transfer Gini



(b) Top one percent income share

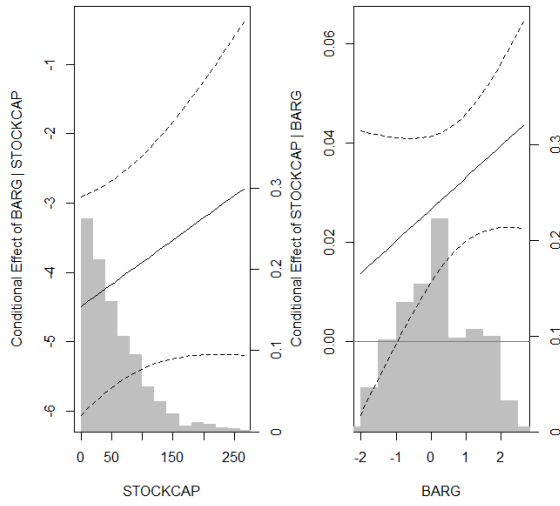


(c) Top ten percent income share

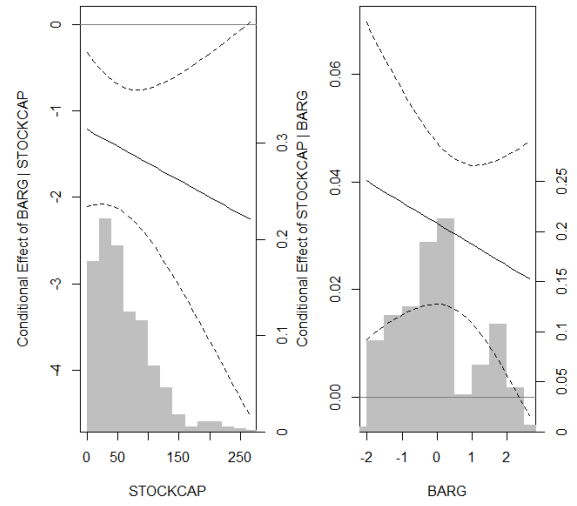


(d) The adjusted wage share

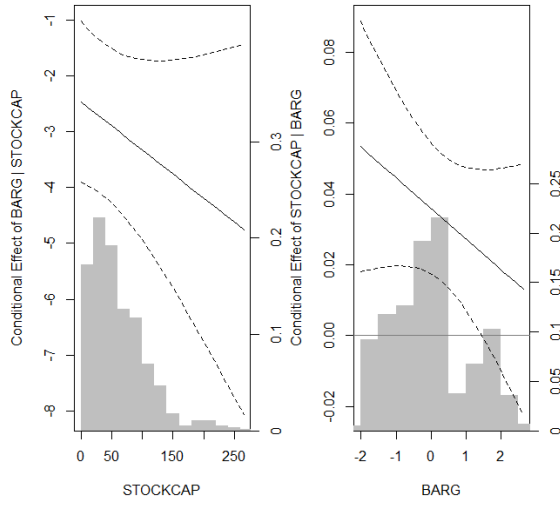
Figure 21: Interaction effects: Stock capitalization and centralization of bargaining



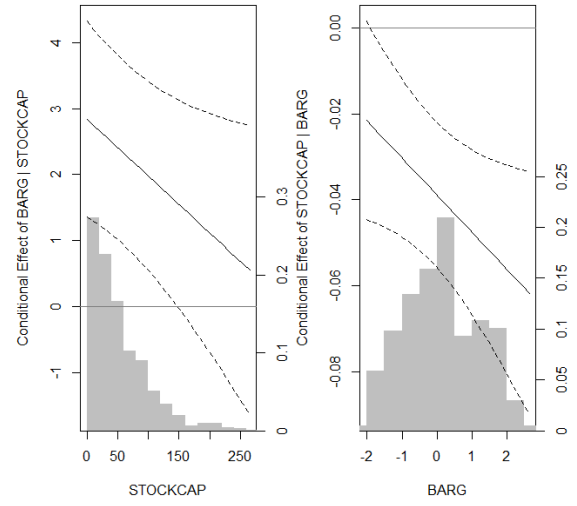
(a) The pre-tax, pre-transfer Gini



(b) Top one percent income share



(c) Top ten percent income share



(d) The adjusted wage share

Figure 22: Interaction effects: Stock capitalization and the bargaining index