

# The Comparative Political Economy of Financialization and the Labour Share in the long-run: France (1911-2010) and Sweden (1891-2000)

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## **Abstract**

The dominance of the financial sector over the real economy and its impact on socio-economic relations and macroeconomic performance has captured the interest of several social scientists (Stockhammer, 2004; Krippner, 2005; Davis and Kim, 2015), few of which explore whether financialization reduces the labour share in the neoliberal era (Lin and Tomaskovic-Devey 2013; Alvarez, 2015; Guschanski and Onaran, 2016; Wood, 2017; Köhler et al., 2018). This paper contributes by estimating the effects of financialization on the labour share using historical macroeconomic data for France (1911-2010) and Sweden (1891-2000) for the first time within the literature. The econometric findings challenge the historical relevance of the credit-based coordinated – asset-based liberal *Varieties of Capitalism* country classification, as mortgage indebtedness and shareholder value maximization reduce the labour shares in both countries during the last century. The rest results suggest that the wage growth effects of social spending, unionization, and democratic political institutions depend on country-specific institutions and historical circumstances.

**Key words:** Financialization; Income distribution; Historical data; Comparative political economy; Varieties of Capitalism

**JEL Classification:** E25 · Aggregate Factor Income Distribution, F65 · Finance, P52 · Comparative Studies of Particular Economies

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## 1. Introduction

In recent years, the research field of financialization is gaining prominence among social scientists from different disciplines (van der Zwan, 2014), who attempt to explain how the expansion of the financial sector and its dominance over the real economy affects socio-economic relations and macroeconomic performance in the neoliberal era (Stockhammer, 2004; Krippner, 2005; Davis and Kim, 2015). An early attempt to examine how financialization may be related to the macroeconomy has been made by Schwarz and Seabrooke (2008) who extend the *Varieties of Capitalism* (VoC) approach (Hall and Soskice, 2001) by incorporating the role of housing finance engagement, building on a social norm-based Neo-Weberian framework. However, their analysis leaves unanswered a crucial question: whether housing finance (or financialization in general) has indeed contributed to rising income inequality, and more specifically to the reduction of the labour share, which has become a stylized fact of the last four decades (Karabarbounis and Neiman, 2014; IMF, 2017).

Political economists have explored various behavioural mechanisms through which financialization can shift the balance of power towards capitalists, leading to higher income inequality. Köhler et al. (2018) outline the different channels through which financialization contributes to the decrease in labour's income share since the early 1980's, highlighting the roles of household indebtedness (Froud et al., 2002; Langley, 2007; Argitis and Dafermos, 2013; Kim et al., 2017; Wood, 2017), enhanced exit options for firms (Hein, 2015), shareholder value maximization (Lazonick and O'Sullivan, 2000; Lazonick, 2010), and rising mark-ups due to increasing financial overhead costs (Hein, 2007; Argitis and Dafermos, 2013). Lin and Tomaskovic-Devey (2013), Alvarez (2015), Guschanski and Onaran (2016), Dühaupt (2017), Stockhammer (2017), Wood (2017), and Köhler et al. (2018) have explored econometrically the distributional aspects of financialization, showing that it has indeed exacerbated the fall in labour shares since the 1970's. Nevertheless, as the reference point for most contemporary studies is the post-War experience (e.g. Bengtsson and Ryner, 2015; Hein, 2015), nobody within the empirical literature has examined whether the post-WWII findings on the negative impact of financialization hold in historical perspective. The only study that examines the determinants of the wage share using historical macroeconomic data is Bengtsson's (2014a) paper on Sweden, which, however, does not include variables related to financialization or globalization.

The present paper fills this gap in the distribution literature by estimating the determinants of the labour share for France (1911-2010) and Sweden (1891-2000) using time series econometric analysis, based on the unrestricted Error-Correction Model (UECM), in order to provide a historical comparative political economy analysis. According to the VoC country classification, France fits broadly into the definition of continental European sector coordinated market economy (CME) -at least in the post-WWII era (Carney 2006)-, while Sweden represents the statist, nation coordinated economy model (Ahlquist and Breunig, 2009). Although, the choice of those countries and the historical time dimension aims to shift the focus of the VoC approach from the narrow comparison of Germany and the USA in

the late post-WWII era (Piore, 2016) to two economies that incorporate diverse elements in historical context. The main research question that this study seeks to answer is whether various measures of financialization have been related to reductions in labour's income share since the late 19<sup>th</sup> century in these economies, and, if yes, which financial variable has been dominant throughout time. This is the first econometric study on the determinants of the labour share that estimates the impact of financialization using historical macroeconomic data, providing a historicized comparative political economy perspective (Amoore et al., 2000) on functional income distribution. The main findings of this paper suggest that indeed financialization in the form of mortgage debt and shareholder value orientation has been leading to decreases in the labour shares of France and Sweden during the last century. These results show that the VoC dichotomy between credit-based CMEs and asset-based liberal market economies (LME) is narrow, and that institutional restructuring has played a pivotal role in historical perspective.

The rest of this paper is organized as follows. Section 2 discusses functional income distribution debate, focusing mainly on financialization. Section 3 presents the specifications, the assumptions that are tested, and the econometric methodology. Section 4 provides a descriptive analysis of financialization and its potential linkage with the labour share in France and Sweden since the late 19<sup>th</sup> century. Section 5 reports the main econometric results and the robustness tests. Section 6 provides a cross-country and cross-period comparative political economy analysis of the main findings. Lastly, Section 7 summarizes the findings of this study and accentuates their economic, historical, and political implications.

## **2. Perspectives on the functional income distribution debate**

The functional income distribution debate can be epitomized by the distinction between the neoclassical and the political economy approach, two substantially different methodological frameworks that attempt to explore the driving forces behind its shifts. On the one hand, the neoclassical paradigm targets capital augmenting technological change and trade globalization as the only parameters that can shift the, otherwise stable, factor income shares. On the other hand, the political economy approach centers on the inherent characteristics of free-market capitalism that lead to unequal distribution towards profits, stressing the roles of financialization, trade globalization, welfare expenditures, and unionization (Rodrik, 1997; Stockhammer, 2012; Bengtsson and Ryner, 2015; Hein, 2015). In general, the choice of factor income shares as dependent variables, represents the political economy class-based approach, expressing a specific social conflict relationship (Bengtsson and Ryner, 2015). Classless inequality measures, such as the Gini coefficient or the Theil index, depict unequal distribution among individuals, i.e. they are theoretically more related to the concept of methodological individualism, which is central in neoclassical economics.

The financialization of the economy since the rise of neoliberalism during the early 1980's has brought several institutional and behavioural changes, such as: (i) rising shareholder value orientation and short-termism of management (Lazonick and O'Sullivan,

2000; Lazonick, 2010); (ii) rising tendency of dividend and interest payments (Stockhammer, 2004); and (iii) growing household/mortgage indebtedness (Schwarz and Seabrooke, 2008). With respect to income distribution theoretical studies show that rising indebtedness may have important distributional effects through its effect on firms' and/or workers' bargaining power. An early attempt to model (corporate) debt and interest payments' distributional effects into a Kaleckian distribution model has been made by Hein (2007), who centers on the potential impact of interest rate variations on the price mark-up. Distinguishing between interest-elastic and interest-inelastic mark-ups, Hein claims that in the latter case there is no effect on real wages, i.e. income redistribution occurs only from firms to rentiers, due to debt service. Argitis and Dafermos (2013) argue that increases in corporate indebtedness makes firms attempting to limit wage growth in order to improve their financial position, implying an elastic mark-up. In addition, they also embed households' indebtedness into the wage setting function contending that its effect on workers' bargaining power are negligible. On the one hand, it may lead to a more aggressive wage bargaining strategy in order to improve their financial position. On the other hand, high debt commitments make workers more insecure about defaulting on their debt, therefore they avoid endangering their employment by negotiating more aggressively for higher wages. The positive correlation between workers' indebtedness and financial insecurity<sup>1</sup> is also central in Kim *et al.* (2017) who present a formal business cycle model in which they incorporate households' debt commitments into a cost of job loss function and show that rising household indebtedness can lead to increases in income inequality. The argument that inequality is exacerbated by rising household indebtedness also appears in the Foucauldian political economy literature (Froud et al. 2002; Langley, 2007; Wood, 2017), which stresses that financialisation has transformed investor identities, inducing working class' self-discipline and loss aversion behaviour. Overall, very few empirical studies attempt to clarify the relative distributional effects of financial variables, especially in the form of household and corporate indebtedness, whilst none of them explores this phenomenon beyond the post-WWII era, i.e. prior to the 1960's.

Hein and Schöder (2011) develop a post-Kaleckian growth and distribution model, and subsequently estimate functions for investment, savings, and the profit share for the US and Germany (1960-2007). They report robust negative effects of changes in the real long-term interest rate on the profit share, given the debt-to-capital ratio, suggesting that their price mark-ups are interest-elastic. By the same token, Dünhaupt (2017) estimates adjusted labour share's determinants -using various specifications- for a panel of 13 countries (1986–2007), focusing on globalization, shareholder value orientation, and government activity. The coefficients obtained by these estimations indicate robust negative effects for changes in trade openness, outward FDI, shareholder value, interest payments, and unemployment. Lin and Tomaskovic-Devey (2013) center on the US economy over the period 1970-2008,

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<sup>1</sup> Darcillon (2015) and Meyer (2017) provide econometric evidence that financial intermediation and the size of the financial sector decrease workers' bargaining power, employment protection, and the development unions' institutional structures, but they do not test their direct effects on inequality.

using cross-section industry level data, and show that increases in financial income are associated with the reduction of the labour share. Another recent econometric study on the determinants of the wage share is the paper of Guschanski and Onaran (2016) which uses sectoral level data for eight advanced OECD countries (1970–2011) and shows that the negative effects of household debt, globalization, welfare state retrenchment prevail, whilst the impact of technological change is insignificant. Wood (2017) inspired by the *Varieties of Residential Capitalism* (VoRC) argument on mortgage accumulation as bottom up-consent, estimates its effect on the labour share of the UK, USA, Denmark, and Sweden (1979-2012), finding that the effect of the outstanding mortgage stock is negative and statistically significant in a panel data context. However, despite the estimators obtained in the cross-country time series estimations are negative as well, they are robust only for the USA and the UK, underlining a potential linkage between household debt commitments and their wage negotiating power in LMEs, but not in statist or corporatist countries like Sweden and Denmark. Alvarez (2015) focuses on the firm level and estimates the effects financial interest and financial profits on the real wages of 6980 French non-financial corporations, over the period 2004-2013, reporting that they do decrease the wage share and their magnitude is stronger compare to the effects of the real variables included, such as trade openness and labour market institutions. Similar findings are reported by Köhler et al. (2018) utilising a panel dataset of 14 OECD countries over the period 1992-2014, who provide robust evidence that non-financial corporations' financial payments and financial liberalization decrease the labour share. The negative impact of trade globalization is also consistent, but the impact of household debt is insignificant.

The distributional impact of trade globalization is another controversial topic between neoclassical economists and political economists, who disagree on whether it benefits the abundant (Stolper and Samuelson, 1941) or the most mobile factor of production (Rodrik, 1997). Harrison (2002), Jayadev (2007), and Stockhammer (2017) examine this particular debate based on panel datasets for the post-1970's that include emerging and advanced economies, providing econometric evidence that free trade benefits capital as Rodrik (1997) argues, using proxies such as trade openness, capital account openness, and foreign direct investment. The fall of the post-War Welfare State and the declining rates of unionization have also been pointed out as major factors that led to the fall of the wage shares globally. In the first empirical study on wage share's determinants, Cowling and Molho (1982) use inter-industry/cross-section time series analysis for the UK economy (1968 and 1973) reporting robust negative concentration and advertising effects, and positive -but statistically insignificant- unionization effects. Fichtenbaum (2009) motivated by the mixed empirical results on the impact of unionization within the literature adjusts the labour share accounting for production workers and supervisory or CEO employees, demonstrating that union density indeed increases the wage share of non-supervisory workers, as in Kalecki (1954). In a neoclassical study that tests a version of the neoclassical labour market rigidities story, Checchi and Garcia-Penalosa (2010) estimate the determinants of the labour share for a panel of 16 OECD countries

(1960–2000) providing evidence that bargaining coordination has robust positive effects, while the effects of unionization, minimum wage, and unemployment benefits are sensitive to the specification. Kristal (2010), Hancke (2012), and Bengtsson (2014b) examine how unionization, welfare state retrenchment, and political factors affect the labour share, using panel data analysis for groups of advanced economies that covers approximately the period between 1960 and the late 2000's. Kristal (2010) and Bengtsson (2014b) find the expected robust positive effects of union density, whilst Hancke (2012) shows that the interaction between conservative central bankers and bargaining coordination decreases the labour share. In the only study within the literature that uses historical data, Bengtsson (2014a) studies Sweden's manufacturing labour share (1900-2000), using three-year averages specifications, reports that the effects of union density are positive but insignificant, and that the main statistically significant findings are the positive effect of government spending and the negative effect of inflation. Bengtsson argues that his insignificant union density coefficient is biased due to the small sample size, as he uses averages of the series and not the raw data. Lastly, Bentolila and Saint-Paul (2003), IMF (2007), and EC (2007) test econometrically the neoclassical argument that shifts in factor income share may occur due to the Capital augmenting nature of technology, given a high elasticity of substitution between workers and machinery (Hicks 1932). All three studies find in some cases that technology in the form of Total Factor Productivity, capital stock per employee, or ICT per employee decrease the labour share, but the findings are not always robust, since in most cases they are sensitive to the addition of other important variables, e.g. bargaining power variables in Bentolila and Saint-Paul (2003).

### **3. Specifications and econometric methodology**

As shown in the previous section, most empirical studies within the functional income distribution determinants literature focus almost exclusively on the post-1960's period and utilize panel data analysis. Hence, the motivation of this study is twofold: (i) to examine econometrically the impact of financialization on the labour share in historical perspective for the first time within this literature; (ii) To use a time series estimating approach that can reveal valuable information about domestic economies' structures, which otherwise remain overlooked, in order to provide a cross-country and cross-period comparative political economy analysis. Thus, the estimations utilize historical macroeconomic data for France (1911-2010) and Sweden (1891-2000).<sup>2</sup> The choice of two credit-based coordinated economies aims to assess whether functional income distribution has been driven by private debt instead of asset prices, as it should happen according to the VoC assumptions. The estimations are based on the unrestricted Error-Correction Model (UECM) (Sargan, 1964; Davidson et al., 1978), i.e. both the short-run (first-differenced) and the long-run (level)

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<sup>2</sup> Data sources and descriptive statistics for all variables can be found in Appendices A and B. Missing values appear mainly in the war years, therefore no dummies to control for those periods are included. In Appendix C can be found the cumulative sum (CUSUM) control charts for the baseline specification (1) which provide no evidence for changes in process mean, i.e. structural breaks, in either country at the 5% level.

effects of the independent variables are estimated.<sup>3</sup> According to Pesaran and Shin (1999), this parametrization of the standard ECM model can efficiently yield estimates of potential cointegrating (long-run) relationships, even among variables with different integration orders, i.e. I(0) and I(1), avoiding potential serial correlation issues of the standard OLS model. From an economic perspective and given the length of the historical time series used, our interest is focused on the long-run coefficients which depict the long-term equilibrium relationships among the variables, rather than on the short-run effects which reveal the speed and direction of adjustment towards the long-run equilibrium in response to temporary distortions. Accordingly, the baseline equation is of the following form:

$$\Delta(W S)_t = \alpha_0 + \alpha_1 W S_{t-1} + \alpha_2 GCONS_{t-1} + \alpha_3 UD_{t-1} + \alpha_4 OPEN_{t-1} + \alpha_5 MDEBT_{t-1} + \alpha_6 BDEBT_{t-1} + \sum_{n=0}^N \beta_n \Delta z + \varepsilon_t \quad (1)$$

where  $WS$  is the (adjusted) wage share,  $GCONS$  is government consumption (share of GDP),  $UD$  is union density (share of labour force),  $OPEN$  is trade openness (share of GDP),  $MDEBT$  is the mortgage debt-to-income ratio (share of GDP),  $BDEBT$  is the business debt-to-income ratio (share of GDP), and  $z$  is a vector that includes short-run (first-differenced) effects of variables. The terms  $\alpha_0$  and  $\varepsilon_t$  are the constant and the error term, respectively.  $OPEN$  is defined as the sum of exports and imports divided by the level of output, while  $GROWTH$  ( $\Delta(GDP)$ ) is included among the short-run (first-differenced) effects in order to control for the counter-cyclicality of the labour share. Government spending is used as a proxy for welfare spending, which is assumed to decrease the cost of job loss and lead to more equal distribution through provision of benefits, thus a positive impact on the labour share is anticipated ( $\partial \Delta(W S) / \partial GCONS > 0$ ). For Sweden, as Esping-Andersen (1996) and Lundberg and Åmark (2001) argue that the experience of the extensive universal Swedish welfare state model is mainly a post-1970's development rather than a historical stylized fact. Thereby, its distributional effects in historical context may be moderate, compared to France where a more universal social insurance system was established even in the pre-WWII era, under the pressure of social groups like the feminist movement and agricultural workers, among others (Dutton 2002). That is also in line with the argument of Clift (2006) that France has longstanding interventionist state tradition. Proceeding further, -following Kalecki's (1951) 'degree of monopoly' framework- unionization is expected to empower workers through collective bargaining, hence its effect on the Labour's income share is expected to be positive, due to the decrease in the price mark-up ( $\partial \Delta(W S) / \partial UD > 0$ ). It is anticipated that the positive impact in the case of France will be less strong, since their unions have weaker institutional positions compared to the Scandinavian countries. As collective bargaining in France is conducted mainly in the firm and plant level, and not through a centralized process, this particular institutional structure is closer to an LME like

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<sup>3</sup> The same econometric model is used by Kristal (2010) and Bengtsson (2014b), but in a panel data context.

the USA. Trade globalization, *OPEN*, measures the enhanced international capital mobility, i.e. increased exit options for the firms, which ultimately translates to enhanced bargaining power for the most mobile factor, i.e. capital (Rodrik, 1997). Although, according to Palley's (2018) recent study on the characteristics of trade globalization in historical perspective, the earlier phases of globalization (pre-WWI and Golden Age) were driven by trade gains, hence they were indeed mutually beneficial for labour and capital in industrialized countries, despite the fact that they created macroeconomic imbalances. In contrast, the current neoliberal globalization period is driven by the domestic distributional conflict between labour and capital, so it reflects more accurately increased exit options for capital. In this respect, the effects of trade globalization in historical context are likely to be negligible.<sup>4</sup> As argued earlier, the impact of mortgage indebtedness on the functional income distribution is to some extent negligible within the theoretical literature (Froud et al., 2002; Langley, 2007; Argitis and Dafermos, 2013; Kim et al., 2017). A negative effect would indicate that workers' rising financial vulnerability leads to loss of bargaining power, since it increases their cost of job loss, thus to rising income inequality ( $\partial\Delta(WS)/\partial MDEBT < 0$ ). If the opposite holds, that would show that workers could attempt to actively improve their financial position by demanding higher wages (Argitis and Dafermos, 2013). Regarding the business debt-to-income ratio (*BDEBT*), its statistical significance depends on the elasticity of the mark-up with respect to the debt payments (Hein, 2007; Argitis and Dafermos, 2013).

The real short-term interest rate (*INT*) is included in specification (2) as an additional financial control variable which may be related to households' financial vulnerability and the elasticity of the mark-up. A rise in it increases both household and corporate debt payments, at the expense of workers' bargaining power, thus it may lead to higher inequality through two distinct channels. As a further test, in specification (3) the adjusted wage share is replaced with the private wage share (*WSP*) as dependent variable, following Stockhammer's (2017) formulation<sup>5</sup>, to test for potential endogeneity issues with government consumption, our proxy variable for welfare spending. In the fourth main specification, the real stock prices index (*PS*) is incorporated as a control variable to proxy shareholder value orientation, through asset price inflation. Share prices may not fully depict the effect of the shareholder value maximization principle, as they also capture bubbles (see strong correlation with private debt), hence the index is included as a control, rather than in the baseline specification (1). According to the VoC approach, its effect should be modest in both countries as CMEs are credit-based, instead of equity-based like the LMEs. Regarding robustness tests, four additional specifications are estimated, including Total Factor Productivity (*TFP*) as proxy for capital augmenting technical change, average trade tariffs (*TARRIF*) instead of trade openness, as an alternative measure for trade regulation, stock market capitalization-to-GDP ratio (*SCAP*) as an additional proxy for

<sup>4</sup> Indeed, Roine et al. (2009) find insignificant trade openness effects on the top income shares, using a historical panel dataset.

<sup>5</sup> As the government sector is, by definition, non-profitable, its wage share is one hundred per cent, thus the private wage share is calculated as follows:  $WS = (1 - GCONS) * WSP + GCONS * WSG \Rightarrow WSP = (WS - GCONS)/(1 - GCONS)$ , where *WSG* is the government sector wage share.

shareholder value orientation, and the Polity IV (*POL*) as a control for the state of democracy.<sup>6</sup> Detailed data definitions, data sources, and the time periods covered can be found in Appendix A.

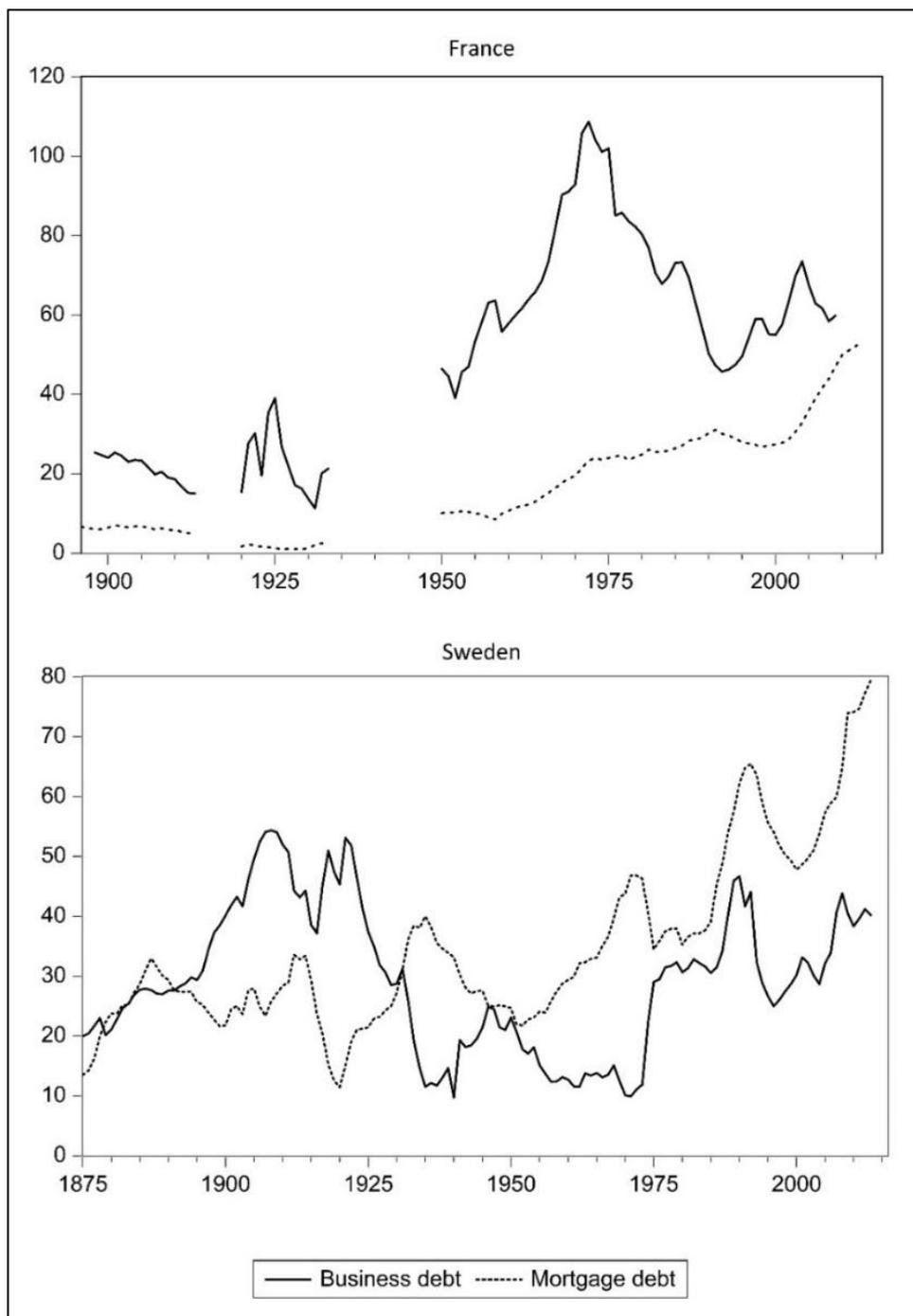
#### **4. Financialization and the labour share in the long run: A descriptive analysis**

Extending the narrow post-WWII interpretation of financialization, this section examines the plots of the GDP shares of the debt aggregates (calculated using data from Jordà et al., 2017) and contrasts them with the fluctuations of the labour share for our two study cases. The variables are examined in terms of shares of the national income in order to capture the relative size of the financial sector, i.e. its dominance over the economy. As shown in Figure 1, in France the share of corporate debt is historically larger than the share of household debt. In general, Carney's (2006) argument that the French economy shifted to a bank-based CME model in the post-1950's era seems valid, as both debt aggregates are substantially higher during that period. More precisely, corporate indebtedness in France was substantially high even during the 1920's, between 30 and 40 per cent, whilst it reached its peak in the early 1970's, rather than in the financialization period. On the contrary, household debt was relatively low until the 1950's where it started to rise steadily, with a steeper rise since the 2000's. In Sweden, the plot shows a different financial integration process, as the pre-1930's financialization period was mainly related with the expansion of business credit, which reached even close to 60 per cent of GDP in the 1910's and 1920's, whereas mortgage debt varied from 10 to over 30 per cent. The situation changed drastically in the post-WWI period, where the share of mortgage debt rose sharply from around 20 per cent in the early 1950's to approximately 80 per cent in the 2010's, becoming consistently larger than the share of business debt. During the same period, corporate debt declined slightly between 1950 and 1975, where the two debt aggregates started moving in parallel. As a conclusion, both aggregates of private indebtedness -as key financial variables related to bargaining power- have been substantially high since the late 19<sup>th</sup> century, with some interesting cross-country and cross-period differences which depict the form of financialization in each economy. The most notable quantitative observation about the two variables is that in France corporate debt has an overall downward trend since the early 1970's, i.e. the neoliberal financialization experience was accompanied by a household financialization process and a (mild) corporate de-financialization process. This does not seem to be the case for earlier periods where both debt aggregates move in parallel -to some extent. Regarding Sweden, despite the changes in the relative importance of the business and mortgage debt ratios during the Great Depression, the two aggregates grow in parallel in the early 20<sup>th</sup> century and since the 1950's. In total, it is worth pinpointing that

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<sup>6</sup> In Appendix D can be found estimations with the short-run ECM coefficients in first lags (without contemporaneous effects) in order to evaluate potential simultaneity issues, and estimation results with two lags for the short-run coefficients which were the starting points for testing down estimations. Based either on information criteria or on the R-squared values, the optimal specification of the general-to-specific procedure is found to be the simplest form of UECM, i.e. the baseline specification (1).

even during the 'Golden Age', the most regulated era of the 20<sup>th</sup> century capitalism in terms of the financial and the industrial sector, private indebtedness was still in substantially high levels. More precisely, for both countries either mortgage, corporate debt, or both rise steadily between the early 1950's and the late 1960's, highlighting that the dominance of the financial sector has always been critical for their economy, even during periods that it is supposed to be restricted. Interestingly, even in the statist economy of Sweden the provision of loans by the banking system to the private sector seems to be historically quite high, suggesting that it has always been a core component of its economy.



**Figure 1:** Private debt aggregates (% of GDP) in historical perspective

As shown in Figure 2 below, regarding Sweden the expansion of business and mortgage credit over the period 1875-1920 seems to be correlated with the decline in the labour share during the same era, reducing from over 65 per cent to almost 55 per cent. The steadily rising trend from the 1930's to the late 1970's, reaching over 80 per cent of the GDP, occurred in a period during which the share of private debt aggregates was relatively lower compared to the late 19<sup>th</sup> – early 20<sup>th</sup> financialization period and the neoliberal era, implying the existence of a potential connection between the two variables. Eventually, in the neoliberal financialization period the steep increase in both private debt aggregates (and especially mortgage debt) is synchronized with the fall in Sweden's wage share from over 80 to 70 per cent in the early 2000's. Moving on to the historical evolution of the French labour share, the declining trend of the early 20<sup>th</sup> century was accompanied by relatively high levels of private debt, mainly in the form of business debt. However, the relationship between business debt and the labour share is less strong, as the rapid rise of business debt in France during the Golden Age seems to be relatively uncorrelated with the labour share. Stronger correlation appears only in the transition period between the Golden Age and neoliberalism (i.e. 1975-1985), where the fall in the business debt ratio concurs with a 10 per cent increase in the French labour share. In contrast, the great expansion of mortgage credit provision during the whole post-WWII period coincides with the stagnation of the French labour share from 1950 to 1975 and 1990 to date. Recapitulating, it seems that for Sweden both debt aggregates are strongly negatively correlated with its labour share, whilst in France it is mainly the mortgage debt expansions that correspond to wage share stagnation or reductions.



**Figure 2:** The labour share (%) in historical perspective

## 5. Econometric results

### 5.1 France (1911-2010)

Starting with main econometrics results for France (Table 1), in specification (1) *UD*, *GCONS*, and *MDEBT* have the expected long-run signs, with *GCONS* and *MDEBT* being statistically significant at the 1 percent level. In specification (2), where *INT* is included in the baseline specification, *OPEN*, *GCONS*, *MDEBT*, and *INT* exhibit the expected signs in the long-term. Among those, *GCONS* and *MDEBT* are statistically significant, at the 1% and 10% levels, respectively. The rest of the variables are not statistically significant. In specification (3), where the wage share is replaced by the wage share of the private sector as dependent variable, all long-term coefficients remain unchanged in terms of signs, statistical significance, and with minor variations in magnitude. More precisely, the expected signs of *MDEBT* and *GCONS* remain statistically significant at the 5% and 1% levels, respectively. With respect to *GCONS*, this suggests that its positive impact on the wage share is not biased due to endogeneity. The addition of *PS* as a control variable for asset price inflation in order to proxy shareholder value orientation (spec. (8)), affects notably the long-run coefficients as *UD*, *GCONS*, *MDEBT*, and *BDEBT* have the expected signs. Although, the only statistically significant long-run coefficient is that of *PS* itself (at the 1% level), which is negative, showing that indeed shareholder value orientation decreases the French wage share. Regarding the short-term effects, interestingly, *GCONS*, *OPEN*, *BDEBT*, and *PS* have the expected signs, with *GCONS*, *PS*, and *OPEN* being statistically significant. According to the critical values of the Durbin-Watson (DW) test, none of the main specifications has serial correlation problems. Overall, the baseline results for France indicate that the two major drivers of declines in the wage share are welfare expenditures and financialization, in the form of mortgage indebtedness. With respect to the second finding, it seems that in France indeed rising household debt levels induce higher inequality, providing historical evidence for the argument of Froud et al. (2002), Langley (2007), Argitis and Dafermos (2013), and Kim et al. (2017). Interestingly, regarding financialization, it is not only *MDEBT* that decreases the wage share, but also shareholder value orientation (Lazonick and O'Sullivan, 2000), proxied by *PS*. The rest of the variables have insignificant long-term effects, despite *UD* and *OPEN* exhibit the correct signs in some cases. The positive impact of welfare spending is also confirmed in the short-run coefficients, where the coefficient of *GCONS* has the expected sign and is statistically significant in (1), (2), and (3). The strong welfare spending effects were anticipated given the universal character of the French social security model even in the pre-WWII period (Dutton 2002).

**Table 1:** France - Main results

	(1)		(2)		(3)		(4)	
	Coeff	t-stat	Coeff	t-stat	Coeff	t-stat	Coeff	t-stat
<u>Long-run effects</u>								
<i>WS(-1)</i>	-0.278***	-3.627	-0.254***	-3.144			-0.286***	-4.351
<i>WSP(-1)</i>					-0.243***	-3.526		
<i>UD(-1)</i>	0.011	0.131	-0.067	-0.702	0.030	0.320	0.115	1.522
<i>OPEN(-1)</i>	0.011	0.257	-0.051	-0.940	0.023	0.482	0.032	0.857
<i>GCONS(-1)</i>	0.318***	3.851	0.336***	3.920	0.231***	2.778	0.102	1.187
<i>MDEBT(-1)</i>	-0.155***	-2.558	-0.117*	-1.809	-0.161**	-2.381	-0.040	-0.698
<i>BDEBT(-1)</i>	0.018	1.020	0.017	0.921	0.018	0.892	-0.013	-0.813
<i>INT(-1)</i>			-0.095	-1.577				
<i>PS(-1)</i>							-0.209***	-4.691
<i>C</i>	16.815	3.277	17.534	3.349	13.865	2.947	19.200	4.357
<u>Short-run effects</u>								
$\Delta(WS(-1))$	0.157	1.301	0.134	1.090			-0.037	-0.335
$\Delta(WSP(-1))$					0.129	1.079		
$\Delta(GROWTH)$	-0.009	-0.795	-0.008	-0.616	-0.009	-0.747	0.006	0.576
$\Delta(UD)$	0.112	0.373	0.022	0.072	0.145	0.429	0.167	0.651
$\Delta(OPEN)$	-0.085	-1.515	-0.035	-0.426	-0.097	-1.538	-0.114**	-2.334
$\Delta(GCONS)$	1.530***	3.327	1.848***	3.554	1.689***	3.403	1.692***	4.259
$\Delta(MDEBT)$	0.164	0.695	0.097	0.393	0.145	0.548	0.045	0.220
$\Delta(BDEBT)$	-0.037	-1.000	-0.032	-0.847	-0.043	-1.055	-0.016	-0.490
$\Delta(INT)$			0.069	1.387				
$\Delta(PS)$							-0.361***	-1.721
$R^2$	0.48		0.50		0.44		0.63	
DW	1.53		1.58		1.57		1.72	
Obs	75		75		75		75	

*Notes:* In (1), (2), and (4) the dependent variable is the adjusted wage share, while in (3) it is the adjusted wage share of the private sector (calculated as in Stockhammer (2017)), both in first differences. Any divergence between the historical sample period and the actual number of observations is due to missing values in the historical series, as the econometrics software used performs automatic listwise deletion. Statistical significance at 10%, 5%, and 1% level is denoted by \*, \*\*, and \*\*\*, respectively.

To evaluate the robustness of the main findings, an additional round of four specifications is estimated, interchanging control variables in the baseline specification (1). In specification (5) where the effect of *TFP* is added, the negative effect of *MDEBT* (statistically significant at the 10% level) and the positive effect of *GCONS* (statistically significant at the 1% level) are the only statistically significant long-term coefficients. The coefficient of *TFP* itself is statistically insignificant in the short- and the long-term, providing no evidence for the neoclassical technical change narrative. In specification (6) where *OPEN* is replaced by *TARIFF*, once again, the only statistically significant long-term coefficients are those of *GCONS* and *MDEBT* (at the 1% and 5% levels, respectively), both having the expected signs. Adding *SCAP* as an additional control variable for financialization in specification (7) affects significantly the long-term coefficients for France, as only the coefficients of *UD* and *MDEBT* have the expected signs, but none of them is statistically

significant. The long-run effect of *SCAP* itself is positive rather than negative and statistically insignificant, contrary to what is expected. Nevertheless, the short-run coefficient of *GCONS* has the correct positive sign and is statistically significant at the 1% level. Lastly, replacing the contemporaneous short-run effects with their first lags also influences the long-run coefficients, since now *UD*, *OPEN*, and *GCONS* do have the expected signs, but again none of them is statistically significant. To sum up, the robustness specification (5) and (6) confirm that financialization is the main driver of the wage share in France, and that welfare spending also plays a key role. In specification (7) the results become inconclusive as all long-term coefficients become insignificant, probably due to the short length of the *SCAP* series (1930-2005). The reduced sample size may create biases; thus, the estimates are not considered to be as reliable as the main results. Regarding specification (8), adding the polity score (*POL*) does not alter the results of the baseline specification, while its long-term coefficient has the expected positive and statistically significant sign, indicating that more democratic political institutions lead to less inequality.

**Table 2:** France - Robustness tests

	(5)		(6)		(7)		(8)	
	Coeff	t-stat	Coeff	t-stat	Coeff	t-stat	Coeff	t-stat
<u>Long-run effects</u>								
<i>WS(-1)</i>	-0.309***	-3.712	-0.253***	-3.194	-0.158**	-2.049	-0.257***	-3.346
<i>UD(-1)</i>	-0.047	-0.427	-0.001	-0.008	0.101	1.478	-0.102	-1.093
<i>OPEN(-1)</i>	0.030	0.613			0.050	0.998	-0.030	-0.672
<i>GCONS(-1)</i>	0.441***	2.751	0.288***	3.381	-0.069	-0.755	0.438***	4.565
<i>MDEBT(-1)</i>	-0.130*	-1.760	-0.134**	-2.313	-0.011	-0.209	-0.268***	-3.446
<i>BDEBT(-1)</i>	0.029	1.493	0.018	0.958	0.001	0.094	0.043**	2.122
<i>TFP(-1)</i>	-0.429	-0.818						
<i>TARIFF(-1)</i>			-0.010	-0.093				
<i>SCAP(-1)</i>					0.012	1.008		
<i>POL(-1)</i>							0.264*	1.796
<i>C</i>	19.341	3.362	15.612	3.095	9.948	2.027	14.612	2.618
<u>Short-run effects</u>								
$\Delta(W(-1))$	0.190	1.544	0.143	1.188	-0.100	-0.877	0.076	0.607
$\Delta(GROWTH)$	-0.006	-0.538	-0.010	-0.895	-0.004	-0.375	0.001	0.070
$\Delta(UD)$	0.163	0.517	0.058	0.191	0.060	0.206	-0.048	-0.130
$\Delta(OPEN)$	-0.063	-1.081			-0.041	-0.587	-0.022	-0.288
$\Delta(GCONS)$	1.342***	2.775	1.519***	3.339	1.750***	4.288	2.732***	5.042
$\Delta(MDEBT)$	0.117	0.491	0.149	0.640	-0.306	-1.549	-0.102	-0.358
$\Delta(BDEBT)$	-0.041	-1.114	-0.018	-0.518	-0.029	-0.924	-0.020	-0.531
$\Delta(TFP)$	-2.157	-1.213						
$\Delta(TARIFF)$			0.291	1.481				
$\Delta(SCAP)$					0.001	0.069		
$\Delta(POL)$							-0.060	-0.234
$R^2$	0.50		0.48		0.65		0.55	
DW	1.58		1.54		2.17		1.76	
Obs	75		75		63		69	

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*Notes:* The dependent variable is the adjusted wage share in first differences. Any divergence between the historical sample period and the actual number of observations is due to missing values in the historical series, as the econometrics software used performs automatic listwise deletion. Statistical significance at 10%, 5%, and 1% level is denoted by \*, \*\*, and \*\*\*, respectively.

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## 5.2 Sweden (1891-2000)

For Sweden, in specification (1) the long-term coefficients of *UD*, *MDEBT*, *BDEBT*. Among those coefficients, the negative sign of *MDEBT* and the positive sign of *UD* are statistically significant at the 5% and 1% levels, as expected. Similar results are obtained in specification (2), where *INT* is included, in terms of signs and statistical significance as well. Again, *UD* increases the wage share and *MDEBT* decreases the wage share, being statistically significant at the 1% and the 5% levels, respectively. The long-term coefficient of *INT* itself has the expected sign, but it is not statistically significant. In specification (3) the two long-term coefficients that have the expected signs are *UD* and *MDEBT*, are the only statistically significant ones, at the 1% and 5% levels, respectively. The long-term coefficient of *BDEBT* also has the correct negative sign, but it is statistically insignificant. In total, the results of specification (1) are indeed robust to the private sector wage share as well. In specification (4), the effects of *UD*, *MDEBT*, *BDEBT* exhibit the expected signs in the long-run, while the rest two coefficients have perverse signs. As in specification (1), the positive coefficient of *UD* and the coefficient of *MDEBT* are statistically significant at the 1% and 5% levels, respectively. In addition, the control variable *PS* has the expected negative sign, but it is not statistically significant. However, here, the perverse coefficients of trade globalization (*OPEN*) and *GCONS* are also statistically significant at the 10% and 5% levels. Regarding statistical issues, in specifications (1), (2), (3), and (4) the values of the DW statistic remains within the acceptable bounds of 1.5 to 2.5, hence serial correlation can be rejected. In total, for Sweden the two key variables for functional income distribution are union density and mortgage debt. The negative impact of mortgage indebtedness on the wage share is consistently robust, as minor variation is observed in terms of magnitude and statistical significance, confirming the theoretical argument of Argitis and Dafermos (2013) and Kim et al. (2017). As in France, rising household indebtedness reduces real wages in Sweden as well. Additionally, labour's bargaining power, measured by union density, decreases the mark-up, as Kalecki (1954) assumes, leading to higher real wages. The real short-term interest rate (*INT*) has the expected long-run sign as well, but it is statistically insignificant, therefore no safe conclusion can be drawn for the interest-elasticity of price mark-ups in Sweden. It is also worth-mentioning that the long-term coefficients of trade openness (*OPEN*) also exhibit perverse signs in all four specifications, implying that for Sweden globalization has not benefited the most mobile production factor, i.e. capital (Rodrik 1997), which could be compatible with the story of Palley (2018) that the pre-WWII globalization period was driven by trade gains and not class conflict.

**Table 3: Sweden - Main results**

	(1)		(2)		(3)		(4)	
	Coeff	t-stat	Coeff	t-stat	Coeff	t-stat	Coeff	t-stat
<u>Long-run effects</u>								
<i>WS(-1)</i>	-0.164***	-2.316	-0.144*	-1.957			-0.224***	-2.966
<i>WSP(-1)</i>					-0.175**	-2.474		
<i>UD(-1)</i>	0.039***	2.679	0.037**	2.565	0.043***	2.755	0.051***	2.706
<i>OPEN(-1)</i>	0.334*	1.760	0.333*	1.757	0.376*	1.854	1.025***	3.019
<i>GCONS(-1)</i>	-0.070	-1.107	-0.076	-1.186	-0.081	-1.245	-0.153**	-2.198
<i>MDEBT(-1)</i>	-0.057**	-2.444	-0.054**	-2.326	-0.061**	-2.411	-0.080***	-3.361
<i>BDEBT(-1)</i>	-0.014	-0.794	-0.012	-0.653	-0.017	-0.880	-0.008	-0.384
<i>INT(-1)</i>			-0.001	-0.017				
<i>PS(-1)</i>							-0.955**	-2.143
<i>C</i>	11.400	2.293	10.046	1.944	11.688	2.435	13.814	2.690
<u>Short-run effects</u>								
$\Delta(WS(-1))$	0.005	0.047	-0.030	-0.275			-0.012	-0.111
$\Delta(WSP(-1))$					0.036	0.320		
$\Delta(GROWTH)$	0.000	-1.166	-0.001	-1.542	0.000	-1.106	0.000	-0.669
$\Delta(UD)$	-0.156	-1.541	-0.139	-1.377	-0.143	-1.309	-0.176*	-1.743
$\Delta(OPEN)$	-0.958**	-2.263	-0.866**	-2.022	-1.031**	-2.227	-0.513	-1.102
$\Delta(GCONS)$	0.223*	1.849	0.183	1.482	0.208*	1.603	0.151	1.250
$\Delta(MDEBT)$	0.217***	2.789	0.194**	2.342	0.233***	2.760	0.248***	3.181
$\Delta(BDEBT)$	0.058	1.072	0.035	0.656	0.052	0.885	0.048	0.902
$\Delta(INT)$			0.078*	1.889				
$\Delta(PS)$							-1.484***	-3.117
$R^2$	0.47		0.50		0.46		0.56	
DW	1.77		1.94		1.81		1.86	
Obs	99		99		99		88	

*Notes:* In (1), (2), and (4) the dependent variable is the adjusted wage share, while in (3) it is the adjusted wage share of the private sector (calculated as in Stockhammer (2017)), both in first differences. Any divergence between the historical sample period and the actual number of observations is due to missing values in the historical series, as the econometrics software used performs automatic listwise deletion. Statistical significance at 10%, 5%, and 1% level is denoted by \*, \*\*, and \*\*\*, respectively.

As in France, the robustness tests for Sweden also confirm the robustness of the baseline findings. In specification (5), the addition of *TFP* affects the long-run effects, to some extent, as now *MDEBT*, and *BDEBT* have the expected signs, which are statistically significant at the 1% and 5% levels, respectively. Capital-augmenting technology's long-term impact, measured by the *TFP*, has a positive and statistically significant sign, in contrast with the neoclassical story. In this specification, the negative long-term coefficient of *GCONS* becomes statistically significant, suggesting that government spending exacerbated rather than decreased income inequality, probably driven by the discriminatory character of the Swedish social spending model in the pre-WWII period (Lundberg and Åmark, 2001). The results of specification (6) where *TARIFF* replaces *OPEN*, does not affect significantly the baseline findings. The negative long-run effect of *MDEBT* and the positive long-run impact of *UD* are the only statistically significant coefficients, both at the 5% level. The effect of

*BDEBT* again has the correct negative sign, but it is statistically insignificant. In specification (7), adding *SCAP* in the baseline specification (1) provides interesting results as the robustness of the negative impact of financialization is underlined. More specifically, both long-term coefficients of *MDEBT* and *SCAP* do have the expected negative signs and are statistically significant at the 1% level, showing that household indebtedness and shareholder value maximization have been decreasing Swedish workers' bargaining power, hence their income share. However, the long-term effects of *OPEN* and *GCONS* are statistically significant at the 1% and 5% levels respectively, but with perverse signs, which underline the importance of the qualitative differences of the pre-WWII trade globalization period and the country-specific characteristics of the early non-universal Swedish welfare state model. Last, in specification (8) the long-term effects of *MDEBT*, *BDEBT*, and *UD* have the expected signs. Among those, the negative coefficients of *MDEBT* and *UD* remain statistically significant at the 10% levels. *POL* itself has the expected positive long-term coefficient, but it is not statistically significant as well, most likely due to the low variation of that variable for Sweden. The same holds for the perverse effects of *OPEN* and *GCONS*. Overall, the robustness check specifications, suggest that the baseline findings for Sweden are robust, since the effects of *MDEBT* and *UD* hold consistently. It is worth noting that *SCAP* also exhibits the correct sign, providing additional evidence for the negative impact of financialization on labour's income share, in line with the arguments of the political economy approach on the upward redistribution role of shareholder value maximization (Lazonick and O'Sullivan, 2000; Lazonick, 2010). Technology also seems to play a role for Sweden, to some extent, as it is statistically significant, but since its effects changes signs between the short- and the long-term, it remains negligible.

**Table 4: Sweden - Robustness tests**

	(5)		(6)		(7)		(8)	
	Coeff	<i>t-stat</i>	Coeff	<i>t-stat</i>	Coeff	<i>t-stat</i>	Coeff	<i>t-stat</i>
<b>Long-run effects</b>								
<i>WS(-1)</i>	-0.227***	-3.271	-0.190***	-2.715	-0.356***	-3.467	-0.224***	-2.809
<i>UD(-1)</i>	0.011	0.637	0.052**	2.309	0.004	0.114	0.038*	1.649
<i>OPEN(-1)</i>	0.003	0.013			1.579***	4.224	0.202	0.994
<i>GCONS(-1)</i>	-0.194***	-2.802	-0.076	-1.155	-0.217**	-2.265	-0.044	-0.603
<i>MDEBT(-1)</i>	-0.079***	-3.461	-0.041**	-2.023	-0.081***	-3.114	-0.045*	-1.840
<i>BDEBT(-1)</i>	-0.029*	-1.697	-0.002	-0.106	0.002	0.074	-0.002	-0.079
<i>TFP(-1)</i>	1.220***	2.780						
<i>TARIFF(-1)</i>			-0.117	-0.857				
<i>SCAP(-1)</i>					-0.085***	-3.826		
<i>POL(-1)</i>							0.027	0.459
<i>C</i>	17.482	3.487	14.392	2.972	26.130	3.335	15.153	2.704
<b>Short-run effects</b>								
$\Delta(WS(-1))$	0.016	0.155	-0.067	-0.540	0.038	0.275	-0.001	-0.007
$\Delta(GROWTH)$	0.000	0.218	-0.001	-1.241	0.000	0.723	0.000	-1.219
$\Delta(UD)$	-0.216**	-2.277	-0.135	-1.274	-0.287**	-2.199	-0.208*	-1.913
$\Delta(OPEN)$	-0.738*	-1.807			-0.325	-0.458	-0.937**	-2.141
$\Delta(GCONS)$	0.087	0.749	0.216*	1.693	0.032	0.255	0.234*	1.870
$\Delta(MDEBT)$	0.196***	2.714	0.221***	2.647	0.250***	2.893	0.204**	2.568
$\Delta(BDEBT)$	0.022	0.421	0.101*	1.797	-0.030	-0.497	0.058	1.017
$\Delta(TFP)$	-5.300***	-2.957						
$\Delta(TARIFF)$			0.219	0.920				
$\Delta(SCAP)$					-0.081	-1.462		
$\Delta(POL)$							-1.065*	-2.191
<i>R</i> <sup>2</sup>	0.57		0.46		0.60		0.53	
DW	1.83		1.70		2.38		1.77	
Obs	99		85		57		89	

*Notes:* The dependent variable is the adjusted wage share in first differences. Any divergence between the historical sample period and the actual number of observations is due to missing values in the historical series, as the econometrics software used performs automatic listwise deletion. Statistical significance at 10%, 5%, and 1% level is denoted by \*, \*\*, and \*\*\*, respectively.

## 6. The Comparative Political Economy of the labour share in historical perspective

The last step of the empirical analysis of this study is to go beyond the narrow concept of statistical significance (Ziliak and McCloskey, 2004) and explore the economic significance of the relative effects. To achieve that, it is necessary to derive comparable coefficients by calculating the standardized coefficients of the baseline specification (1) for each country. That allows to: (a) assess which long-run effect prevails at the domestic level, evaluating to what extent the standard VoC typology and assumptions hold in historical perspective; and (b) compare the cross-country differences, providing a comparative political economy analysis on how different institutional settings have been affecting functional income

distribution in each case during the last century. Table 5 summarises the standardised long-run coefficients for the two countries.<sup>7</sup>

**Table 5:** Standardized long-run coefficients

	France	Sweden
<i>UD(-1)</i>	0.037	0.630***
<i>OPEN(-1)</i>	0.066	0.411*
<i>GCONS(-1)</i>	1.384***	-0.388
<i>MDEBT(-1)</i>	-1.023***	-0.352**
<i>BDEBT(-1)</i>	0.246	-0.099

*Notes:* Calculations are based on the baseline specification (1). Only standardised long-run coefficients are reported.

Focusing on the long-run coefficients that are statistically significant in the baseline specification (1) for France, the magnitude of the standardized coefficient of *GCONS* is larger than that of *MDEBT* (in absolute values), hence the impact of welfare spending prevails. This empirical finding was expected as according to Dutton (2002) strong social movements in France achieved the establishment of a welfare system with universal coverage from the pre-WWII period, which has a direct impact on the cost of job loss. Additionally, that result is consistent with the argument of Clift (2006) on the long tradition of interventionism in France. This could explain why the French labour share remains relatively stagnant instead of declining sharply in the post-WWII period, as the stabilising role of social spending seems to counterbalance the negative disciplinary effect of mortgage debt accumulation. Regarding Sweden, the positive impact of union density (*UD*) on the wage share is larger than the negative effect mortgage indebtedness (*MDEBT*) and the positive effect of *OPEN*, as its magnitude is larger in absolute terms. As Bengtsson (2014a) finds positive but insignificant union density effects for the same period (using a three-year averages model though), this result underlines that Sweden's nation coordinated bargaining system is indeed a historical stylized fact, and not a post-WWII development as the universal welfare system. The second stronger effect is the positive effect of *OPEN*, where the results are probably driven by the pre-WWII trade globalization period which, unlike the neoliberal globalization period, was not motivated by class conflict but from trade gains, hence it did not benefit capital at the expense of labour (Palley, 2018). The strong effect of trade in Sweden is not surprising, as the external sector is more influential in small open economies, like the Scandinavian countries. Last but not least, *MDEBT* also has a strong negative disciplinary effect on the wage share, even in the statist economy of Sweden, showing that the dependence of the private sector on the banking system has always been crucial for the macroeconomy. Unlike Wood (2017) who finds insignificant wage share effects of mortgage debt stock in Sweden for the post-1970 period, this study demonstrates that mortgage debt accumulation has been inducing income inequality in historical context. Comparing the standardized wage effects of the mortgage ratio in France and Sweden, the magnitude is

<sup>7</sup> The standardized coefficients are calculated as follows. The estimated coefficient obtained is multiplied by the ratio of the standard deviation of the explanatory variable over the standard deviation of the dependent variable.

substantially smaller in the latter. This result is in line with the argument of Schwartz and Seabrooke (2008) that Sweden is a statist-developmental economy, where the distributional effects of mortgage debt accumulation should be modest as homeowners are more protected. By the same token, the absence of robust distributional effects of *GCONS* in Sweden confirms Esping-Andersen (1996) and Lundberg and Åmark (2001), showing that the interventionist Swedish state is part of the post-1970 experience, rather than a historical stylized fact.

Taking into consideration all robust findings, the negative disciplinary wage share effect of mortgage debt is the most robust cross-country finding, providing solid historical evidence in favor of the argument of Froud et al. (2002), Langley (2007), Argitis and Dafermos (2013), and Kim et al. (2017). Indeed, this result is consistent with the traditional VoC dichotomy (Hall and Soskice, 2001) which claims that CMEs, like France and Sweden, are credit-based. The relatively weaker effect in Sweden (Table 5) seems to be driven by the post-1970's transition towards a statist-developmental regime (Schwartz and Seabrooke, 2008; Wood, 2017). The negative impact of shareholder value orientation is the second crucial explanatory financial factor, as in both countries stakeholder payments, proxied by real share prices and stock market capitalization, do exacerbate income inequality since the late 19<sup>th</sup> and early 20<sup>th</sup> century. This shows that firm managers' short-termism towards maximising value for the shareholders is not a phenomenon of the last four decades, but it has been a central objective historically. The traditional VoC approach assumes that LMEs are asset-based rather than credit-based, a narrow view that the findings of the present paper challenge as a historical stylized fact.

## 7. Conclusions

The purpose of this paper was to achieve a twofold goal: On the one hand, it is the first study that estimates the impact of financialization on the labour share using historical macroeconomic data. On the other hand, it is the first attempt to provide a historicized comparative political economy analysis, based on the analysis of functional income distribution, that challenges the implied financialization assumptions of the VoC approach. The empirical findings show that mortgage debt accumulation and shareholder value orientation have been reducing the labour shares of France (1911-2010) and Sweden (1891-2000) at least during the last century. The negative disciplinary effect of mortgage debt on wage growth exists not only in the sectoral coordinated French economy, but even in the nation coordinated/statist developmentalist economy of Sweden. Furthermore, the significant wage suppression effect of shareholder value orientation in both countries pinpoints that the narrow VoC view that economies are either credit-based or asset-based does not hold in historical perspective.

The main contribution of this paper is that it demonstrates that the disciplinary wage growth effects of mortgage debt accumulation and shareholder value orientation are indeed historical stylized facts for France and Sweden, and not only elements of the neoliberal financialization period. The historicized comparative political economy interpretation of the

main findings pointed out the limits of the VoC dichotomy, giving prominence to the evolution of institutional complementarities during the last century. Detailed policy suggestions must consider country-specific institutions and the historical circumstances, but, overall, the regulation of the banking system and the asset market are undoubtedly essential in both cases. Future research on comparative political economy should incorporate and quantify the historical evolution of institutional settings in its analysis in order to provide more insightful critiques on the limitations of the traditional international political economy approaches and build a more thorough understanding of the long-term dynamics among financialization, class conflict, and macroeconomic performance.

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## Appendix A: Data sources

**Table A1:** Original historical data sources

Country	Variable	Period	Source
France	Wage Share (adjusted)	1896-2010	Piketty and Zucman (2014)
	GDP (real)	1896-2010	Piketty and Zucman (2014)
	GDP (nominal)	1870-2013	Jordà et al. (2017)
	Government Consumption	1896-2010	Piketty and Zucman (2014)
	Exports and Imports (real)	1896-2010	Piketty and Zucman (2014)
	Total Private Debt (nominal)	1870-2013	Jordà et al. (2017)
	Mortgage Debt (nominal)	1870-2013	Jordà et al. (2017)
	Stock Prices	1870-2013	Jordà et al. (2017)
	Total Factor Productivity	1890-2012	Bergeaud et al. (2016)
	Interest rate (nominal)	1870-2013	Jordà et al. (2017)
	Inflation rate	1870-2013	Jordà et al. (2017)
	Trade Tariffs (average)	1900-2006	Roine et al. (2009)
	Stock Market Capitalization	1930-2005	Roine et al. (2009)
	Polity2 (Revised Combined Polity Score)	1800-2016	Polity IV Project
	Union Density*	1910-1959 1960-2014	Donado and Wälde (2012) OECD
Sweden	Wage Share (adjusted)	1875-2000	Edvinsson (2005)
	GDP (real)	1875-2000	Schön and Krantz (2015)
	GDP (nominal)	1875-2000	Jordà et al. (2017)
	Government Consumption	1870-2013	Jordà et al. (2017)
	Exports and Imports (real)	1875-2000	Schön and Krantz (2015)
	Total Private Debt (nominal)	1870-2013	Jordà et al. (2017)
	Mortgage Debt (nominal)	1870-2013	Jordà et al. (2017)
	Stock Prices	1870-2013	Waldenström (2014)
	Total Factor Productivity	1890-2012	Bergeaud et al. (2016)
	Interest rate (nominal)	1870-2013	Waldenström (2014)
	Inflation rate	1290-2008	Edvinsson and Söderberg (2011)
	Trade Tariffs (average)	1900-2006	Roine et al. (2009)
	Stock Market Capitalization	1930-2005	Roine et al. (2009)
	Polity2 (Revised Combined Polity Score)	1800-2016	Polity IV Project
	Union Density	1890-1959 1960-2014	Donado and Wälde (2012) OECD

\* Log-linear interpolation for randomly missing observations in the pre-WWII period is necessary in that case, since otherwise the econometrics software used (EViews) limits automatically the total time dimension of the estimations to a significant extent.

## Appendix B: Descriptive statistics, stationarity tests, and correlation matrices

**Table B1:** Descriptive statistics and stationarity tests

	WS	WSP	GROWTH	GCONS	UD	OPEN	MDEBT	BDEBT	INT	PS	TARIFF	TFP	SCAP	POL
<b>France</b>														
Mean	76.38	71.68	22.56	13.65	16.53	34.83	17.93	52.05	-0.70	7.88	5.59	4.92	35.74	7.60
Median	76.42	71.51	13.58	16.31	14.20	31.84	14.65	55.49	1.22	1.84	4.30	3.20	25.78	8.00
Max	98.47	81.03	88.68	24.83	46.20	56.63	53.16	108.69	10.84	32.67	21.70	11.60	112.56	10.00
Min	60.17	59.17	-43.96	1.60	7.20	13.87	0.97	11.32	-57.06	0.47	1.02	1.10	6.05	-9.00
Obs	115	106	104	106	105	106	96	90	103	115	116	117	78	105
ADF levels	0.40	0.07	0.01	0.98	0.19	0.87	0.99	0.55	0.02	0.00	0.11	0.99	0.62	0.18
ADF diff	0.00	NA	NA	0.00	0.01	0.00	0.00	0.00	NA	NA	0.00	0.02	0.00	0.00
<b>Sweden</b>														
Mean	69.91	67.26	37.53	17.75	51.11	5.51	34.82	29.34	0.42	13.0	5.17	5.00	37.95	8.56
Median	69.63	66.88	21.97	15.13	66.73	4.45	30.07	28.82	2.53	5.56	4.90	4.30	26.19	10.00
Max	81.85	79.96	199.35	37.74	83.86	14.84	79.40	54.36	23.95	72.94	11.00	11.00	147.12	10.00
Min	55.59	51.73	-81.36	6.16	0.70	1.68	11.48	9.71	-39.95	2.17	0.80	1.20	3.03	-4.00
Obs	126	126	125	131	125	126	139	139	136	110	113	123	67	117
ADF levels	0.72	0.34	0.00	0.89	0.31	0.99	0.84	0.30	0.15	0.51	0.07	0.99	0.89	0.00
ADF diff	0.00	0.00	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.09	NA	0.06	0.00	NA

*Notes:* ADF levels is the Augmented Dickey-Fuller test for stationarity in levels, while ADF diff is the same test in first differences. P-values are reported for this test.

**Table B2: Correlation matrices**

	WS	WSP	GROWTH	GCONS	UD	OPEN	MDEBT	BDEBT	INT	PS	TARIFF	TFP	SCAP	POL
<b>France</b>														
WS	1													
WSP	0.84	1												
GROWTH	0.20	-0.08	1											
GCONS	0.63	0.12	0.51	1										
UD	0.60	0.48	-0.19	0.02	1									
OPEN	0.19	-0.21	0.68	0.65	-0.53	1								
MDEBT	0.51	0.04	0.61	0.89	-0.22	0.78	1							
BDEBT	0.68	0.39	0.38	0.77	0.52	0.33	0.65	1						
INT	-0.18	0.09	0.04	0.18	-0.62	0.20	0.16	-0.09	1					
PS	-0.37	-0.05	-0.42	-0.73	-0.20	-0.35	-0.55	-0.69	0.12	1				
TARIFF	-0.21	-0.05	-0.41	-0.63	0.34	-0.74	-0.68	-0.60	-0.19	0.38	1			
TFP	0.21	-0.02	0.63	0.87	-0.40	0.75	0.95	0.64	0.26	-0.58	-0.64	1		
SCAP	-0.52	-0.65	0.23	0.03	-0.65	0.40	0.15	-0.34	0.14	0.37	0.02	0.92	1	
POL	-0.24	-0.29	0.15	-0.01	-0.31	0.23	0.09	-0.39	0.11	0.11	-0.00	0.09	0.16	1
<b>Sweden</b>														
WS	1													
WSP	0.99	1												
GROWTH	0.44	0.45	1											
GCONS	0.47	0.40	-0.32	1										
UD	0.79	0.79	0.55	0.90	1									
OPEN	0.46	0.46	0.61	0.78	0.63	1								
MDEBT	0.49	0.48	0.38	0.53	0.58	0.80	1							
BDEBT	-0.44	-0.45	-0.32	0.41	-0.45	-0.01	0.07	1						
INT	0.30	0.27	0.13	-0.09	0.18	0.47	0.17	0.32	1					
PS	-0.11	-0.12	0.45	0.40	0.28	0.75	0.68	0.23	-0.19	1				
TARIFF	-0.55	-0.52	-0.46	-0.93	-0.80	-0.71	-0.66	0.06	-0.42	-0.43	1			
TFP	0.73	0.72	0.62	0.94	0.85	0.87	0.84	-0.14	0.20	0.66	-0.88	1		
SCAP	-0.52	-0.52	-0.53	0.15	0.09	0.67	0.42	0.31	0.47	0.62	-0.03	0.26	1	
POL	0.44	0.46	-0.06	0.26	0.48	0.12	0.08	-0.24	-0.10	-0.03	-0.17	0.26	-0.17	1

### Appendix C: Specification (1) CUSUM control charts



Figure C1: CUSUM control charts

## Appendix D: ECM specifications with different short-run lag structures - Testing down

**Table D1:** ECM specifications with different short-run lag structures

	France				Sweden			
	(9)		(10)		(9)		(10)	
	Coeff	<i>t-stat</i>	Coeff	<i>t-stat</i>	Coeff	<i>t-stat</i>	Coeff	<i>t-stat</i>
<u>Long-run effects</u>								
<i>WS(-1)</i>	-0.216***	-2.527	-0.209***	-2.817	-0.077	-1.042	-0.037	-0.419
<i>UD(-1)</i>	0.092	0.967	0.014	0.125	0.041**	2.460	0.030*	1.774
<i>OPEN(-1)</i>	-0.008	-0.159	-0.027	-0.544	0.555**	2.312	0.418	1.507
<i>GCONS(-1)</i>	0.043	0.426	0.134	1.154	-0.116*	-1.696	-0.152*	-1.989
<i>MDEBT(-1)</i>	0.027	0.389	-0.034	-0.378	-0.078***	-2.818	-0.316***	-3.566
<i>BDEBT(-1)</i>	0.000	-0.025	0.007	0.311	-0.004	-0.228	-0.021	-1.020
<i>C</i>	14.348	2.462	14.501	2.926	5.114	0.981	2.778	0.447
<u>Short-run effects</u>								
$\Delta(WS(-1))$	0.463***	3.416	0.105	0.733	0.133	1.079	-0.132	-0.964
$\Delta(WS(-2))$			0.080	0.507			-0.113	-0.885
$\Delta(GROWTH)$			-0.003	-0.284			0.000	-0.859
$\Delta(GROWTH(-1))$	-0.009	-0.730	0.003	0.171	-0.001	-1.502	-0.001	-1.274
$\Delta(GROWTH(-2))$			0.026*	1.832			0.000	-0.561
$\Delta(UD)$			0.151	0.480			-0.319***	-2.837
$\Delta(UD(-1))$	-0.005	-0.016	-0.193	-0.706	0.061	0.536	-0.007	-0.056
$\Delta(UD(-2))$			0.125	0.430			-0.032	-0.282
$\Delta(OPEN)$			-0.070	-0.858			-1.031***	-2.210
$\Delta(OPEN(-1))$	0.120	1.391	0.123	1.435	-0.629	-1.187	0.333	0.454
$\Delta(OPEN(-2))$			-0.106	-1.291			1.161	1.597
$\Delta(GCONS)$			1.604***	3.476			0.022	0.142
$\Delta(GCONS(-1))$	-0.418	-0.701	0.190	0.381	-0.347**	-2.579	-0.018	-0.117
$\Delta(GCONS(-2))$			0.192	0.338			0.252	1.476
$\Delta(MDEBT)$			0.002	0.007			0.294***	3.223
$\Delta(MDEBT(-1))$	-0.095	-0.362	0.055	0.189	-0.066	-0.724	-0.033	-0.330
$\Delta(MDEBT(-2))$			-0.104	-0.390			-0.091	-0.904
$\Delta(BDEBT)$			-0.041	-1.148			0.022	0.357
$\Delta(BDEBT(-1))$	-0.008	-0.191	0.038	0.985	0.003	0.054	0.006	0.116
$\Delta(BDEBT(-2))$			-0.072**	-2.284			0.136**	2.557
$R^2$	0.25		0.63		0.33		0.57	
DW	2.25		2.23		2.12		1.95	
Obs	73		68		98		98	

*Notes:* The dependent variable is the adjusted wage share in first differences. Any divergence between the historical sample period and the actual number of observations is due to missing values in the historical series, as the econometrics software used performs automatic listwise deletion. Specifications (10) were the starting points of testing down estimations, who indicated the standard unrestricted ECM in levels as optimal. Statistical significance at 10%, 5%, and 1% level is denoted by \*, \*\*, and \*\*\*, respectively.