SLAVES TO THE WAGE?: THE EFFECT OF RISING HOUSEHOLD INDEBTEDNESS ON LABOR PROTECTIONS

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ABSTRACT

The global economy has seen substantial changes since the era of market liberalization in the 1980’s that have formed the basis of the so-called Washington Consensus. An important result of more market-oriented policies has been the rapid rise in household indebtedness and of financialization of economies around the globe. Relying on a socialist rhetoric that is deeply rooted in classic Marxist theoretical considerations, where the asset holding bourgeoisie captures governments and exploits the working class, most commentators’ claims are falling short of explaining why an exploited working class would support such a political-economic system in the first place. In order to explain this paradoxical situation, I develop a theoretical framework building on recent findings within the literature on household financial decision making. I find that OECD countries with a higher level of household debt also show changes in household preferences as well as a change in aggregate labor market behavior. From a policy perspective, these findings indicate that changes in enhanced financial access (i.e. financialization) and subsequently rising household indebtedness may shift social dynamics such that they affect political institutions.
The research and writing of this thesis is dedicated to everyone who helped along the way.

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Many thanks,
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1. INTRODUCTION

The global economy has seen substantial changes since the era of market liberalization in the 1980s that have formed the basis of the so-called Washington Consensus. An important result of more market-oriented policies has been the rapid rise in household indebtedness and of financialization\(^{1}\) of economies around the globe. At the same time, critics of these policies claim that these liberal policies have led to an erosion of worker rights and a stagnation of real wages, ultimately boosting inequality upwards. In this context, discussions on rising inequality and stagnating wages have seen a resurgence, especially for middle income households. Relying on a socialist rhetoric that is deeply rooted in classic Marxist theoretical considerations, where the asset holding bourgeoisie captures governments and exploits the working class, most commentators’ claims are falling short of explaining why an exploited working class would support such a political-economic system in the first place. In order to explain this paradoxical situation, I develop a theoretical framework building on recent findings within the literature on household financial decision-making. The argument is that in order to keep consumption constant, which is driven by a strong present bias in consumption behavior, workers become more and more indebted to service their consumption needs. Relying more heavily on current wages and wealth income, workers will become less willing to support redistribution and labor protection policies and also have a weaker bargaining position when negotiating wages. Put differently, I argue that workers are exploiting themselves to meet their immediate consumption needs.

Since the Great Recession, the ballooning of credit is viewed as a sign of financial instability and a result of the rise of finance (Schularick & Taylor, 2009). Such financialization

\(^{1}\) Financialization is defined as “the increasing role of financial motives, financial markets, financial actors and financial institutions in the operation of the domestic and international economies” (Epstein, 2005, p.3).
has been blamed on nations (Hall & Soskice, 2003; Stockhammer, 2012; Kotz 2010; Krippner 2011; Martin, Raffety, & Brian 2008; and others), international institutions (Babb, 2005; Akyuz & Boratav, 2005; Crotty & Lee, 2005; and others), and firms (Lazonick & O’Sullivan, 2000; Froud, Johal, & Williams, 2002; Froud, Haslam, Johal, & Williams, 2000; Erturk, Froud, Johal, & Williams, 2004; Stockhammer, 2004; and others), while individual consumers have been cast as passive spectators. Recent literature has begun to investigate how individuals have been affected due to this structural shift in the economy (Seabrooke, 2006; Mian & Sufi, 2008; Martin, 2002; Erturk, Froud, Johal, Leaver, & Williams, 2007). However, prevailing discourse still implies that people are “docile followers of financial markets” and questions the extent that non-elite persons have political agency to create change in financialized political economies (Van der Zwan, 2014, p.113).

In response, a new strain of literature has started to delve into the preferences and behavior of households in the context of financialization. O’Sullivan (2007) argued that domestic political actors have been the real driving force behind financialization. Research points to a cross-class alliance between workers and owners that has formed as a result of the financialization process (Aguilera & Jackson, 2003; Höpner, 2003; Gourevitch & Shinn, 2005; Engelen, Konings, & Fernandez, 2008). In line with this observation, Witko (2016) identified a slowing of financialization when the Democratic Party is in power and unions are powerful, though the trend disappears after the mid-80s. For Witko this change coincides with waning labor support, but there is currently no explanation as to why preferences of the working class have changed in this way. Perhaps the most investigated link between financial behavior and micro-level preferences lies in homeowner preferences surrounding mortgages. Schwartz and Seabrooke (2008) argued that housing finance systems affect voters’ preferences for taxes, public spending, and interest rates.
Ansell (2014) as well as Broz and Ansell (2015) tested this argument and found that voting preferences depend on mortgage values for home owners. In times of high mortgage prices, wealth effects cause homeowners to feel richer and thus vote with the upper class against initiating or expanding social policies. Consequently, parties representing homeowners cut social insurance spending during housing booms. Taken together, evidence suggests that household preferences for social policies are tied to their pocketbooks.

Expanding on these prior research findings, I investigate how household debt has shaped individual behavior with particular attention to labor market behavior on aggregate. I build a theoretical model based on the assets and liabilities of a household balance sheet to simulate how debt impacts micro-level decisions, which then have an impact on individual labor supply decisions and consequently labor market institutions (Butrica & Karamcheva, 2013; Keane & Rogerson, 2012; Erosa, Fuster, & Kambourov, 2014; and others). By taking on more debt, households rely more heavily on their assets, specifically earned income, to stabilize the balance sheet. Although access to finance allows households to smooth consumption over time, an individual household’s ability to borrow critically relies on its current income and thus wages. In addition, wages form the primary basis for repayment for these debt obligations, which implies a greater degree of reliance on income. Taking together, these two effects imply that rising household indebtedness will lead to a greater aversion of a household to any reduction in that income (i.e. households become less willing to pay income taxes as it reduces their current cash flow). This form of loss aversion, in turn, leads also to a reduced willingness of households to join labor unions and a loss in bargaining power in employer-employee relations.

Through these mechanisms, I propose that as household debt increases on aggregate, the strength of the labor movement and labor institutions can be expected to decrease over the medium
to long term due to changes in household preferences. In order to test my hypothesis, I apply a two-stage research stage design. First, relying on a novel dataset covering OECD countries in the time span between 1995 and 2014, I find that a higher degree of household debt is associated with a drop in union density. Second, to investigate the underlying mechanisms and capture a change in household preferences, I use cross-national data from the World Values Survey on union membership and willingness to strike. My findings show that countries with a higher level of household debt also show changes in household preferences as well as a change in aggregate labor market behavior. From a policy perspective, these findings indicate that changes in enhanced financial access (i.e. financialization) and subsequently rising household indebtedness may shift social dynamics such that they affect political institutions. This research is intended to start a discussion within the literature on the political economy of credit and indebtedness, how social policies might interact with credit markets, as well as shed light on the relationship between labor markets and financialization and path the way for future research concerning the political economy of credit-based economies.

2. THEORETICAL MODEL

Research indicates that financial liberalization may be tied to household behavior and preferences (Witko, 2016; Froud et al., 2002); however, few studies have focused on how and why households make micro-level financial decisions that impact support for social policies (Ahlquist & Ansell, 2014; Ansell, 2014; Ansell & Broz, 2015; Broz & Ansell, 2014). In order to study a similar relationship, I create a political-economic model based on a household’s balance of accounts. Households have both an asset and liability sides of their balance sheet. Assets include income as a return on their labor or capital, while liabilities include taxes, consumption, and any debts owed such as mortgages or consumer credit. In equilibrium, a household will try to strike a
balance between assets and liabilities in order to be financially solvent. Traditionally, analysis of household balance sheet behavior has been limited to how fluctuations in wealth affect aggregate consumption through financial and wealth effects (Cooper, 2013; Case, Quigley, & Schiller, 2005; Bostic, Gabriel, & Painter, 2009). I focus here on how financial decisions and financial stability may be linked to preferences for goods other than consumption.

Consider the effect of an increase in debt on household financial behavior. By taking on more debt, a household will therefore need to rely more heavily on its assets to stabilize its balance sheet. Since the majority of household assets are comprised of non-liquid assets such as housing (Wolff, 2014; Ynesta, 2009; Pew Charitable Trusts, 2015), households de-facto have to rely on their income to finance interest payments to creditors for their debt. Theoretically, a household always has the option to reduce consumption and/or to take on more debt to service outstanding debt obligations. However, traditionally households are considered to maximize consumption smoothing across their lifetime (Hall & Mishkin, 1980). Contradictorily, research has shown that individuals are averse to reductions in living standards even if they promise longer term increased utility (Kahneman, Knetsch, & Thaler, 1991; McGuire & Kable, 2013). Kumhof, Ranciere, and Winant (2013) connected debt to consumption smoothing as they found that borrowing is driven by consumption smoothing following a loss in income. In addition, most major expenses that households consume are essentially fixed costs as there would be high costs associated with adjusting them, such as vehicles, furniture, and mortgage payments (Chetty & Szeidl, 2006, p.1 & 5). Warren and Tyagi (2003) found that in the short run almost 70% of the mean household’s budget is at least partly non-discretionary. Consider also that 25% of Americans self-report that they would be unable to pay an unanticipated $2,000 expense within 30 days, and a further 19% state they could only do so by pawning or selling possessions and/or taking payday loans (Lusardi,
Schneider & Tufano, 2011). Taken together, it becomes apparent that many households are living ‘hand-to-mouth’ i.e. from monthly paycheck to paycheck (Kaplan, Violante, & Weidner, 2014). As such, we can reasonably assume that the average household will always prefer to keep consumption stable and instead choose to maximize income. Further, Bowman, Minehart, and Rabin (1997) found that people resist decreasing their standard of living even in response to bad news about their income. Such loss aversion further intensifies reliance on income as the key measure that households use to balance their accounts, thus explaining both an increase in tax aversion and a decrease in bargaining power.

All else equal, when household debt increases, households rely more heavily on their income, and thus are more averse to any reduction in that income. Decreased income can result from various causes, such as fewer hours available at work, taking parental or caregiver leave, as well as unexpected events, such as injuries. The most predictable and often largest reduction in income, however, is due to taxes. In particular, taxes on labor income cause a large reduction in household wealth; Piketty and Saez (2012) calculated that 75% of the tax burden falls on labor income in OECD countries (p.4). Indebted households reliant on keeping income stable are thus more likely to oppose tax funded policies. On the one hand, taxes are necessary to provide basic goods such as roads and security for households. Yet research has shown that most individuals are present-biased (Jackson & Yariv, 2014; Burks, Carpenter, Götte, & Rustichini 2012; Giné, Goldberg, Silverman, & Yang, 2012; Hastings & Mitchell, 2011), and Akerlof and Shiller (2015) connected systematic manipulation of such psychological weaknesses to outcomes of financial

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2Piketty and Saez (2012) include payroll, consumption, and individual income taxes when considering labor income. The accounting share is 75%. The remaining 25% are made up of capital income taxes, which are disaggregated into: property, wealth, inheritance, gifts, corporate profits, business profits, individual capital, as well as consumption taxes on capital income. The total of taxes paid here represent the amount OECD economies raise in taxes of national income.
desperation. Indeed, the need to keep income stable is kept ‘present’ because of mechanisms such as monthly payments to service debt. Incurring a real cost every month makes the burden of incurring an additional tax increase more ‘painful’ financially than nebulous future benefits of the tax (Prelec & Loewenstein, 1998). For example, consider that the welfare state is primarily tax-financed by labor (Morel & Palme, 2012, p.12). In the short term, for a household, a reduction in labor income due to taxes and the consequent threat to financial security is more salient than the long term potential gain of having social safety nets in place in case of unemployment. Thus when given the option to vote for increasing or decreasing the generosity of social safety nets or labor protections, indebted households have incentives to vote for doing away with such policies. Witko (2016) traced financialization in the United States from 1949-2005 and found that the pace of financialization slows when unions are stronger and the Democratic Party is in power. However, the retardant effect of Democratic control of government on the pace of financialization has recently slowed significantly. Though Witko (2016) blamed the slowdown on the shift of Democratic electoral support from organized labor to white-collar professionals, this trend is in line with the theoretical outcome of increased household indebtedness. If a significant number of households are indebted and choose to vote in line with securing their finances and against tax-financed social policies, social programs will erode, and the strength of labor institutions can be expected to decrease in the medium to long term.

**Hypothesis: Increasing household debt is associated with decreasing strength of labor institutions**

Moreover, workers are less likely to fight for better working conditions when they rely more heavily on their income to finance debts. Heavy reliance on labor income causes households to lose bargaining power with their employers over working conditions. When individual workers weigh the costs and benefits of protest, such as participating in strikes or holding out in a salary
negotiation, workers with greater debts may be too fearful for their financial security to risk negative visibility. Barba and Pivetti (2009) similarly pointed out that the burden of servicing household debt not only pushes workers to work harder and for longer hours, but also increases their willingness to “go anywhere and do anything”, thus contributing to lower labor costs (p.127). We see a parallel mechanism in times of economic volatility where poor working conditions are increasingly tolerated because alternative jobs are scarce (Burchell, Lapido, & Wilkinson 2005, p.101). Aggregated across all households, household behavior in response to debt leads to fewer strikes, a loss in bargaining power for unions due to fewer members, and a flattening of wages. Even as working conditions decline, households are more tolerant of those conditions due to their reliance on labor income to finance their debt. Over the medium to long term, union strength diminishes to the benefit of employers.

3. CONCEPTUAL FRAMEWORK

3.1. Empirical Considerations

This paper first explores the relationship between union density and household indebtedness. Then, to understand the relationship at the micro level, I turn to the association between household debt and key values related to union membership, willingness to strike, and tax-aversion.

My analysis uses a dataset covering thirty-six OECD countries from 1995-2010. The availability of household debt data at a national level is the main constraint that leads to this short time period. To measure and compare the importance of debt for households, I follow the current standard and use household debt as a percentage of net disposable income, taken from the OECD data on household accounts. This variable includes “all liabilities that require payment or payments of interest or principal by household to the creditor at a date or dates in the future” (OECD, 2016).
It should be noted that the measure does not include shares, equity, and financial derivatives as debt (OECD, 2016). For sixteen countries, household debt data at a national level is not available for the full fifteen years. In addition, ideally to study the link between household debt and union density, one would like information on household debt as a percentage of net disposable income especially for the 1980’s where many financial liberalization reforms took place in OECD countries (Edey & Hviding, 1995). Such information is not publicly available. However, to perform adequate robustness checks, cross-national data on household debt as a percentage of GDP is taken from the Bank of International Settlement, which covers this crucial time period (BIS, 2016).

I construct a series of models using union density as a way to measure the strength of labor institutions and protections. Though the bargaining power of unions is a crucial aspect of labor protections, there is disagreement in the literature on how best to measure and construct models representing bargaining behavior (Kenworthy, 2001; Traxler, Blaschke, & Kittel, 2001). As a way to capture the strength of bargaining structures, I follow other studies (Jaumotte & Osorio-Buitron, 2015; Checchi & Nunziata, 2011; Wiklo, 2016) and include union density, which measures the share of union members as a percentage of all wage earners, taken from the updated ICTWSS database (Visser, 2015; Visser, 2011). Although using a composite index on changes in labor regulations would be preferable, recent studies have called into question the comparability and soundness of the World Economic Forum, IMD and Fraser Institute indices that have been commonly used in similar contexts (Aleksynska & Cazes, 2016; Aleksynska, 2014; Aleksynska & Cazes, 2014).

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3 Chile, Greece, Iceland, Ireland, Israel, Liechtenstein, Luxembourg, Mexico, New Zealand, Poland, Slovenia, South Korea, Spain, Switzerland, Turkey, United Kingdom
To make sure that differences in union density over time are not being driven by other covariates, I include variables to account for plausible drivers of the supply and demand for labor protection. Similar to prior studies, I add GDP in constant 2005 U.S. dollars and GDP growth to capture existing level and trajectory differences among OECD countries, as well as the business cycle experienced by households. Studies provide evidence that business cycle factors explain short and long term trends in union density, where a rise in employment growth as well as price and wage inflation increases union membership growth (Fitzenberger, Kohn, & Lembcke, 2013). For the same reasons, I also include population growth to control for country size, since demographic differences can put pressures on the labor market. The GDP and population variables are taken from the updated Penn World Table 8.0 (Feenstra, Inklaar, & Timmer, 2013).

I construct another panel to test if household indebtedness affects micro-level attitudes towards taxes and work. The two mechanisms through which household indebtedness affects labor institutions and bargaining behavior are fundamentally changes in attitudes and values: a decrease in the willingness to bargain and an increase in tax-aversion. There is very little national level survey data available to make cross-country comparisons on changes in values and attitudes. In the absence of micro-level panel data, I use variables from the World Values Survey, a cross-national survey on people’s attitudes and values that is carried out by economies once every four years from 1981 to 2014, to captures changes in these attitudes (World Values Survey, 2016). It is important to highlight here that the World Value survey only provides a maximum of six values over this time period: one stagnant value for each four-year wave. Specifically, I focus on questions that measure how willing individuals are to join in unofficial strikes, and whether individuals are active or inactive union members. Unfortunately, the World Value Survey does not include questions on taxation and tax aversion suitably amenable to this study.
To get a better understanding of the variables used in this theoretical model, the subsequent section outlines relevant descriptive statistics. In particular, it traces the development of household debt as a percentage of net income from 1995 to 2014. It will also examine trends in union density from 1995 until 2013.

3.2. Descriptive Statistics

The expansion of household debt is consistent over time and across OECD economies. The literature has commented extensively on the rapid expansion of credit over the past decades (see Girouard, Kennedy, & Andre, 2006; Barba & Pivetti, 2009; André, 2016; and others). Over this period, household debt as a percentage of net income increased for 26 out of 29 countries in my dataset. Only in Japan, Germany, and Chile have seen a recent decrease in data on household debt relative to initial debt to income levels in 1995. Interestingly, before the onset of the financial crisis in 2008, only Japan’s household debt to net income level was decreasing. Moreover, there is large variation in household debt across economies. On average, households in the 29 economies covered have 114.50% debt as a percentage of net income. Household debt in Denmark increased from 192.53 in 1995 to 315.25 percent in 2014 whereas in the United States household debt only rose from 94.47 to 113.43 percent over the same time period. In particular, Denmark and the Netherlands distinguish themselves through unusually high household debt to net income levels. Since 2004 they are the only two countries that have achieved household debt to net income levels of over 250 percent in the dataset. Households in Denmark have the highest debt to net income levels in the sample with 315 percent of debt relative to their net income in 2014. Due to the presence of such outliers, the variable on household debt is highly skewed (Figure 1). Once I take the log of household debt, that the influence of such outliers is greatly reduced (Figure 2).
Similar to the expansion of household debt, the labor economics literature has long discussed the decline in union density (Blaschke, 2000; Checchi & Visser, 2005; Schnabel, 2013; and others). Some have remarked that trends in union density have been overstated, and a universal decline is not based on facts (Schnabel, 2013). However, in my dataset, 27 out of 28 countries experience a decline in union density over the time period covered. Belgium stands out as the only country that has experienced a bumpy but nonetheless clear upward trend in union density from 52.79 percent in 1995 to 55.11 percent in 2013. Only for 6 out of the 28 countries covered do I not have a full time series from 1995 to 2013. Though there is a trend of decline in union density, across OECD countries there is still considerable difference in the level of union density. On average, 31.77 percent of wage earners are union members in the 28 countries covered in my dataset. However, union density ranges from 6.53 percent in Estonia in 2012 to 86.62 percent in Sweden in 1995. In fact, there is a group of countries, the Ghent countries, that have unusually high levels of union membership—Denmark, Finland, Norway, and Sweden (Blaschke, 2000). Descriptive statistics indicate that logging union density is imperative to account for these outliers (Table 1). Subsequently, the distribution of log union density is more compressed (Figure 3 & 4).

Survey data from the World Values Survey is limited, but nevertheless instructive, for examining the mechanism for the relationship between household debt and union density. On average, individuals surveyed state they might join unofficial strikes and are not union members (Table 1). Interestingly, the median response for the question on strikes was that individuals would never join unofficial strikes. However, these variables need to be taken with a grain of salt as there is a considerable dearth of observations for both questions. Data on 23 countries exists for the question on union membership, while the survey was only performed in 20 OECD countries for the question on strikes. Out of a maximum possible six data points per country, there are only five
countries across both questions in which the survey was conducted four or more times; for all other countries there are three or fewer observations from 1981-2014.

After closely examining the descriptive statistics for union density, household debt, and the hypothesized mechanism, I outline the empirical models used to estimate the relationship between the two variables. Once the baseline model has been determined, I further propose a model that may explain how the underlying mechanism functions to drive the relationship between household debt and union density.

3.3. Empirical Model

I build a standard (static) fixed effects model to capture cross-national variation in union density over time. Household debt as a percentage of net income is the independent variable of interest. To control for other drivers of union density, I further include GDP, GDP growth, and population growth as control variables below:

\[
\text{logudensity} = \beta_0 + \beta_1 \text{loghhdebt} + \beta_2 \text{gdp} + \beta_3 \text{gdpgrowth} + \beta_4 \text{popgrowth} + \epsilon
\]

There are various challenges in estimating the relationship between union density and household debt in an empirical model. Of utmost priority is the problem of reverse causality. It might be that de-unionization is followed by an increase in household indebtedness. For instance, Witko (2015) argued in the case of the United States that government and public policy choices play a critical role in the pace of financialization in the American economy. The challenge here lies in untangling the directionality of the relationship between financial liberalization and changes in labor institutions. The two possibilities are that changes in labor institutions lead to financial liberalization, or financial liberalization causes latter changes in labor market institutions. What further complicates my empirical strategy is that union density and household debt are both slow moving variables with few changes over time. In addition, union density and household debt are
already trending in opposite directions – union density is decreasing and household debt is increasing over time (see Figure 5). To address all these factors, I include time fixed effects in the baseline model. Against this background, in addition to a fixed effects model, I also applied a dynamic panel estimator: GMM. Although initially being developed for small T and large N panels, the unavailability of valid instruments for private debt justify the use of a GMM estimator, even under the presumption that results might be weakened by too many instruments (Roodman, 2006).

I construct a second static panel to examine drivers of the relationship between union density and household debt. First, I collapse the World Values Survey questions on their average by country and the year the survey took place. This captures the distribution of answers and allows an examination of the movement of the mean of the data over all categories. Survey answers that are coded as not applicable and not asked are recoded as missing. In order to control for cross-country variation that is fixed over time I include country fixed effects in the following model:

\[ wvs^4 = \beta_0 + \beta_1 \log h\text{debt} + \epsilon \]

Due to the low number of observations, I exclude time fixed effects and other control variables, which heavily weakens the suggestiveness of any results. Any World Value Survey time series at maximum includes six values for the time period from 1981-2014. Adding any additional variables or constraints is not feasible with such a low a number of observations.

The next section analyzes the results of the empirical model laid out in this section. First, I run the baseline model along with various robustness checks. Second, I examine the mechanism through which I believe the relationship between household debt and union density functions.

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4 The variable name wvs here stands for ‘World Value Survey question’ and should be understood to be imputed by the variables joining unofficial strikes or union membership.
4. EMPIRICAL RESULTS

4.1. Baseline Results

Table 2 presents results for the fixed effects and GMM analyses of the predicted effect of household debt on union density. Across the models I find a significant negative relationship between log household debt and log union density. Columns 1 through 5 examine the relationship in a standard fixed effects model, while Columns 6-7 tests the relationship using a dynamic panel and GMM estimators. Results of the baseline model are shown in Column 1-5, while Column 6 and 7 represent modifications to the baseline model in order to test the robustness of results found in Column 5. Column 1 shows the relationship between log union density and log household debt in a bivariate OLS model without country or time fixed effects and control variables. Column 2 adds onto the initial OLS model country fixed effects while Column 3 further includes a time trend. Column 4 represents the results of adding control variables such as GDP, GDP growth and population growth to our country fixed effects model in Column 2. Column 5 shows the results of running the full theoretical model including country fixed effects, a time trend, and control variables.

Results of the baseline model in Table 2 are consistent with the hypothesis that union density is negatively affected by household debt. The coefficient on log household debt remains negative and statistically significant at the 1% level across Columns 1-5. Including time fixed effects in Column 3, causes the largest change in the coefficient on log household debt in Columns 1-5. A 10% increase in logged household debt in Column 3 is now associated with a 3.71% decrease in union density. Adding time fixed effects increases the standard error on household debt, and thus decreases the precision of the estimate. Including control variables to complete the
theoretical model in Column 5 only leads to moderate decreases in the magnitude and minimal
increases in the precision of the coefficient on log household debt relative to Column 3 and 4. In
Column 5, a 10 percent increase in household debt is thus associated with a 3.64% reduction in
log union density. The reduction in observations in Column 1 to Column 5 is due to missing
observations in the control variables.

Robustness checks are carried out by running the baseline model on a dynamic panel.
Column 6 and 7 in Table 2 show that the coefficient on log household debt remains negative and
statistically significant at the 1% level when running the baseline model using GMM estimators.
Column 6 estimates a basic bi-variate model including time fixed effects, while Column 7 runs the
full theoretical model outlined in Column 5 using a dynamic panel. Interestingly, the coefficient
on household debt in Columns 6-7 has gained magnitude compared to the models estimated in
Columns 1-5. In fact, the coefficient on household debt is largest across all Columns in Column 6,
which is in line with the main characteristics of GMM type models (Roodman, 2006). Adding
control variables in Column 7 decreases the magnitude of the coefficient on household debt and
the standard error, thus increasing the precision of the estimate. Holding all else constant, in
Column 7, a 10% increase in log household debt as a percentage of net income is associated with
a 5.93% decrease in log union density. The number of countries drops when using GMM
estimators due to missing observations in the control variables and using the time fixed effects and
control variables as instruments. The GMM specifications use an acceptable number of
instruments as the Sargan test of over-identification restrictions indicates that the results are not
weakened by too many instruments. It is worthy to note that the results above are quite robust to
changes across different specifications.
Additional robustness checks are carried out with an alternative specification of the dependent variable. Table 3 shows that the negative relationship between log union density and log household debt persists when using the forward lag of log union density. Results are divided into Columns 1-5 using OLS and Columns 6-7 using GMM estimators. The coefficient on log household debt remains negative and statistically significant at least at the 5% level across all Columns. Column 5 shows that when running the full theoretical model using OLS, the coefficient on log household debt is the smallest across all Columns and the least statistically significant. Here a 10% increase in log household debt is associated with a 2.75% decrease in the forward lagged log of union density. Using GMM estimators in Columns 6-7 increases both the statistical significance and magnitude of the coefficient on household debt compared to Column 5. In Column 7, running the full theoretical model, a 1 percent increase in household debt is associated with a 5.37% decrease in forward lagged log of union density. The household debt coefficient is statistically different from zero at the 1% level. The Sargan test of over-identification restrictions indicates that the results of Columns 6-7 are not weakened by too many instruments.

To further investigate the robustness of the results in Table 2, Table 4 runs the baseline model using logged total credit to households as a percentage of GDP taken from the Bank of International Settlements as a proxy for log household debt as a percentage of income (BIS, 2016). Column 5 indicates that there is a negative, but not statistically significant relationship between log union density and log household debt as a percentage of GDP when running the full theoretical model. Including time fixed effects in Columns 3 and 5 causes the coefficient on log household debt to lose statistical significance. However, Column 7 examines the relationship using a dynamic panel, and finds that the coefficient on household debt is negative and statistically significant at the 5% level. Holding all else constant, an increase in log household debt in the economy by 10%
decreases log union density by 2.1%. The results of Columns 6-7 are not weakened by too many instruments as indicated by the Sargan test. Additional robustness tests using proxy variables for changes in labor institutions were conducted, but the results of Tables 2-4 could not be replicated.\footnote{Variables used include: public social spending as a percentage of GDP, number of days of work missed due to strikes, average working hours, union coverage, and union membership.}

The results of the baseline model are in line with the theory that an increase in household debt is associated with a decrease in union density. The subsequent section examines empirical evidence on how soft channels such as the attitudes and values of individuals may be drivers for this relationship.

4.2. Soft Channels

Table 5 examines the relationship between relevant questions of the World Values Survey and household debt. Results are divided by the values which the questions are trying to measure and the specification of household debt. Columns 1-4 explore willingness to join in unofficial strikes while Columns 5-8 investigate the activeness and willingness of individuals to become union members. Columns 1, 3, 5, and 7 show results using a bivariate OLS model without country or time fixed effects, while Columns 2, 4, 6, and 8 expand the models to include country fixed effects. Columns 1-4 imply that more individuals are willing to join in unofficial strikes if household debt increases. A smaller coefficient on strikes, due to the coding of the variable, indicates an increase in the willingness of individuals to join unofficial strikes. Similarly, the results of Columns 5-8 display that an increase in household debt is associated with a decrease in the activeness and willingness of individuals to become union members. Across all columns the coefficient on household debt is negative and statistically significant at least at the 10% level except for Column 2. Adding country fixed effects to Column 1, which investigates participation in unofficial strikes, causes the coefficient on log household debt to loose statistical significance.
in Column 2. However, using an alternative specification, by not logging household debt, increases the significance of the coefficient to the 5% level with and without country fixed effects. It should be noted that including country fixed effects increases the magnitude of the effect of household debt significantly in Table 5, except for in Columns 1-2. The correlation between activeness and participation in unions and household debt is seemingly more robust than the relationship between participation in unofficial strikes and household debt. This may be due to the fact that the question on strikes does not include official strikes organized by unions.

The models estimated in Table 5 are suggestive, but in no way conclusive. Exclusion of time fixed effects and control variables was appropriate due to the low number of observations. At maximum a World Value Survey time series includes six values for the time period form 1981-2014, which is too low a number of observations to run even a multi-variate OLS. The lack of cross-national data on attitudes thus severely limits the analysis of the mechanisms proposed in this paper. These correlations are merely the first step in answering how attitudes on unions and bargaining power are connected to household debt, but many future avenues for research present itself here. A thorough review of the psychology literature reveals that no experiments have been conducted on household debt and consequent preferences when it comes to social policies; due to endogeneity it is highly recommendable to perform experiments to determine the direction of causality. In addition, to further investigate the soundness of the findings in Tables 2-5, researchers should turn to micro-level household survey data that ask questions both on household debt, and tax and social preferences. For further macroeconomic analysis on bargaining behavior, Kenworthy (2001) summarized the available indices that could be used to further test how different aspects of wage centralization and coordination might be impacted by rising household indebtedness.
5. CONCLUSION

The rise of financialization has been attributed to a variety of factors, but the literature so far has underplayed the role that micro-level household decisions have played in creating macroeconomic outcomes. This paper finds that an increase in household debt is associated with a drop in union density. Rising indebtedness has caused households to focus on keeping their short-term income stable to the detriment of their long-term well-being, which would be maximized by sustaining social policies and a strong labor movement. Such a trend is highly worrisome as the same households that are doing away with protections are likely to be the most vulnerable if a financial crisis hits or other events cause them to lose their job.

Financialization has also been portrayed as a regime where a small group of corporate executives and investors profit, while households pile on debt in light of flattening wages (Van Der Zwan, 2014, p.119). Traditional Marxist theory would argue that capitalists directly exploit workers, but this paper implies that workers might have incentives to exploit themselves. Workers are given the choice between sustained consumption in exchange for harsher working conditions and a loss of bargaining power, or to accept decreases in their standard of living. Preliminary evidence on household preferences implies that increasing household debt is associated with lower willingness to join and be an active union member as well as an increased aversion to participate in unofficial strikes. Though the results of the baseline model are robust, the correlations obtained on a change in preferences due to debt are only suggestive.

The role of household debt on household preferences thus should be further investigated. Future research might focus on determining the direction of causality between changes in debt and labor institutions through experiments, and using national household surveys that ask questions on debt, taxation, and voting habits to test the theoretical model outlined here.
6. APPENDIX

Figure 1: Histogram of Household Debt as a % of Net Income

Note: A total of 489 observations of the Household Debt as a % of Net Income variable taken from OECD (2016) are plotted by their frequency of each value of household debt.
Figure 2: Histogram of Log Household Debt as a % of Net Income

Note: A total of 489 observations of the Log Household Debt as a % of Net Income variable taken from OECD (2016) are plotted by their frequency of each value of household debt.
Figure 3: Histogram of Union Density

Note: A total of 465 observations of the Union Density variable taken from Visser (2015) are plotted by their frequency of each value of union density.
Figure 4: Histogram of Log Union Density

Note: A total of 465 observations of the Log Union Density variable taken from Visser (2015) are plotted by their frequency of each value of union density.
## Table 1: Summary Statistics

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*Note:* (1) Union density data spans from 1995-2013, while household debt as a % of net income data includes 1995-2014. Household Debt as % of GDP covers 1952 - 2014. All the control variables span from 1995 - 2012.

(2) Each soft channel variable was collapsed by country and year. The values above should be interpreted as the means across the possible categories of these variables, where for union membership: (-1) is I don’t know, (0) is Not a member, (1) is Inactive member, and (2) is Active member. For the strikes variable, the categories are as follows: (-1) I don’t know, (0) Have done, (1) Might do, and (2) Would never do.
Figure 5: Examining the Trends of Log Union Density and Log Household Debt

Graphs by Country Name

Note: Union Density data is taken from Visser (2015) and Household Debt as a % of Net Income data is taken from OECD (2016).
Table 2: Baseline Model Results – Regression of Log Household Debt (% of Net Income) on Log Union Density

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Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Table 3: Robustness Check – Regression of Log Household Debt (% of Net Income) on Forward Lagged Log Union Density

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<tr>
<td>Log Household Debt, % of Net Inc.</td>
<td>-0.369***</td>
<td>-0.378***</td>
<td>-0.317***</td>
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<td>GDP growth (Annual %)</td>
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<td>-0.0119**</td>
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Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Table 4: Robustness Check – Regression of Log Household Debt (% of GDP) on Log Union Density

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<th>(7) GMM</th>
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Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1
Table 5: Soft Channels Results – Regression of Log Household Debt (% of Net Income) on World Value Survey Questions

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<th>Active./Inactive Union Membership</th>
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</table>

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Note: (1) Two specifications of household debt as a % of net income were used here as a robustness check.
(2) Each soft channel variable was collapsed by country and year. The values above should be interpreted as the means across the possible categories of these variables, where for union membership: (-1) is I don’t know, (0) is Not a member, (1) is Inactive member, and (2) is Active member. For the strikes variable, the categories are as follows: (-1) I don’t know, (0) Have done, (1) Might do, and (2) Would never do. If household debt increases, the coefficient on strikes decreases. However, for the strikes variable, a smaller coefficient means more individuals may consider striking.
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